**BHARAT HEAVY ELECTRICALS LIMITED**
**TIRUCHIRAPPALLI – 620 014**
**CIVIL ENGINEERING DEPARTMENT**

15 10 26

To

**The Tenderer**

**Dear Sirs,**

Name of work: Annual Maintenance contract for maintenance of Township Quarters, Public Buildings, Construction of Civil and Structural Steel works, interior decorations, water supply, road patch works, drains, sewers, horticulture etc., in BHEL, Township, Trichy-14

Ref: Tender Schedule No. **CT:TS:16-26-27**

*****

Please find enclosed / attached non-transferable tender document containing

Techno-commercial bid consisting of Preamble, Specifications, General and Special Conditions of Contract, Norms for Qualification and Qualification Pro forma, Bill of Quantities to offer your most competitive rates for all the items.

**TENDERS must be submitted** *electronically by logging to e-procurement portal https://eprocurebhel.co.in*
**Physical submission of tender shall not be accepted.**

**EMD: Rs 2.0 Lakhs**

EMD may be submitted in the form of

(i) Electronic Fund Transfer credited in BHEL account (before Tender opening) or
(ii) Demand Draft (DD) in favour of BHEL Trichy

*In case of offline payments, the hardcopies of EMD* ***documents i.e. DD is to be submitted to Sr Manager / Civil / Planning, Civil Township office, BHEL, Trichy-14 before tender opening and the soft-copies to be uploaded at the time of online bid submission, otherwise the tender will be summarily rejected.***

Bidder should arrange for the EMD as specified in the tender. The original EMD should be posted/couriered/given in person in a sealed cover **super scribing "Name of Work" "Tender Schedule Number & date"** to the Tender Inviting Authority, within the bid submission date and time for the tender.

**NOTE: - EMD waiver not applicable for MSE / NSIC / SSI vendors for this tender** (Hence, vendors should furnish EMD of specified amount without which their bids will not be considered).

The completed qualification bid, Price Bid, Special Conditons of Contract and Standard conditions of Contract along with required documents and EMD shall be uploaded in e-procurement portal on or before **22-10-26 @ 10:00 Hrs.** The qualification bid will be opened on **22-10-26 @14:00 hrs** through e-procurement portal. In case of opening day falls on holiday or happened to be declared as a holiday, the receipt and opening of the tender shall automatically fall on the same timing of the next working day. Date and time of opening of the Price Bid shall be intimated only to the Bidder s those who have qualified after evaluation of the qualification bid.

Thanking you,

Yours faithfully
For and on behalf of
BHARAT HEAVY ELECTRICALS LIMITED,

**Sr Manager**
**CIVIL / Planning**
**Civil Township office**
**BHEL, Trichy – 620 014**.

| **A) Tender Details** | | |
|---|---|---|
| 1. | Tender Schedule No. | **CT:TS:16:26-27** |
| 2 | Tender Type | Open Tender – Two Part (e-Tender) |
| 3. | Name of Work | Annual Maintenance contract for maintenance of Township Quarters, Public Buildings, Construction of Civil and Structural Steel works, interior decorations, water supply, road patch works, drains, sewers, horticulture etc., in BHEL, Township, Trichy-14 |
| 4. | Location of Work | BHEL – Trichy Complex |
| 5. | Contract Value | **Rs. 240.0 Lakhs + Applicable GST & BOCW Cess** |
| 6. | Period of Contract | **15 (Fifteen)** Months |
| 6a | Maintenance period (Defects Liability Period) | **6 (Six) months** |
| 7. | EMD & SD | **EMD**<br>Rs. 2,00,000.00 /-<br>a) Offer without EMD will be Rejected.<br>b) EMD will not be waived off for MSME / NSIC / SSI vendors on submission of valid Documents. Hence EMD shall have to be furnished.<br>c) EMD shall be paid preferably in the NEFT form (Ref. Annex-A1 and the SBI e-collect receipt shall be uploaded along with tender documents) and EMD taken other than NEFT mode (DD) should be forwarded in original, physically / couriered to Manager, Civil Planning, Civil Township, BHEL, Trichy-14 on or before tender submission deadline. The scanned copy of the same should be uploaded in eProcurement site.<br>d) For more details regarding EMD, please refer Section – 3<br>e) The submitted bids which are not satisfying any of the above conditions as well as conditions stated in the section 3 regarding EMD shall be summarily rejected.<br>**SD - 5% of the Contract Value** |
| 8. | Reverse auction | **Reverse auction is NOT applicable to this tender.** |
| 9 | Split & award | **Split & award conditions shall be followed. (Refer Section 2- Preamble)** |
| 10. | Tender document Details | **Qualification Bid: Pages 1 to 154 ; Price Bid: Pages 155 to 305** |
| 11. | Mode of submission of offer | **No Physical submission of tender**, Tender only to be submitted electronically by logging to e-procurement portal ***https://eprocurebhel.co.in*** |
| 12. | Last Date for Receipt of Tender | **22.10.26 / 10:00 Hrs.** |
| 13. | Date of Techno Commercial Bid opening | **22.10.26 / 14:00 Hrs.** |
| 14. | MSE benefits if applicable | **NOT APPLICABLE** |
| 15. | START UP BENEFITS | **NOT APPLICABLE** |
| 15. | Contact details of queries related to tender | KV Lakshmi Narayanan, Sr Manager, Civil / Planning,<br>0431 257 1053; e-mail: *kvln@bhel.in* |
| 16. | Contact details for queries related to scope of work | Shri. T Aaruyir Yogaa , Sr Manager /Civil Township<br>0431 257 4559; e-mail: *tayogaa@bhel.in* |

We, the tenderer, have gone through all the pages of tender document and accept the terms and conditions.

**B) <u>Contractor Profile details -</u>**

| | | |
|---|---|---|
| 1. | Name of the Enterprise / Company / Firm. | To be filled in e-procurement portal |
| 1.1. | Status of the Enterprise / Company / Firm. | To be filled in e-procurement portal |
| 1.2 | Regd. Address of Enterprise / Company / Firm. | To be filled in e-procurement portal |
| 1.3 | If offer is addressed from different address, as above, the same may specified, | To be filled in e-procurement portal |
| 2 | Details of documentary evidence submitted in support of Status of the Enterprise / Company / Firm. | Details to be filled and documentary evidence to be uploaded in e-procurement portal |
| **Following documents to be uploaded in e-procurement portal based on status of Agency / Company / Vendor** | | |
| 2.1 | Are you / your partner involved whether as a proprietor / partner in other companies.<br>In case of bid given by company, any other sister concerns being run.<br>(Details of Name, Address, etc., of such companies shall be furnished.) if applicable | To be filled in e-procurement portal |
| 3. | Landline/Mobile number(s) | To be filled in e-procurement portal |
| 4. | E-mail Address | To be filled in e-procurement portal |
| 5. | Name, Designation and Contact details of person signing the Tender (In case of authorized signatory, the copy of Power of Attorney (POA) should be uploaded | To be filled in e-procurement portal |
| 6. | **BHEL- Trichy Vendor Code:**<br>(If vendor code is not available, kindly Submit the original NEFT/RTGS Format duly filled and along with cancelled cheque leaf | To be filled in e-procurement portal |
| 7. | If any vendors do not have ESI, EPF No. the vendor should produce a declaration in their letter head as per Annexure 1. | |

## C) NORMS FOR QUALIFICATION FOR THIS TENDER
## (CHECK LIST - TO BE FILLED BY CONTRACTOR COMPULSORILY)

| Sl. No | Qualifying Criteria | Details | Status |
|---|---|---|---|
| 1 | **EMD – NIL** | | |
| 2 | **Technical Competence** | | |
| | Experience of having successfully completed similar works during last 7 (Seven) years ending last day of month previous to the one in which applications are invited should be either of the following<br>a) Three similar completed works each costing not less than the amount equal to **Rs 57.6 Lakhs (Excluding GST)**<br>(or)<br>b) Two similar completed works each costing not less than the amount equal to Rs **72.0 Lakhs (Excluding GST)**<br>(or)<br>c) One similar completed work each costing not less than the amount equal to Rs **115.20 Lakhs (Excluding GST)**<br>(Experience proof from BHEL shall contain work order copies and experience proof from other than BHEL shall contain work order copies along with Completion Certificate (or) Confirmation mail from completion certificate issuing authority)<br>**Similar Work means "**Construction/Maintenance works of Residential and Non Residential Buildings, Township, Industrial Buildings, Commercial buildings, ware houses, stores, hospitals, hostels, bridges, shopping complexes, office complexes, RCC water tanks, Reservoirs, Roads, yards, sewerage system, drainage system, and water supply works<br>**For arriving at cost of similar work,** the value of work executed shall be brought to current costing level by enhancing the actual value of work at simple rate of seven percent per annum, calculated from the date of completion to the date of Bid opening. | Details to be filled and documentary evidence to be uploaded in e-procurement portal | ☐ uploaded / ☐ Not uploaded |
| 3 | **FINANCIAL SOUNDNESS:**<br>Average Annual financial turnover for any of the three consecutive years during the last six financial years i.e. 2019-20, 2020-21 ,2021-22, 2022-23 , 2023-24 & 2024-25 shall be equal to or more than **Rs 43.2 Lakhs**.<br>Documents to Prove Financial Soundness of the Firm (in any of the following manner given below) **for any three consecutive years out of six years i.e. 2019-20, 2020-21 ,2021-22, 2022-23 , 2023-24 & 2024-25**<br>Self-attested copy of Income Tax Submission Acknowledgment (SARAL), Audited Profit & Loss account and Balance Sheet indicating CA membership number for above mentioned Financial Years. (or) Auditor's certificate (with CA membership no. / UDIN) for consolidated minimum average annual turnover (as given above) should be enclosed | Details to be filled and documentary evidence to be uploaded in e-procurement portal | ☐ uploaded / ☐ Not uploaded |
| **4** | **Income Tax Registration (PAN)**<br>(Copy of PAN to be uploaded) | | ☐ uploaded / ☐ Not uploaded |

| | | | |
|---|---|---|---|
| 5 | **GST Regn. No.**<br>(Declaration to be attached if Vendor is Exempted from paying GST. For such exempted vendor, Vendor cannot claim GST from BHEL, during the execution of the contract (if awarded) even if their status under GST changes to regular tax payer).<br>(Copy of GST to be uploaded). | | ☐ uploaded /<br>☐ Not uploaded |

| Sl. No | Qualifying Criteria | Details | Status |
|---|---|---|---|
| 6 | **Acceptance to Scope of work, Special and General Terms and Conditions of Contract.**<br>(Duly signed and sealed copy of tender document to be uploaded) | Details to be filled and documentary evidence to be uploaded in e-procurement portal | ☐ uploaded /<br>☐ Not uploaded |
| 7 | Annexure 1 - Details of PF & ESI Registration (if registration of EPF / ESI / Both (EPF & ESI) is/are not available, self-declaration as per the Annexure 1 is to be enclosed at the time of submission of the tender) | | ☐ uploaded /<br>☐ Not uploaded |
| 8 | Annexure 2 - Local supplier self-declaration | | ☐ uploaded /<br>☐ Not uploaded |
| 9 | Annexure 3 - Declaration for non-cartelization | | ☐ uploaded /<br>☐ Not uploaded |
| 10 | Annexure 4 - E invoice Declaration | | ☐ uploaded /<br>☐ Not uploaded |
| 11 | Annexure 5 - Declaration for Conflict of Interest | | ☐ uploaded /<br>☐ Not uploaded |
| 12 | Annexure 6 - Offer Forwarding Letter | | ☐ uploaded /<br>☐ Not uploaded |
| 13 | Annexure 7 - Declaration regarding Insolvency/ Liquidation/ Bankruptcy Proceedings | | ☐ uploaded /<br>☐ Not uploaded |
| 14 | Annexure 8 - Declaration by Authorized Signatory | | ☐ uploaded /<br>☐ Not uploaded |
| 15 | Annexure 9 - Declaration by Authorized Signatory regarding Authenticity of submitted Documents | | ☐ uploaded /<br>☐ Not uploaded |
| 16 | Annexure 10 - Declaration for related Parties and their Actiites | | ☐ uploaded /<br>☐ Not uploaded |
| 17 | Annexure 11 – Declaration for Relation in BHEL | | ☐ uploaded /<br>☐ Not uploaded |
| 18 | Annexure 12 – Site Visit Certificate | | ☐ uploaded /<br>☐ Not uploaded |
| 19 | Annexure 13 - No deviation & Declaration certificate | | ☐ uploaded /<br>☐ Not uploaded |
| 20 | Annexure 14 – Integrity Pact | | ☐ uploaded /<br>☐ Not uploaded |

**Note :**

**1.**Bidder s are requested to submit only the documents required to meet the pre-qualification criteria as per tender. Documents not relevant to tender pre-qualification criteria / tender shall not be enclosed along with the offer

2. Digitally signed / Self-attested copy of all the documents should be uploaded along with Tender. BHEL reserves the right to cross check the authenticity of credentials submitted by the vendor. If at any stage, the document(s) submitted by Contractor is / are found incorrect / False / Fake, then necessary action will be taken by BHEL against Contractor viz. legal, Contractual, BHEL Policy / Procedural Actions in whatsoever manner as deemed fit

## D) DETAILS OF THE VENDOR TO BE FURNISHED

| | | | | |
|---|---|---|---|---|
| **1** | Sole Proprietorship | PAN / GST Registration | Details to be filled and documentary evidence to be uploaded in e-procurement portal | ☐ uploaded / ☐ Not uploaded |
| **2** | Partnership | Registered Partnership Deed / Pan copy of all the partners to be furnished | | ☐ uploaded / ☐ Not uploaded |
| **3** | Private Limited Company / Public Limited Company / Public Sector / Govt. org | Certificate of Registration / Memorandum of Association & Articles of Association | | ☐ uploaded / ☐ Not uploaded |
| **4** | E Format for "Acceptance for Electronic fund transfer/ RTGS Transfer" | | | ☐ uploaded / ☐ Not uploaded |
| **5** | Original cancelled cheque leaf (Applicable for New vendor) | | | ☐ uploaded / ☐ Not uploaded |
| **6** | Documentary proof for company / firm / proprietorship | | | ☐ uploaded / ☐ Not uploaded |
| **7** | Power of Attorney for signing tender (if applicable) – Annexure A2 | | | ☐ uploaded / ☐ Not uploaded |

**ANNEXURE – 1**

**FORMAT FOR EPF & ESI DECLARATION - TO BE FURNISHED IN LETTER HEAD**

(**To be given in Vendors Letter head** if not possessing EPF / ESI / Both (EPF & ESI) at the time of submission of the tender)

To:

**Sr Manager / CIVIL / PLANNING**
Bharat Heavy Electricals Limited
Unit: Tiruverumbur
TIRUCHIRAPPALLI – 620 014.

Sir,

Sub: Declaration of EPF & ESI Submission – Reg.

At this time of submission of this tender CT:TS:16:26-27 I/We, ----------(Company Name) am / are not possessing the EPF / ESI / Both (EPF & ESI). I hereby declare that I will submit the EPF / ESI / Both (EPF&ESI) registration copy before placing of Work order / Commencement of Work. I / we am / are also aware that payment for work done will not be processed by BHEL without submission of EPF & ESI data paid to my / our employees engaged to the corresponding BHEL contract.

Thanking you,

Yours Truly,
For and On behalf of,

Company name & seal

Date:

Place:

**TO BE FURNISHED IN LETTER HEAD**

**ANNEXURE – 2**

**Local Supplier Self-Declaration**

| **Tender Schedule No.** | **CT:TS:16:26-27** |
|---|---|

In line with Government public procurement order Number P-45021/2/2017-B.E-II dated 15.06.2017, and further modified order dt. 28.05.2018 & 04.06.2020. I / We hereby declare that I / We are a "Local Supplier" meeting the requirement of minimum local content (…….%) defined in the above government notification for the goods/services/works against above mentioned enquiry Number.

Details of location at which local value addition will be made is as follows:

| | |
|---|---|
| Door No. | |
| Street / Address 1 | |
| Street / Address 2 | |
| District | |
| State | |
| Country | |
| PIN Code | |

We also understand that the false declarations will be considered as breach of Integrity and liable for action.

For Company Name:

Seal:

Signature:

Date:

Place:

(Please fill all the yellow color field)

**TO BE FURNISHED IN LETTER HEAD**

**ANNEXURE – 3**

**Declaration for Non-Cartelization**

To:

**Sr Manager**
CIVIL /PLANNING
Civil Township office,
BHEL, Trichy – 14.

Sir,

At this time of submission of this tender **CT:TS:16:26-27** I / We, ---------- (Company Name) declares that we will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder (s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

In case, I / We ---------- (Company Name), am / are found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies / guidelines.

Thanking you,

Yours Truly,
For and On behalf of,

Company name & seal

Date:

Place:

**TO BE FURNISHED IN LETTER HEAD**

**ANNEXURE – 4**

**E- Invoice Declaration**

To:

**Sr Manager**
CIVIL /PLANNING
Civil Township office,
BHEL, Trichy – 14.

Dear Sir,

Sub: Undertaking regarding Issuance of E-Invoice under GST Act

1. We hereby confirm that our Aggregate Turnover (i.e. *Turnover computed on All India basis with same PAN)* for GSTIN : is less than 5 Crores & we are not mandated to issue E-Invoice (as per Rule No: 48 (4) of CGST Rules) w.e.f. 01/08/2023 as notified in Notification No: 10/2023-CT dated 10/05/2023 (*Principal Notification No: 13/2020-CT dated 21/03/2020*).

2. We hereby confirm that our Aggregate Turnover (i.e. *Turnover computed on All India basis with same PAN)* for GSTIN : is more than 5 Crores & we are mandated mandated to issue E-Invoice (as per Rule No: 48 (4) of CGST Rules) w.e.f. 01/08/2023 as notified in Notification No: 10/2023-CT dated 10/05/2023 (*Principal Notification No: 13/2020-CT dated 21/03/2020*).

Thanking you,

Yours Truly,

For and On behalf of,

Company name & seal

Date:

Place:

*(Strike out whichever is not applicable)*

*(This undertaking should be issued in company letterhead & to be signed by Authorised Signatory.)*

## Conflict of Interest among Bidder s/ Agents – Annexure - 5

(To be typed and submitted in the **Letterhead** of the Company/Firm of Bidder failing which the offer of Bidder is liable to be summarily rejected)

To,
**Sr Manager**
CIVIL /PLANNING
Civil Township office,
BHEL, Trichy – 14.

Dear Sir,
Sub**: Declaration regarding Conflict of Interest**

Ref: 1) Tender Enquiry No. & Date: **CT:TS:16:26-27**

2) All other pertinent issues till date

**Treatment of cases regarding conflict of interest:**

The Bidder notes that a conflict of interest would said to have occurred in the tender process and execution of the resultant contract, in case of any of the following situations:

i. If its personnel have a close personal, financial, or business relationship with any personnel of BHEL who are directly or indirectly related to the procurement or execution process of the contract, which can affect the decision of BHEL directly or indirectly;
ii. The Bidder (or his allied firm) provided services for the need assessment/ procurement planning of the Tender process in which it is participating;
iii. Procurement of goods directly from the manufacturers/ suppliers shall be preferred. However, if the OEM/ Principal insists on engaging the services of an agent, such agent shall not be allowed to represent more than one manufacturer/ supplier in the same tender. Moreover, either the agent could bid on behalf of the manufacturer/ supplier or the manufacturer/ supplier could bid directly but not both. In case bids are received from both the manufacturer/ supplier and the agent, bid received from the agent shall be ignored. However, this shall not debar more than one Authorized distributor (with/ or without the OEM) from quoting equipment manufactured by an Original Equipment Manufacturer (OEM) in procurements under a Proprietary Article Certificate.
iv. A Bidder participates in more than one bid in this tender process. Participation in any capacity by a Bidder (including the participation of a Bidder as a partner/ JV member or sub-contractor in another bid or vice-versa) in more than one bid shall result in the disqualification of all bids in which he is a party. However, this does not limit the participation of an entity as a sub-contractor in more than one bid if he is not bidding independently in his own name or as a member of a JV.

**Declaration**

I/We, hereby declares that I/we have read and understood the above aspects, and the I/we confirms that such conflict of interest does not exist and undertakes that I/we will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder {s), in this regard. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process. **In case, the I am / We are found having indulged in above activities, the same will be considered as a violation of the tender conditions, and suitab1e action shall be taken by BHEL as per extant policies/ guidelines.**

Yours faithfully,
(Signature, Date & Seal of Authorized Signatory of the Bidder )

**Annexure – 6**

**OFFER FORWARDING LETTER / TENDER SUBMISSION LETTER -**
(To be typed and submitted in the **Letterhead** of the Company/Firm of Bidder )

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Tender Schedule No : **CT:TS:16:26-27** Date:

To,

**Sr Manager**
**Civil Planning**
**Civil Township Office**
**BHEL,Trichy-14**

Dear
Sir,

Sub: Submission of Offer against Tender Schedule No: **CT:TS:16:26-27**

Having examined the tender documents against your Tender EnquiryNo.
and having understood the provisions of the said tender documents and having thoroughly studied the requirements of BHEL related to the work tendered for, in connection with ____
(name of work), we hereby submit our offer for the proposed work in accordance with terms and conditions mentioned in the tender documents, at the prices quoted by us and as per the scope of work and delivery schedule given in NIT.

Should our Offer be accepted by BHEL for Award, I/we further agree to furnish 'Performance Security' for the work as provided for in the Tender Conditions within the stipulated time as may be indicated by BHEL.

I/We further agree to execute all the works referred to in the said Tender documents upon the terms and conditions contained or referred to therein and as detailed in the appendices annexed thereto.

I/We have deposited herewith the requisite Earnest Money Deposit (EMD) as per details furnished in the Check
Li
st.

**Authorized Signatory**
Signature
: Name:
Address:

Place
Date:

**ANNEXURE- 7**

**UNDERTAKING**

(To be typed and submitted in the **Letterhead** of the Company/Firm of Bidder )

---

**To,**

**Sr Manager**
**Civil Planning**
**Civil Township Office**
**BHEL,Trichy-14**

Dear Sir/Madam,

**Sub: DECLARATION REGARDING INSOLVENCY/ LIQUIDATION/ BANKRUPTCY PROCEEDINGS**

**Ref**: Tender Schedule No: **CT:TS:16:26-27**

I/We,

_____

declare that, I/We am/are not under insolvency resolution process or liquidation or Bankruptcy Code Proceedings (IBC) as on date, by NCLT or any adjudicating authority/authorities, which will render us ineligible for participation in this tender.

**Sign. of the AUTHORISED SIGNATORY**
**(With Name, Designation and Company seal)**

Pla:
Date
:

**ANNEXURE – 8**

**DECLARATION BY AUTHORISED SIGNATORY OF BIDDER**

(To be typed and submitted in the **Letterhead** of the Company/Firm of Bidder )

---

To

**Sr Manager**
**Civil Planning**
**Civil Township Office**
**BHEL,Trichy-14**

Dear
Sir,

Sub: **Declaration by Authorized Signatory**
Ref: 1) Tender Schedule No: **CT:TS:16:26-27**
2) All other pertinent issues till date

I/We, hereby certify that all the information and data furnished by me with regard to the above Tender Specification are true and complete to the best of my knowledge. I have gone through the specifications, conditions, stipulations and all other pertinent issues till date, and agree to comply with the requirements and Intent of the specification.

I further certify that I am authorized to represent on behalf of my Company/Firm for the above mentioned tender and a valid Power of Attorney to this effect is also enclosed.

Yours faithfully,

(Signature, Date & Seal of Authorized Signatory of the Bidder

) Date:

Enclosed: Power of Attorney

**ANNEXURE – 9**

**DECLARATION BY AUTHORISED SIGNATORY OF BIDDER**

(To be typed and submitted in the **Letterhead** of the Company/Firm of Bidder )

---

To,

**Sr Manager**
**Civil Planning**
**Civil Township Office**
**BHEL,Trichy-14**

Dear Sir,

Sub: **Declaration by Authorized Signatory regarding Authenticity of submitted documents.**

Ref: 1) Tender Schedule No : **CT:TS:16:26-27**

2) All other pertinent issues till date

I/We, hereby certify that all the documents submitted by us in support of possession of "Qualifying Requirements" are true copies of the original and are fully compliant required for qualifying / applying in the bid and shall produce the original of same as and when required by Bharat Heavy Electricals Limited.

I / We hereby further confirm that no tampering is done with documents submitted in support of our qualification as Bidder . I / We understand that at any stage (during bidding process or while executing the awarded contract) if it is found that fake / false / forged bid qualifying / supporting documents / certificates were submitted, it would lead to summarily rejection of our bid / termination of contract. BHEL shall be at liberty to initiate other appropriate actions as per the terms of the Bid / Contract and other extant policies of Bharat Heavy Electricals Limited.

Yours faithfully,

**(Signature, Date & Seal of Authorized Signatory of the Bidder )**

**Date**:

**ANNEXURE – 10**

**DECLARATION**

(To be typed and submitted in the **Letterhead** of the Company/Firm of Bidder )

---

**To**
**Sr Manager**
**Civil Planning**
**Civil Township Office**
**BHEL,Trichy-14**

Dear Sir/ Madam,
Sub: **Details of related firms and their area of activities**

Please find below details of firms owned by our family members that are doing business/ registered for same item with BHEL, (NA, if not applicable)

| | | |
|---|---|---|
| 1 | Material Category/ Work Description | |
| | Name of Firm | |
| | Address of Firm | |
| | Nature of Business | |
| | Name of Family Member | |
| | Relationship | |
| 2 | Material Category/ Work Description | |
| | Name of Firm | |
| | Address of Firm | |
| | Nature of Business | |
| | Name of Family Member | |
| | Relationship | |
| … | | |

***Note:*** ***I certify that the above information is true and I agree for penal action from BHEL in case any of the above information furnished is found to be false.***

**ANNEXURE – 11**

**DECLARATION FOR RELATION**
**IN BHEL**

(To be typed and submitted in the **Letterhead** of the Company/Firm of Bidder failing which the offer of Bidder is liable to be summarily rejected)

---

**To**
**Sr Manager**
**Civil Planning**
**Civil Township Office**
**BHEL,Trichy-14**

Dear Sir,

**Sub: Declaration for relation in BHEL**
**Ref:** 1) Tender Scheule No : **CT:TS:16:26-27**

I/We hereby submit the following information pertaining to relation/relatives of Proprietor/Partner(s)/ Director(s) employed in BHEL

**Tick (√)anyoneasapplicable**:

1. The Proprietor, Partner(s), Director(s) of our Company/Firm DO NOT have any relation or relatives employed in BHEL

O
R

2. The Proprietor, Partner(s), or Director(s) of our Company/Firm HAVE relation/relatives employed in BHEL and their particulars are as below:

**(Signature, Date & Seal of Authorized Signatory of the Bidder )**

Note:
1. Attach separate sheet, if necessary.
2. If BHEL Management comes to know at a later date that the information furnished by the Bidder is false, BHEL reserves the right to take suitable against the Bidder /Contractor.

**ANNEXURE – 12**

## DECLARATION CONFIRMING KNOWLEDGE ABOUT SITE CONDITIONS

## (*SITE VISIT CERTIFICATE*)

**(To be typed and submitted in the Letter Head of the Company/Firm of Bidder )**

---

**To**
**Sr Manager**
**Civil Planning**
**Civil Township Office**
**BHEL,Trichy-14**

Dear Sir,

Sub: Declaration confirming knowledge about Site conditions (BHEL Trichy)

Ref: 1) Tender Schedule No : **CT:TS:16:26-27**

I/We, _____ hereby declare and confirm that we have visited the Site / premises (BHEL Trichy) as referred in BHEL Tender Specifications and acquired full knowledge and information about the Site conditions including Wage structure, Industrial Climate, the Law & Order and other conditions prevalent at and around the Site and completely aware of the nature and quantum work. We further confirm that the above information is true and correct and we shall not raise any claim of any nature due to lack of knowledge of Site conditions.

I/We, hereby offer to carry out work as detailed in above mentioned Tender Specification, in accordance with Terms & Conditions thereof.

Yours faithfully,

(Signature, Date & Seal of Authorized Representative of the Bidder )

Date:

Place:

**ANNEXURE-13**

**No deviation and Declaration to be given by vendor in vendor's letter head**

**Tender Schedule No: CT:TS:16:26-27**

We, the vendor, do hereby declare that we do not have any deviations to the tender terms and conditions as per

1. Technical Bid-Qualifying Criteria-Price bid
2. Special and General terms & Conditions of Contract

We have gone through all the tender terms and conditions; we have noted down the job content & site conditions. We have quoted our offer for all items by taking care of unit of measurement given in the Bill of quantities against individual items. In the event of observance of any deviation in any part of our offer at a later date whether implicit or explicit, the deviations shall stand null & void. We assure that no tampering was done to any part of tender document by us and if otherwise will lead to rejection of our bid. We confirm to have submitted our offer strictly in accordance with tender instructions.

We also hereby confirm the following points with ref to the above works, if ordered on us:

1. We do hereby confirm that we will pay (i) at least the minimum wages (minimum basic wages + minimum DA) to all the persons engaged (Un Skilled / Semi-Skilled / Skilled /Supervisor category) by us in the above contract as per the Tamilnadu Government Minimum Wages Act - 1948 & also as per any revisions made by the State Govt. from time to time and (ii) Bonus as per the Bonus Act-1965 along with Wage.
2. ESI, PF & Bonus (both Employer and Employee contributions) amounts are to be remitted for total wages to be paid as mentioned in (i) & (ii) of point 1 and challans to be produced along with invoices for all the respective persons engaged in the above contract.
3. The quoted amount in this tender will remain firm throughout the entire Contract period and no extra payment against service charges will be claimed from BHEL under any circumstances from our end.
4. We, the contractor, will disburse the salary/wages to all the persons engaged in the contract ONLY through nationalized banking channel in their respective accounts & the relevant Bank statement / proof for Bank payment will also be produced along with PF and ESI challans to the Welfare Section every month for processing our invoices for payment.
5. We will pay the previous month salary in full to our employees before 7th of every month and will not adjust any advance / loan / repayment due by the employee to us.
6. All the payments to the persons engaged in the contract will be paid ONLY through nationalized bank. No other mode of payment (hand payment / account transfer as advance payment or any other) is acceptable as salary.
7. In case we fail to pay the minimum wages to all the persons engaged in the contract which includes Minimum wages with ESI and PF (Employer contributions) for every month including Bonus, BHEL has the right to recover from the outstanding payments to us either under this Contract or in any other Contract(s) or from Security Deposit or from both. In case this amount is insufficient for such recoveries, we shall make good the balance amount by actual payment. In addition, BHEL, Trichy may recover the said amounts through other running contracts from BHEL's sister units.
8. We also confirm to all the Terms & Conditions as per your above referred Enquiry & as per our offer submitted against the same.
9. We also declare that, we have not been suspended or black listed or issued with Show Cause Notice by BHEL Trichy-14 or any other BHEL Unit or any PSU / Government organization.

**ANNEXURE – 14**

## INTEGRITY PACT

**Between**

Bharat Heavy Electricals Ltd. (BHEL), a company registered under the Companies Act 1956 and having its registered office at "BHEL House", Siri Fort, New Delhi - 110049 (India) hereinafter referred to as "The Principal", which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the ONE PART

**and**

_____, (description of the party along with address), hereinafter referred to as "The Bidder / Contractor" which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the OTHER PART

## Preamble

The Principal intends to award, under laid-down organizational procedures, contract(s) for _____

_____ _____ _____ (hereinafter referred to as "Contract"). The Principal values full compliance with all relevant laws of the land, rules and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder (s)/ Contractor(s).
In order to achieve these goals, the Principal will appoint panel of Independent External Monitor(s) (IEMs), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

## Section 1- Commitments of the Principal

1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles: -

1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

1.1.2 The Principal will, during the tender process treat all Bidder (s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder (s) the same information and will not provide to any Bidder (s) confidential/ additional information through which the Bidder (s) could obtain an advantage in relation to the tender process or the contract execution.

1.1.3 The Principal will exclude from the process all known prejudiced persons.

1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

## Section 2 - Commitments of the Bidder (s)/ Contractor(s)

2.1 The Bidder (s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. The Bidder (s)/ Contractor(s) commits himself to observe the following principles during participation in the tender process and during the contract execution.

2.1.1 The Bidder (s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material,

immaterial or any other benefit which he/ she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

2.1.2 The Bidder (s)/ Contractor(s) will not enter with other Bidder (s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

2.1.3 The Bidder (s)/ Contractor(s) will not commit any penal offence under the relevant Indian Penal Code (IPC) and Prevention of Corruption Act; further the Bidder (s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

2.1.4 Foreign Bidder (s)/ Contractor(s) shall disclose the name and address of agents and representatives in India and Indian Bidder (s)/ Contractor(s) to disclose their foreign principals or associates. The Bidder (s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.

2.2 The Bidder (s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

2.3 The Bidder (s)/ Contractor(s) shall not approach the Courts while representing the matters to IEMs and shall await their decision in the matter.

**Section 3 - Disqualification from tender process and exclusion from future contracts**

If the Bidder (s)/ Contractor(s), before award or during execution has committed a transgression through a violation of Section 2 above, or acts in any other manner such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder (s)/ Contractor(s) from the tender process, terminate the contract, if already awarded, exclude from future business dealings and/ or take action as per the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors", framed by the Principal.

**Section 4 - Compensation for Damages**

4.1 If the Principal has disqualified the Bidder (s) from the tender process before award / order acceptance according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security.

4.2 If the Principal is entitled to terminate the Contract according to Section 3, or terminates the Contract in application of Section 3 above , the Bidder (s)/ Contractor (s) transgression through a violation of Section 2 above shall be construed breach of contract and the Principal shall be-entitled to demand and recover from the Contractor an amount equal to 5% of the contract value or the amount equivalent to Security Deposit/ Performance Bank Guarantee , whichever is higher, as damages, in addition to and without prejudice to its right to demand and recover compensation for any other loss or damages specified elsewhere in the contract.

**Section 5 - Previous Transgression**

5.1 The Bidder declares that no previous transgressions occurred in the last 3 (three) years (to be reckoned from date of bid submission) with any other company in any country conforming to the anti-corruption approach in India that could justify his exclusion from the tender process. The date of such transgression, for the purpose of disclosure by the Bidder s in this regard, would be the date on which cognizance of the said transgression was taken by the competent authority. The transgression(s), for which cognizance was taken even before the said period of three years, but are pending conclusion, shall also be reported by the Bidder s.

5.2 If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason or action can be taken as per the separate "Guidelines on Suspension of Business dealings with Suppliers/ Contractors", framed by the Principal.

**Section 6 - Equal treatment of all Bidder (s)/ Contractor (s) / Sub-contractor (s)**

6.1 The Principal will enter into Integrity Pacts with identical conditions as this Integrity Pact with all Bidder s and Contractors.

6.2 In case of a joint venture, all the partners of the joint venture should sign the Integrity Pact. In case of Sub-contracting, the Principal Contractor shall be solely responsible for the adherence to the provisions of IP by the sub-contractor(s).

6.3 The Principal will disqualify from the tender process all Bidder s who do not sign this Integrity Pact or violate its provisions.

**Section 7 - Criminal Charges against violating Bidder s/ Contractors /Subcontractors**

If the Principal obtains knowledge of conduct of a Bidder , Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder , Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

**Section 8 -Independent External Monitor(s)**

8.1 The Principal appoints competent and credible panel of Independent External Monitor (s) (IEMs) for this Integrity Pact. The task of the IEMs is to review independently and objectively, whether and to what extent the parties comply with the obligations under this Integrity Pact on receipt of any complaint by them from the Bidder (s).

8.2 The IEMs are not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.

8.3 The IEMs shall be provided access to all documents/ records pertaining to the Contract, for which a complaint or issue is raised before them as and when warranted. However, the documents/records/information having National Security implications and those documents which have been classified as /Top Secret are not to be disclosed.

8.4 The Principal will provide to the IEMs sufficient information about all meetings among the parties related to the Contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the IEMs the option to participate in such meetings.

8.5 The role of IEM is advisory and the advice of IEM is non- binding on the Organization. However, as IEMs are invariably persons with rich experience who have retired as senior functionaries of the government, their advice would help in proper implementation of the IP.

8.6 For ensuring the desired transparency and objectivity in dealing with the complaints arising out of the tendering process, the matter should be examined by the full panel of IEMs jointly, who would look into the records, conduct an examination, and submit their

joint recommendations to the Management. In case the full panel is not available due to some unavoidable reasons, the available IEM(s) will conduct examination of the complaints. Consent of the IEM(s), who may not be available, shall be taken on record.

8.7 The IEMs shall examine all the representations/grievances/ complaints received by them from the Bidder s or their authorized representative related to any discrimination on account of lack of fair play in modes of procurement and bidding systems, tendering method, eligibility conditions, bid evaluation criteria, commercial terms & conditions, choice of technology/ specifications etc.

8.8 The CMD, BHEL shall decide the compensation to be paid to the IEMs and its terms and conditions.

8.9 IEMs should examine the process integrity, they are not expected to concern themselves with fixing of responsibility of officers. Complaints alleging mala fide on the part of any officer of the Principal should be looked into by the CVO of the Principal.

8.10 If the IEMs have reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant Indian Penal Code / Prevention of Corruption Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the IEMs may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

8.11 After award of work, the IEMs shall look into any issue relating to execution of Contract, if specifically raised before them. As an illustrative example, if a Contractor who has been awarded the Contract, during the execution of Contract, raises issue of delayed payment etc. before the IEMs, the same shall be examined by the panel of IEMs.

8.12 However, the IEMs may suggest systemic improvements to the management of the Principal, if considered necessary, to bring about transparency, equity and fairness in the system of procurement.

8.13 The word `Monitor' would include both singular and plural.

## Section 9 - Pact Duration

9.1 This Integrity Pact shall be operative from the date this Integrity Pact is signed by both the parties. Any violation of the same would entail disqualification of the Bidder s and exclusion from future business dealings.

9.2 If any claim is made/ lodged during currency of this Integrity Pact, the same shall be binding and continue to be valid despite the lapse of this Pact as specified above, unless it is discharged/ determined by the CMD, BHEL.

## Section 10 - Other Provisions

10.1 This Integrity Pact is subject to Indian Laws and exclusive jurisdiction shall be of the competent Courts as indicated in the Tender or Contract, as the case may be.

10.2 Changes and supplements as well as termination notices need to be made in writing.

10.3 If the Bidder (s)/ Contractor(s) is a partnership or a consortium or a joint venture, this Integrity Pact shall be signed by all partners of the partnership or joint venture or all consortium members.

10.4 Should one or several provisions of this Integrity Pact turn out to be invalid, the remainder of this Integrity Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

10.5 Only those Bidder s / contractors who have entered into this Integrity Pact with the Principal would be competent to participate in the bidding. In other words, entering into this Integrity Pact would be a preliminary qualification.

10.6 In the event of any dispute between the Principal and Bidder (s)/ Contractor(s) relating to the Contract, in case, both the parties are agreeable, they may try to settle dispute through Mediation before the panel of IEMs in a time bound manner. If required, the Principal may adopt any mediation rules for this purpose. However, not more than five meetings shall be held for a particular dispute resolution. The fees/expenses on dispute resolution shall be equally shared by both the parties. In case, the dispute remains unresolved even after mediation by the panel of IEMs, either party may take further action as per the terms & conditions of the Contract.

| | |
|---|---|
| --- | --- |
| For & On behalf of the Principal<br>(Office Seal) | For & On behalf of the Bidder / Contractor<br>(Office Seal) |
| Place _____<br>Date _____ | |
| Witness:_____<br>(Name & Address) _____ | Witness:_____<br>(Name & Address) |

Clause on IP in the tender

Integrity Pact (IP)

(a) IP is a tool to ensure that activities and transactions between the Company and its Bidder s/ Contractors are handled in a fair, transparent and corruption free manner. Following Independent External Monitors (IEMs) on the present panel have been appointed by BHEL with the approval of CVC to oversee implementation of IP in BHEL.

| Sl | IEM | Email |
|---|---|---|
| 1. | Dr. Sarat Kumar Acharya, Ex-CMD, NLC | iem1@bhel.in |
| 2. | Shri R. Mukundan, IRPS (Retd.) | iem2@bhel.in |
| 3. | Shri Madan Lal Meena, IAS (Retd.) | iem3@bhel.in |

(b) The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory) along with techno-commercial bid (Part-I, in case of two/ three part bid). Only those Bidder s who have entered into such an IP with BHEL would be competent to participate in the bidding. In other words, entering into this Pact would be a preliminary qualification.

(c) Please refer Section-8 of IP for Role and Responsibilities of IEMs. In case of any complaint arising out of the tendering process, the matter may be referred to any of the above IEM(s). All correspondence with the IEMs shall be done through email only.

Note:

No routine correspondence shall be addressed to the IEM (phone/ post/ email) regarding the clarifications, time extensions or any other administrative queries, etc on the tender issued. All such clarification/ issues shall be addressed directly to the tender issuing (procurement) department's officials whose contact details are provided below:

Details of contact person(s):

(1)
Name:_____
Deptt: _____
Address: _____
Phone: (Landline/ Mobile) _____
Email: _____
Fax: _____

(2)
Name:_____
Deptt: _____
Address: _____
Phone: (Landline/ Mobile) _____
Email: _____
Fax: _____

**ANNEXURE – A1**

**EMD through E-collect (Bank payment)**

This explains how to make Payments to BHEL - Tiruchirappalli and through SBI-E-collect. Vendors (EMD and SD Payments payable by others) can utilize this facility. payments can be made using Internet Banking, Debit Cards / Credit Cards etc. SBI Charges a minimum amount (Service Charges) for every transaction. This may vary according to the MODE selected.

This explains how to make Payments to BHEL - Tiruchirappalli and through SBI-E-collect. Vendors (EMD and SD Payments payable by others) can utilize this facility. payments can be made using Internet Banking, Debit Cards / Credit Cards etc. SBI Charges a minimum amount (Service Charges) for every transaction. This may vary according to the MODE selected.

**STEP BY STEP PROCEDURE:**

Go To https://onlinesbi.sbi.bank.in/sbicollect/

1. Search for "BHEL" and Select "BHEL TRICHY"
2. In the next page, Select APPOPRIATE category, fill details correctly & click "NEXT".
3. Make payment as per your convenience. (Options available are payment of fees through SBI Net Banking, State Bank ATM cum Debit Cards / Other Bank Debit / Credit Cards and through SBI Branches).
4. Save & Keep the copy of receipt for future reference.

**BANK DETAILS FOR SERCUITY DEPOSIT SUBMISSION:**

1. For Electronic Fund Transfer the details are as below:
2. a) Name of the Beneficiary: BHEL, Trichy
3. b) Bank Particulars (Details of Respectively executing region):
4. Name of the Company – BHEL, Trichy
5. Name of the bank - STATE BANK OF INDIA
6. Bank branch - HEAVY ELECTRICALS, KAILASAPURAM
7. City –Tiruchirappalli Branch code- 01363
8. Account Number – 10891588977
9. Account type – CC
10. IFSC code - SBIN0001363
11. MICR code – 620002004

**ANNEXURE-A2**

**POWER OF ATTORNEY for SUBMISSION OF TENDER**

(To be typed on **non-judicial stamp paper** of minimum Rs. 100/- and Notarized)

---

KNOW ALL MEN BY THESE PRESENTS, that I/We do hereby make, nominate, constitute and appoint Mr. …….. , whose signature given below herewith to be true and lawful Attorney of M/s…… hereinafter called 'Company', for submitting Tender/entering into Contract and inter alia, sign, execute all papers and to do necessary lawful acts on behalf of Company with M/s Bharat Heavy Electricals Ltd, Central Procurement Cell (CPC), in connection with…… ……vide Tender EnquiryNo: _____, dated _____.

And the Company do hereby agree to ratify and confirm all acts, deeds, things or proceedings as may be lawfully done by the said attorney and by or on behalf of the company and in the name of the company, by virtue of the powers conferred herein and the same shall be binding on the company and shall have full force and effect.

IN WITNESS WHEREOF, the common seal of the company has been hereunto affixed in the manner hereinafter appearing on the document.

Dated at _____, this _____ day of

Director/CMD/Partner/Proprietor

Signature of Mr. …… (Attorney)

Attested by: Director/CMD/Partner/Proprietor

Witness 1

Witness 2

**Notary Public**

(Please note that the Person issuing Power of Attorney shall posess the authority / authorisation to issue such Power of Attorney. Articles of Association / Board Resolution / Partnership Deed Shall be submitted along with the POA in support of the POA)

**E FORMAT**

THE PURCHASE/CONTRACT EXECUTING AGENCY/BHEL

**ACCEPTANCE FOR ELECTRONIC FUND TRANSFER / RTGS TRANSFER**

| | | |
|---|---|---|
| 01 | Name & Address of the Supplier / Sub-contractor | |
| 02 | VENDOR CODE assigned by BHEL | |
| | Details of Bank Account: | |
| | | |
| 03 | NAME & ADDRESS OF THE BANK | |
| 04 | NAME OF THE BRANCH | |
| 05 | BRANCH CODE | |
| 06 | MICR CODE | |
| 07 | ACCOUNT NUMBER | |
| 08 | TYPE OF ACCOUNT | CURRENT A/C / OD / CASH CREDIT |
| 09 | BENEFICIERY'S NAME | |
| 10 | IFSC CODE OF THE BRANCH | |
| 11 | PAN | |
| 12 | EMAIL ID | |
| 13 | TELEPHONE/MOBILE NO. | |

**CERTIFICATE**

I / We hereby agree to receive the payments due from BHARAT HEAVY ELECTRICALS LIMITED by the National Electronic Funds Transfer and/or RTGS Transfer mode by credit to my / our above mentioned Bank Account. I / We also agree that payments made to the above mentioned Account is a valid discharge of the liability of Bharat Heavy Electricals Limited. I / We also agree to bear the applicable Bank Charges for the above mode of transfer. **A copy of the cheque leaf / cancelled cheque leaf of the above account is sent herewith.**

AUTHORISED SIGNATORY WITH NAME SEAL

**Banker's Certification**

We confirm that we are enabled for receiving RTGS and NEFT credits and we further confirm that the account number of _____ (name of account holder), the signature of the authorized signatory and the MICR and IFSC codes of our Branch mentioned above are correct.

**PLACE:** **(Manager / Officer's)**

**DATE :** **Signature Under Bank stamp and Name Seal**

**With Membership No.**

**(Telephone / Mobile No. )**

Forwarded to Accounts Dept.

We confirm the above details are verified with the records available with us.

Signature of the BHEL Executive with Name Seal (Operating the Contract/Services)

SIGNATURE OF THE APPLICANT

CONTRACTOR



ACCEPTING OFFICER

## SECTION 2 - PREAMBLE

1. The scope of work includes Attenmding day to day complaints related to Masonry, carpentry, plumbing, painting etc., in quarters, Public Buildings, Construction of Civil and Structural Steel works, interior decorations, water supply works, road patch works, drains, sewers, horticulture etc., in BHEL, Township, Trichy-14. The brief description of items of work is given in the bill of quantities provided in the Price Bid.

2. This tender works will be awarded to maximum of TWO contractors only and the condition of distribution will be as per the table given below. The offer to Tenders to accept L1 rate will be in the order of the value quoted by them, Lower to Higher, i.e. L2, L3, L4 etc.

| No. of L1 vendors | No. of Counter-offer accepted vendors | Splitting Ratio | | |
|---|---|---|---|---|
| 1 | 1 | L1 : V2 | :: | 60 : 40 |
| | 0 | L1 | :: | 100 |

In case of tie in L2 status while counteroffering L-2 Bidder shall be decided by a toss / draw of lots, in the presence of the L-2 Bidder (s) or their representative(s). Ranking will be done accordingly. BHEL's decision in such situations shall be final and binding

Note: In the table above, V2 refers to the next lowest Bidder accepting L1 rate.

*The work is split into number of sub works and sub work orders will be issued to each sub work. Though the period of contract is 15 Months, each sub work must be completed before its completion period as mentioned in its sub work order. Otherwise LD will be applied as per special conditions for contracts for annual maintenance contracts attached herewith*

3. Time is the essence of the contract. Being a time bound works, the contractor should make all efforts to complete the work in time. Even though the overall completion period is indicated in the tender, works shall be completed progressively as per the completion time given in the sub work orders and handed over as per agreed schedule.

4. The tender value excludes cost of Cement, reinforcement steel and structural steel, which will be supplied by BHEL at Stores at free of cost as indicated in "Schedule" of the Tender document.

5. Tender Value is only approximate and liable for variation without entitling the Bidder to any compensation, till the total value of contract does not vary more than 30%. The contractor has to execute any item of work irrespective of the quantity available in the tender without any reservation till the contract value does not vary more than 30%.

6. **Quoted percentage/rate for all items shall be firm throughout the contract period including extended period if any and no cost escalation is allowed on any account.** Some changes are likely in the quantities furnished as well as specifications of the work. The rates quoted shall be deemed to be inclusive of all such contingencies.

7. **Taxes & Duties:**
The percentage rate offered is for finished item of works and shall provide for the complete cost towards fuel, tools, tackles, plant & machinery, temporary works, labour, materials, levies, taxes, transport, lay-out, repairs, rectifications, maintenance till handing over, supervision, establishment, services, revenue expenses, overheads, profits & all other incidentals etc., complete Rate quoted shall include all royalties, terminal taxes, Octroi duties, and any other taxes leviable under the State or Central Government rules. The Bharat Heavy Electricals Ltd., will not entertain any claim whatever in this respect.

8. **The percentage / rate quoted shall not include applicable GST.**

9. Response to Tenders will be entertained only if the contractor has a valid GST registration number which should be clearly mentioned in the offer. The Contractor shall mention their GST registration number in all their invoices and invoices shall be in the format as specified/prescribed under GST laws. Invoices shall necessarily contain Invoice number (in case of multiple numbering system is being followed for billing like SAP invoice no, commercial invoice no etc., then the Invoice No which is linked/uploaded in GSTN network shall be clearly indicated), item description as per PO, Quantity, Rate, Value, applicable taxes with nomenclature (like IGST, SGST, CGST & UTGST) separately, HSN / SAC Code, etc.
All invoices shall bear the SAC code (Services Accounting Code) & HSN Code (if applicable) for each item separately (Harmonized System of Nomenclature).

**Payment shall be effected only after submission of declaration to the effect that all invoice particulars are/were uploaded in the GSTN network/ portal & All tax liability as per GST rules and regulations have been and will be discharged, shall be mentioned in the invoice. If it is not mentioned in the invoice** a separate declaration shall be submitted as per the requirement of BHEL.

10. All documents like Work completion certificate and any other document mentioned in PO, shall be submitted. For all works executed within the calendar month, input credit will be availed within that month in line with monthly returns filing cycle (if Input Tax Credit is applicable). In case of any discrepancy in the document or non-submission of documents mentioned in the PO, then BHEL will not be able to accept or account the works executed, in such case availing of tax credit will be deferred to next month or so.

11. In case of discrepancy in the data uploaded by contractor in the GSTN portal or in case of any shortages or rejection in the works executed, then BHEL will not be able to avail the tax credit (if Input Tax Credit is applicable) and will notify the Contractor of the same. The Contractor has to rectify the data discrepancy in the GSTN portal or issue credit note (details to be uploaded in GSTN portal) for the shortages or rejections, within the calendar month notified by BHEL.

12. For any such delay in availing of tax credit for reasons attributable to the Contractor (as mentioned above), interest (calculated @ SBI Base Rate + 6%) along with penalty if any will be deducted for the delayed period i.e. from the month of receipt till the month tax credit is availed, from the running bills.

13. **All taxes and duty other than GST & GST Cess**
The contract price shall be inclusive of all (save the specific exclusions as enumerated in this contract) taxes, fees, license charges, deposits, duties, tools, royalty, Octroi, commissions or other charges which may be levied on the input goods consumed and output goods delivered in the course of Works Contract. In case BHEL is forced to pay any of such taxes, BHEL shall have the right to recover the same from the contractors bills or otherwise as deemed fit.

14. **Goods and service Tax (GST) & Cess**
The following conditions will apply and supplier shall fully comply to the below points.

**Indigenous suppliers:**

i. Response to Tenders for Indigenous supplier will be entertained only if the vendor has a valid GST registration No (GSTIN) which should be clearly mentioned in the offer. If the dealer is exempted from GST registration, a declaration with due supporting documents need to be furnished for considering the offer. Dealers under composition scheme should declare that he is a composition dealer supported by the screen shot taken from GST portal. The unregistered dealer as well as the composition dealer has to submit an undertaking stating that they will not claim GST during the execution of the contract even if their status under GST changes to regular tax payer.

ii. Supplier shall mention their GSTIN in all their invoices (incl. credit Notes, Debit Notes) and invoices shall be in the format as specified/prescribed under GST laws. Invoices shall necessarily contain Invoice number (in case of multiple numbering system is being followed for billing like SAP invoice no, commercial invoice no etc., then the Invoice No. which is linked/uploaded in GSTN network shall be clearly indicated), Billed to party (with GSTIN) & Shipped to party details, item description as per PO, Quantity, Rate, Value, applicable taxes with nomenclature (like IGST, SGST, CGST & UTGST) separately, HSN/ SAC Code, Place of Supply etc.

iii. All invoices shall bear the HSN Code for each item separately (Harmonized System of Nomenclature)/ SAC code (Services Accounting Code).

iv. Invoices will be processed only upon completion of statutory requirement and further subject to following:
   a. Vendor declaring such invoice in Form GST ANX-1
   b. Receipt of Goods or Services and Tax invoice by BHEL

v. As the continuous uploading of tax invoices in GSTN portal (in GST ANX-1) is available for all (i.e. both Small & Large) tax payers under proposed new GST Return System, all invoices raised on BHEL may be uploaded immediately in GST portal on despatch of material /rendering of services. The supplier shall ensure availability of Invoice in GST portal before submission of invoice to BHEL. Invoices will be admitted by BHEL only if the invoices are available in GSTN portal (in BHEL's GST ANX-2).

vi. In case of discrepancy in the data uploaded by the supplier in the GSTN portal or in case of any shortages or rejection in the supply, then BHEL will not be able to avail the tax credit and will notify the supplier of the same. Supplier has to rectify the data discrepancy in the GSTN portal or issue credit note or debit note (details also to be uploaded in GSTN portal) for the shortages or rejections in the supplies or additional claims, within the calendar month informed by BHEL.

vii. In cases where invoice details have been uploaded by the vendor but failed to remit the GST amount to GST Department (Form PMT-08 or Form GST RET-01 to be submitted) within stipulated time, then GST paid on the invoices pertaining to the month for which GST return not filed by the vendor will be recovered from the vendor along with the applicable interest and all subsequent bills of the vendor will not be processed till filing of the GST return by the vendor

viii. In case GST credit is denied to BHEL due to non-receipt or delayed receipt of goods and/ or tax invoice or expiry of timeline prescribed in GST law for availing such ITC, or any other reasons not attributable to BHEL, GST amount claimed in the invoice shall be disallowed to the vendor.

ix. Where any GST liability arising on BHEL under Reverse Charge (RCM), the vendor has to submit the invoices to BHEL well within the timeline prescribed in GST Law, to enable BHEL to discharge the GST liability. If there is a delay in submission of invoice by the vendor resulting in delayed payment of GST by BHEL along with Interest, then such Interest payable or paid shall be recovered from the vendor.

15. The Bidder are advised to visit BHEL at Tiruchirappalli and get themselves acquainted with the site conditions before submitting the offer. Submission of Site Visit Certitifcate along with the offer is mandatory

16. For any item of work not covered in Bill of Quantities, the rate will be arrived at based on the conditions given in BHEL General Conditions of Contract in force.

17. The percentage rate offered is for finished item of works and shall provide for the complete cost fuel, tools, tackles, plant & machinery, temporary works, labour, levies, taxes, transport, lay-out, repairs, rectifications, maintenance till handing over, supervision, labour colony Establishment, services, revenue expenses, overheads, profits & all other incidentals etc., complete.

18. **New Taxes / Levies**
In case the Government imposes any new levy / tax on the output service / goods / work after award of the contract, the same shall be reimbursed by BHEL at actual. In case any new tax / levy / duty etc. becomes applicable after the date of Bidder 's offer, the Bidder / Contractor must convey its impact on his price duly substantiated by documentary evidence in support of the same **before opening of Price Bid**. Claim for any such impact after opening the Price Bid will not be considered by BHEL for reimbursement of tax or reassessment of offer.

19. For any clarification on the tender document, the Bidder may seek the same in writing or through email, as per specified format, within the scheduled date for seeking clarification, from the office of the undersigned. BHEL shall not be responsible for receipt of queries after due date of seeking clarification due to postal delay or any other delays. Any clarification / query received after last date for seeking clarification may not be normally entertained by BHEL and no time extension will be given.

20. In the event of any conflict between requirement of any clause of this specification / documents / drawings / data sheets etc. or requirements of different codes/standards specified, the same to be brought to the knowledge of BHEL in writing for clarification before due date of seeking clarification (whichever is applicable), otherwise, interpretation by BHEL shall prevail. Any typing error / missing pages / other clerical errors in the tender documents, noticed must be pointed out before submission of offer, else BHEL's interpretation shall prevail.

21. **Payment Terms:**
No advance / mobilization advance will be given and the part-payment or advance for raw materials brought by the successful Bidder will not be paid. The payment for the finished items of works only will be paid after incorporating the required raw materials into the work, if any.

22. **PVC & ORC:**
**PVC & ORC are not applicable for this tender.**

23. The decision of Engineer-in-charge shall be final and binding on the contractor regarding clarification of items in this tender schedule.

24. Documentary evidences (Self-attested) for all the above qualification norms like works experience, ESI, EPF, PAN, GST and IT returns for the last three years etc…, all as required & indicated in the tender document should be furnished, without which it will not be taken into account. The Bidder shall produce original document for verification if so decided by BHEL.

25. The works executed in the **own name of the Bidder only will be considered for eligibility criteria**. ***The nominated committee may also visit the works executed by the contractor / Bidder to ascertain the nature of work relating to similar works before qualifying.***

26. The correspondence exchanged against the tender from both Bidder and BHEL through email are considered as valid document legally though it is not signed. It is treated as valid confirmations made on behalf of the respective company and very much comes under the legal ambit of the business transaction and hence it is binding on both the parties to the business.

27. Any transaction pertaining to the tender from both the parties of business done round the clock irrespective of the office or business hours of the companies, are valid legally and binding on both the parties. This applies to the extent only in such cases where deadline time for transaction is not specifically declared by either or both the patties to the business.

28. In case Letter of Intent (LOI) is issued through email, the PC generated time and date of mail shall be construed as the official time and date of release of LOI. In as much as this date is within the last date of validity given by the Bidder the LOI is said to have been issued within the validity period and shall be binding on both the parties to the business.

29. Bidder participating in the tender should declare in their technical bid that whether they have been black-listed / kept on hold for a specified period / given Business holiday for a specified period by any Public sector undertaking or Government departments. The reasons for such action with details and the current status of such hold shall be clearly furnished to BHEL. If no such details are mentioned in the offer then it will be construed that the subject Bidder is not under any such hold. But at a later date if it comes to the notice of BHEL about any such hold under enforcement on the subject Bidder , BHEL will have every right to reject the offer of such vendors at any point of time and also under any stage of the finalisation of the subject tender irrespective of the status of the subject Bidder in that tender. Such Bidder s will not be permitted to participate in the further tender proceedings and will be communicated suitably. They will not be also considered for any ongoing tenders even if participated till the hold is officially lifted and confirmed in writing.

30. *The Bidder along with its associate/ collaborators / sub-contractors / sub vendors / consultants / service providers shall strictly adhere to BHEL fraud prevention Policy displayed on BHEL website http://www.bhel.com and shall immediately bring to the notice of the management about any fraud or suspected fraud as soon as it comes to their notice*

31. The contractor shall strictly adhere to various labour laws in force.The contractor shall ensure compliance of EPF&MP Act 1952, by the subcontractors, if any engaged by the contractor.

32. The contractor shall follow norms of BHEL security system for movement of men & material including bio-metric system & materials within the complex.

33. The contractor may be required to undertake works at remote places and in such cases the contractor should make own arrangement for safety of BHEL materials, water required for the work and power etc. without extra claim from BHEL.

34. The contractor has to carry out the work in production shops without affecting the production by planning such work on holidays / obtaining proper shut down.

35. Since the responsibility for the quality, workmanship and accuracy of any work being carried out under this contract lies with the contractor, the contractor should ensure that no work is done without the presence of contractor's representative at the work spot. The contract should arrange for surveying construction site wherever required at his own cost.

36. The contractor has to submit the organization chart of their set up for the works and any change thereafter in the organization set up shall have the prior approval of BHEL.

37. Statement of completed works with detailed measurements along with material reconciliation statements shall be submitted by the contractor in the last week of every month for processing bill.

38. The contractor should establish his own site office, labour colony, fabrication yard, handling facility, storage facility etc., for which vacant land will be allotted on specific request for which the rent will not be collected.

39. Contractor has to ensure that the employees deployed in the premises of BHEL are physically and mentally fit and do not have any criminal record. Such employees should possess requisite skill, experience etc. acceptable to concerned department.

40. Contractors are advised that contract labours must be employed without any discrimination on caste or creed or religion or gender basis.

41. The contractor shall submit police verification certificate in respect of the persons, engaged for first time by the contractor, for delivering services.

42. The contractor by submitting the tender undertakes that, they had never been found guilty by a court of law in India for any offence in involving fraud, dishonesty and moral turpitude. If at a later date, if it comes to the notice of BHEL about any such occurrences on the subject Bidder, BHEL will have every right to reject the offer of such vendors at any point of time.

43. The Contractor shall ensure that his workmen movement is restricted to their relevant work areas only & shall vacate the premises after the shift is over.

44. Adequate number of Quality Engineer and qualified Safety Engineer should be deployed at site. Experienced Engineers / Supervisors are to be engaged.

45. The contractor has to deploy adequate labour of required categories such as Unskilled, Skilled, Mason, Carpenter, Plumber, Welder, Fitter, Mistry, technically experienced, etc. so as to execute the works simultaneously in all areas of work. The Technical persons with experience shall have to produce valid certificate for verification.

46. Expertise labour only to be engaged for specialized items of work like laying of ceramic tiles, marbles, cuddapah slabs, granite slabs and false ceiling, partition, wall paneling, architectural finishing, water proofing, repair & rehabilitation work etc. and work experienced persons shall be engaged for fabrication, water supply, railway track laying and aligning works, sewerage system work, etc.

47. Exclusive Stores personnel should be engaged who would coordinate with department official for clearance and collection of BHEL supplied materials required for works. Separate non-technical persons should be engaged for arranging daily gate passes for labours and vehicles entry in all the gates of BHEL Complex.

48. The works contract to be entered into with the successful Bidder will be governed by the BHEL General Conditions of Contract in force.

49. All the works shall be executed as per the standard specifications as provided in TNBP / BIS and special specifications of manufacturer.

50. All the materials to be used in the work and the nature of work shall conform to the applicable BIS or other standards as the case may be and and shall be got approved by the Engineer-in-charge before actual incorporation in the work.

51. Usually, working hours are limited to day time only. In emergency cases to carryout works during nights, it may be done so with the specific prior permission of BHEL. In such case, it is to be carried out in the presence of BHEL officials or their authorized persons.

52. The work shall be carried out as per drawings released then and there, AWS / BIS specifications, standard code of practice and as per the instructions of Engineer-in-charge.

53. The contractor should bring the construction earth moving machineries like Road Roller, Exacavtor etc., as and when required for the work without any delay. Also required number of the following tools & Plants / instruments shall be made available at site for the works as and when required.

    i. Precise Leveling instruments and theodolite.
    ii. Full load mixture machine / mini batching
    iii. Petrol / Kerosene driven vibrator/ mechanical vibrator
    iv. Cube moulds
    v. Inter carting vehicle (tractor, hand trolley etc)
    vi. Power operated winches
    vii. Mobile crane

54. With regard to specifications not covered by the General and Special Conditions of Contract, those contained in the Tamil Nadu Building Practice Standard Specifications or other specifications approved by Bharat Heavy Electricals Limited, shall apply.

55. ***The contractor should use only the materials of brand and quality as approved by BHEL.*** All materials and consumables brought by the contractor should have manufacturer's certificate.

56. Contractor's materials and tools & plants shall have to be brought inside BHEL with proper invoice / voucher and make necessary entry in the security gate. They should maintain proper record for tools and plats, materials, etc., brought inside BHEL complex.

57. To safeguard the persons working at height in roof, wall etc., sufficient number of Industrial Safety nets shall be provided at tenderer's cost in appropriate level and locations. The working hand including Supervisors, Engineers should wear the personal protective items and safety measures such as helmets, safety belts, shoes, etc., before entering into working place.

58. All safety measures are to be followed during execution of work, particularly during blasting and only licensed blaster should be engaged for this purpose. Sufficient care shall be taken by the contractor during excavation to avoid damages to the buried pipe lines, cables and other infrastructure like railway lines if any etc. Controlled blasting including muffling can be carried out with prior permission from safety department.

59. The contractor shall carry out health performance test at his cost for all the workmen engaged in the work through a registered medical practitioner and produce certificate on demand.

60. It shall be the responsibility of the contractor to see that the workmen do not utilize the departmental canteen facilities. Contractor has to make his own arrangements to provide refreshment for the workmen.

61. The contractor should extend fullest co-operation with the third party agencies engaged, if any by BHEL to adhere the Quality Control Procedures ensuring quality.

62. The contractor should extend full co-operation to the other contractors who may be doing other works in the same areas to enable them to execute their portions of work without any delay or difficulty.

63. On the written request from the contractor ***Water required for the work may be provided by this organization at only one point at the site of the work at free of cost.*** In case of failure of water supply, the Contractor will have to make his own arrangements for water without any extra claims until supply is restored. BHEL does not accept any liability whatsoever for non-supply or delay in the supply of water under any circumstances. The contractor shall ensure that there is no wastage of water otherwise supply of water is liable to be stopped at contractor's risk and cost.

64. On the written request from the contractor ***Electrical energy required for the work may be given by this organization at any one point at the site of work at free of cost.*** BHEL does not accept any liability whatsoever for non-supply, delay in supply or failure of supply of electrical energy. Contractor shall ensure that there is no wastage of electrical energy otherwise supply is liable to be stopped at contractor's risk and cost. The contractor shall make leak proof / fire proof shed and provide control panel board of required capacity and lay the required cables at their own cost for further distribution.

65. On the written request from the contractor ***Compressed air for the work will be provided by this organization at only one point near the site of work at free of cost.*** The contractor should be in a position to make his own arrangement for compressed air without any extra claim for the uninterrupted operation of jackhammer with silencer wherever BHEL is not in a position to supply compressed air.

66. Field quality plan issued by BHEL should be strictly followed.

67. *Misuse of the building (residential/non-residential) taken for maintenance viz. not closing water tap / not switching off power / not closing the main door at the end of the day will attract a fine of Rs.500/- per occasion.*

68. *Any mixing of concrete or cement mortar directly on the road surface will attract a fine of Rs.1000/-.*

69. Any claim or dispute arising from the tender stage, till/after completion of the work under the terms and conditions stipulated in the tender document/contract agreement shall only be enforced or settled in the courts at Tiruchirappalli, TamilNadu only.

70. Permission for erection of temporary work sheds etc., at site will have to be obtained from BHEL in writing in advance.

71. Quarters, if available will be allotted to the Contractor by HR- Administration of BHEL based on the written request from the Contractor/ his representatives duly forwarded from Civil Department. The contractor has to declare that the quarters allotted would be for the bonafide use of his representatives only and he is required to remit applicable monthly rent & Security deposit in timely manner. The terms and conditions of allotment would be subject to BHEL policy on allotment of Quarters.

72.**BOCW Act & BOCW Welfare Cess Act**

a) All taxes/ duties/ Cess other than GST and BOCW cess shall be deemed to be included in the quoted Price.

b) It is the responsibility of the contractor to comply with all the provisions of BOCW Act & BOCW Rules and the BOCW Cess Act and Cess Rules including obtaining of license and payment / deposit of applicable cess under the Cess Act along with applicable Rules.

c) It shall be the sole responsibility of the contractor in the capacity of employer to forthwith (within a period of 15 days from the award of work) apply for a license to the Competent Authority under the BOCW Act and obtain proper certificate thereof by specifying the scope of its work. It shall also be

responsibility of the contractor to furnish a copy of such certificate of licence / permission to BHEL within a period of one month from the date of award of contract.

d) Contractor shall make remittance of the BOCW cess as per the Act in consultation with BHEL as per the rates in force (presently 1%).

e) It shall be the responsibility of the contractor to furnish the receipts / challans towards deposit of the cess together with the number, name and other details of beneficiaries (building workers) engaged by the contractor during the preceding month.

f) BHEL shall reimburse the same only upon production of documentary evidence. However, BHEL shall not reimburse the fee paid towards the registration of establishment, fees paid towards registration of Beneficiaries and contribution of Beneficiaries remitted.

g) In case of any non-compliance, contractor shall indemnify BHEL from all consequences / liabilities / penalties in case of non-compliance of the provisions of BOCW Act along with the allied Rules and the Cess Act along with allied Rules by the contractor.

h) In cases of non-compliance, BHEL reserves the right to deduct and withhold the applicable cess amount, liabilities and penalties if any from the running bills of the contractor and the same will be released as and when the obligations required under the BOCW Act and Cess Act are compiled by the contractor and necessary proof to that effect is submitted to BHEL by the contractor.

i) In all cases where the contractor received any notice/order under the BOCW Act and Cess Act from the concerned authorities, the contractor should immediately inform BHEL.

73. **Mandating TReDS as the transaction settlement platform for goods or services procured from** MSMEs

In respect of procurement of goods or services from Micro, Small and Medium enterprises (MSMEs), the settlement of invoice shall be only through any of the TReDS platforms listed by BHEL, authorized by the Reserve Bank of India. Such MSME suppliers to select their preferred TReDS platform before award of contract so that the data is captured in the Order /Contract database of the Unit. They also will have the option to change the TReDS platform from the drop down menu on Suvidha portal of BHEL, at the time of invoice submission.

Wherever the Trade Receivable is accepted by BHEL, the same shall be validated by the BHEL on the respective TReDS platform selected by the supplier.

The routing of invoices through the TReDS platform shall not be construed as mandating discounting of such invoices and the MSMEs supplier shall have the option to avail or not avail financing or discounting of its receivables on the TReDS platform.

In case discounting is not availed by the supplier on TReDS, the trade receivables will be paid through TReDS as per the payment timelines indicated in the contract

(TO BE STAMPED IN ACCODANCE WITH STAMP ACT)

**BANK GUARANTEE FOR PERFORMANCE SECURITY**

Bank Guarantee No: …… Date: To

NAME

& ADDRESSES OF THE BENEFICIARY

Dear Sirs,

In consideration of Bharat Heavy Electricals Limited (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office at _____ through its Unit at……..(name of the Unit) having awarded to ( Name of the Vendor / Contractor / Supplier) with its registered office at_____ hereinafter referred to as the ' Vendor / Contractor / Supplier ', which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns), a contract Ref No……dated …… valued at Rs…… (Rupees ----------)/FC……(in words……..) for …… (hereinafter called the 'Contract') and the Vendor / Contractor / Supplier having agreed to provide a Contract Performance Bank Guarantee, equivalent to ……% (…. Percent) of the said value of the Contract to the Employer for the faithful performance of the Contract,

we, …… (hereinafter referred to as the Bank), having registered/Head office at ……. and inter alia a branch at …… being the Guarantor under this Guarantee, hereby, irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer any sum or sums upto a maximum amount of Rs ---------- ( Rupees ----------) without any demur, immediately on first demand from the Employer and without any reservation, protest, and recourse and without the Employer needing to prove or demonstrate reasons for its such demand.

Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____.

We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Vendor / Contractor / Supplier in any suit or proceeding pending before any Court or Tribunal, Arbitrator or any other authority, our liability under this present being absolute and unequivocal.

The payment so made by us under this Guarantee shall be a valid discharge of our liability for payment thereunder and the Vendor / Contractor / Supplier shall have no claim against us for making such payment.

We the ……bank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract/satisfactory completion of the performance guarantee period as per the terms of the Contract and that it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged.

We ……..BANK further agree with the Employer that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said Vendor / Contractor / Supplier from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said Vendor / Contractor / Supplier and to forbear or enforce any of the terms and conditions relating to the said Contract and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Vendor / Contractor / Supplier or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said Vendor / Contractor / Supplier or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Vendor / Contractor / Supplier and notwithstanding any security or other guarantee that the Employer may have in relation to the Vendor / Contractor / Supplier 's liabilities.

This Guarantee shall remain in force upto and including…… and shall be extended from time to time for such period as may be desired by Employer.

This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the Vendor / Contractor / Supplier but shall in all respects and for all purposes be binding and operative until payment of all money payable to the Employer in terms thereof.

Unless a demand or claim under this guarantee is made on us in writing on or before the ……we shall be discharged from all liabilities under this guarantee thereafter.
This Bank Guarantee shall be governed, construed and interpreted in accordance with the laws of India.

Courts at …… shall alone have exclusive jurisdiction over any matter arising out of or in connection with this Bank Guarantee

We, …… BANK lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinabove:

a) The liability of the Bank under this Guarantee shall not exceed……
b) This Guarantee shall be valid up to ……
c) Unless the Bank is served a written claim or demand on or before _____ all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

We, _____ Bank, have power to issue this Guarantee under law and the undersigned as a duly authorized person has full powers to sign this Guarantee on behalf of the Bank.

For and on behalf of
(Name of the Bank)

Dated…….
Place of Issue…….

[1] *NAME AND ADDRESS OF EMPLOYER I.e Bharat Heavy Electricals Limited*

[2] *NAME AND ADDRESS OF THE VENDOR /CONTRACTOR / SUPPLIER.*

[3] *DETAILS ABOUT THE NOTICE OF AWARD/CONTRACT REFERENCE*

[4] *CONTRACT VALUE*

[5] *PROJECT/SUPPLY DETAILS* [6] *BG AMOUNT IN FIGURES AND WORDS*

[7] *VALIDITY DATE*

**DATE OF EXPIRY OF CLAIM PERIOD**

**Note:**

1. The BG should be on Non-Judicial Stamp paper/e-stamp paper of appropriate value as per Stamp Act prevailing in the State(s) where the BG is submitted or is to be acted upon or the rate prevailing in the State where the BG was executed, whichever is higher. The Stamp Paper/e-stamp paper shall be purchased in the name of Vendor/Contractor/Supplier /Bank issuing the guarantee.

**LIST OF CONSORTIUM BANKS IN INDIA**

(as on 15.12.2011)

| List of Consortium Bank | | | |
|---|---|---|---|
| | **Nationalised Bank** | | **Public Sector Banks** |
| 1 | Bank of Baroda | 19 | IDBI |
| 2 | Canara Bank | | |
| 3 | Central bank | 20 | **Foreign bank** |
| 4 | Indian Bank | 21 | J P Morgan |
| 5 | Indian Oversea Bank | 22 | CITI Bank N.A |
| 6 | Punjab National Bank | 23 | Deutsche Bank AG |
| 7 | Punjab & Sindh Bank | 24 | The Hongkong and Shanghai Banking Corporation Limited |
| 8 | State Bank of India | 25 | Standard Chartered Bank |
| 9 | UCO Bank | 26 | The Royal Bank of Scotland N.V. |
| 10 | Union Bank of India | | |
| 11 | **Private bank** | | |
| 12 | Axis Bank | | |
| 13 | The Federal Bank Limited | | |
| 14 | HDFC | | |
| 15 | Kotak Mahindra Bank | | |
| 16 | ICICI | | |
| 17 | Indusind Bank | | |
| 18 | Yes Bank | | |

**(1) It should be typed in the Rs. 100 value of stamp paper.**
**(2) It should be signed by TWO bank officials with Rubber stamp containing names & employee numbers of bank officials.**
**(3) It should be submitted with bank covering letter with sign and seal of the bank official.**

## SECTION 3 - IMPORTANT POINTS TO BE TAKEN CARE OF WHILE SUBMITTING OFFER

### Section 3A - INSTRUCTIONS TO BIDDER

1) The expenses for executing and stamping the agreement shall be paid by the contractor.

2) The General and special conditions are complementary to each other and where they are conflict the Special Conditions shall prevail. In regard to matters not covered by the General and Special Conditions of Contract, those contained, those contained in the Tamil Nadu Building Practice Standard Specifications or other specifications approved by the Bharat Heavy Limited, shall apply.

3) Bidder shall not increase their quoted rates in case the Bharat Heavy Electricals Limited, negotiates for negotiation for reduction of rates. Such negotiation shall not amount to cancellation or withdrawal of the original offer and the rates originally quoted shall be binding on the Bidder for a period of SIX months from the date of opening of tenders.

4) *Any deviation to this tender terms & conditions, and schedules of this tender will lead to total rejection of the offer submitted.*

5) *Bidder who have been suspended or black listed by BHEL, Tiruchirappalli - 620014 or any other unit of BHEL or GOI, will not be allowed to participate in the tender, and Bidder should declare the same in the tender. Even during the course of evaluation / finalization of tender if it is found that some of the parties are black listed/ barred from business transaction / under business hold, BHEL will not consider them for further participation in the tender.*

6) *Amount should be quoted as per the Work schedule (Price bid / Part –II). Amount quoted in any other form will not be accepted, and will be rejected.*

7) *The tender must be signed digitally / physically by Partner having powers to sign tenders / Director of the Firm or by the person holding the Power of Attorney on behalf of the Firm concerned. In the latter case, a copy of Power of Attorney, duly attested by a Notary Public must accompany the tender (As per annexure-A4) If a Bidder deliberately gives wrong information in his tender or creates conditions favorable for the acceptance of his tender, the BHEL will reject such tender at any stage.*

8) *The tender schedule, and the tender shall be deemed to form an integral part of the contract to be entered into for this work.*

9) *Bidder shall sign the tender documents for having accepted the conditions and upload in e-procurement portal.*

10) *Tender can be cancelled at any stage due to unavoidable circumstances.*

11) *Kindly ensure that the total size of the scanned documents to be uploaded remains minimum. If required, documents may be scanned at lower resolutions say at 150 dpi.*

12) *However, it shall be sole responsibility of Bidder that the uploaded documents remain legible.*

13) *If there is a discrepancy between words and figures quoted by Bidder, the amount in words shall prevail. If there is such discrepancy in an offer, the same shall be conveyed to the Bidder with target date upto*

*which the Bidder has to send his acceptance on the above lines and if the Bidder does not agree to the decision of the purchaser, the bid is liable to be ignored.*

15) BIDDER should fill in all the required particulars in the blank spaces provided for this purpose in the tender documents and also sign each and every page of Tender Documents including the drawings attach there to before submitting their tender.

16) In quoting their percentage rate, the Bidder are advised to take account all factors including any fluctuations in the market rates etc. No claim will be entertained on this account after acceptance of the tender or during the currency of the contract.

17) The percentage rate quoted in the tender shall remain valid for a period SIX MONTHS from the date of opening of tenders.

18) In the event of tender being submitted by firm the tender must be signed separately and legibly by each partner of member of the firm or in their absence, by the person holding the power of attorney on behalf of the firm concerned in the latter case a copy of the power of attorney duly attested by a Gazetted Officer must accompany the tender.

19) The Bharat Heavy Electricals Limited reserve the right to reject any or all the received or accept any tender or part thereof without assigning any reason thereof. In the case acceptance of part of tender, time for completion may also be reduced to the extent considered appropriate by the Accepting Authority.

20) Conditional and Unwitnessed tenders, tender containing absurd rates and amounts tenders which are incomplete or otherwise considered defective and tenders not in accordance with the tender conditions laid down by the Accepting Officer are liable to be rejected.

21) Should a Bidder find discrepancies or omissions in the Tender documents or should there any doubt as to their meaning, he should at once address the authority inviting the Tender, for clarification well before the due date, so as to submit his Tender in time. (No extension of time shall be given for submission of the Tender on any account) Every Endeavour is made to avoid any error which can materially affect the basis of the tender but the successful Bidder shall take upon himself to provide for the risk of any error which may be subsequently by discovered and shall make no subsequent claim on account thereof.

22) Conditional Tenders, Tenders containing prima-facie absurd rates and amounts, Tenders which are incomplete or otherwise considered defective and Tenders not in accordance with the Tender conditions herein contained and the Tenders not in original are liable to be rejected.

23) The bidder shall quote only the lowest possible amount, inclusive of all taxes (except Goods & Service Tax which will be paid by BHEL extra as applicable) that can be offered for the intended quantity.

24) If a Bidder deliberately gives wrong information in his Tender or creates conditions favorable for the acceptance of his Tender, BHEL will REJECT SUCH TENDER AT ANY STAGE.

25) Late and Delayed Tenders will be summarily rejected and under no circumstances it will be considered and accepted.

26) All corrigenda/addenda/amendments/time extensions/clarifications, etc. to the tender will be hosted on BHEL & Govt. Tenders websites only (i.e. http://www.bhel.com, & https//:eprocure.gov.in ) and will not be published in any other media. Bidder s should regularly visit above website(s) to keep themselves updated.

27) BHEL may reject the bid or in case the contract has been awarded, then terminate the contract apart from

taking any other suitable action under the contract or applicable legal provisions or BHEL guidelines including Guidelines for suspension of Business Dealings, without any liability for any compensation to the Bidder if, BHEL discovers at any time that any statement made by the Bidder in the affidavit cum undertaking is false, fraudulent or Any document submitted by the Bidder was fake and forged Or If BHEL determines in the sole discretion that any statement was aimed at deliberately misleading BHEL with a view to ensure award of the subject contract to the Bidder .

28) No Bidder shall be allowed to use any electronic gadgets viz., mobile phones, tablets etc during tender opening/ or at any other meeting with BHEL for the purpose of this tender, which if found would be liable for rejection of their bid.

29) The amount offered shall provide for the complete cost towards labour, consumables, tools, plants & machinery, transport, supervision, profits & overheads, and all other incidentals, etc. complete. However, if the GST is applicable for this contract, the same will be reimbursed on production of valid documentary proof for having paid the GST by them.

30) GST will be charged on the forfeited EMD/SD amount from the Bidder at the applicable rates. GST tax Invoice will be issued to the vendor on receipt/recovery of GST amount from the vendor. The Contractor should engage technical persons and workmen with the following qualifications for works as detailed below and the contractor shall carry out the health Performance check at his cost for the workmen engaged in the work through a registered medical practitioner and produce the certificate on demand.

31) **Signing the Tender:**

The Tender shall be signed by the Authorized Signatory Only. Authorized signatory shall be the Person holding 'power of attorney' on behalf of the firm/company/Bidder -concerned Authorized / empowered to act on behalf for the specific purpose. Authorized signatory should have Power of Attorney issued by the Proprietor / All Partners / Board of Directors / or the person should have power to sign the tender by way of Artciles of Association of the FIrm / Partnership Deed / Board Resolution. Documentary evidence notarized by a Notary public shall be submitted in this regard

In case the Bidder is a Partnership Firm under Partnership Act, the Tender shall be signed by all the Partners of the firm or by the Managing Partner who have Signature and Seal of the Contractor authorized to do so or by a person holding the Power of Attorney on behalf of the Partnership Firm.

**A copy of the Partnership Deed and / or a copy of the Power of Attorney, Self-attested shall accompany the Proprietor or Partner of the Company**.

**BHEL will not be bound by any other Power of Attorney granted or the change in the composition of the firm made, subsequent to the execution of the Contract agreement**. **They may however recognize such Power of Attorney or change in status after obtaining legal advice and the cost involved in that connection shall be chargeable to the Bidder concerned**.

**If Bidder expires after the submission of his tender or after the acceptance of his tender the BHEL may, at their discretion, cancels such tender**. **If a partner of a firm expires after submission of tender or after the acceptance of the Tender, BHEL may cancel such Tender at their discretion unless the firm retain its character. The works executed in the own name of the Bidder only will be considered for eligibility criteria**.

32) Expenses incurred by Bidder towards preparation of bid incidental to tender irrespective of whether it is accepted or not, shall be borne by vendor only**.**

33) If a tender provides relaxation for vendors, and if a vendor fails to submit supporting documents, they will be treated at par with other vendors or their bid would be liable for rejection, wherever as the case may be.

34) In order to avoid unforeseen delay, it is advised that, any correspondence by vendor to BHEL shall be emailed to all the addressees as mentioned in tender. The correspondence through email wherever sought by BHEL shall be replied with all the addressees in 'cc' of the mail. Vendor shall furnish valid email id's in the tender and regularly verify the same.

35) The tenderer/Bidder or any of his authorized personnel or agents will be granted permission by the BHEL to enter upon its premises and lands for the purpose of site visit. However, the Bidder shall undertake that he, his personnel, and agents will be responsible against all liability in respect thereof, including death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.

36) In general, Bidder s shall themselves obtain all necessary information. A Bidder shall be deemed to have full knowledge of the Site, whether he inspects it or not and no extra claims due to any misunderstanding or otherwise shall be allowed. The cost of visiting the Site shall be at the Bidder s' own expense.

37) The Bidder , at his own responsibility and risk & cost, is encouraged to visit, inspect and survey the Site and its surroundings and satisfy himself before submitting his bid as to the form and nature of the Site, the means of access to the Site, the accommodation he may require, etc.

**38) BENEFITS TO STARTUPS: NOT APPLICABLE FOR THIS TENDER**

39) **Preference to Make in India**:
For this procurement, the local content to categorize a supplier as a Class I local supplier/ Class Il local Supplier/ Non Local supplier and purchase preference to Class I local supplier, is as defined in Public Procurement (Preference to Make in India), Order 2017 dated 04.06.2020 issued by DPIIT. In case of subsequent orders issued by the nodal ministry, changing the definition of local content for the items of the NIT, the same shall be applicable even if issued after issue of this NIT, but before opening of Part-Il bids against this NIT.

**40) The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder (s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process. In case, the Bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/ guidelines.**

**Section 3B- CRITERIA FOR AWARD OF WORK:**

1. Evaluation of the offer shall be done on "Net Cash outflow to BHEL after taking into account applicable Taxes and Duties "and overall (package) L1 basis. The L1 position based on the quoted values (subject to calculations) excluding applicable Goods & Services tax (GST), will not necessarily mean L1 for a vendor, but the net liability to BHEL, after considering the Goods & Services tax (GST) criteria for all the vendors who had participated in the tender. In case of exemption from the payment of Goods & Services tax (GST), the vendor has to submit a declaration along with the tender. For such exempted vendor, Vendor cannot claim GST from BHEL, during the execution of the contract (if awarded) even if their status under GST changes to regular tax payer. The Evaluation currency for this tender shall be INR.

2. "In the course of evaluation, if more than one Bidder happens to occupy L-1 status, effective L-1 will be decided by soliciting discounts from the respective L-1 Bidder s. In case more than one Bidder happens to occupy the L-1 status even after soliciting discounts, the L-1 Bidder shall be decided by a toss / draw of lots, in the presence of the L-1 Bidder (s) or their representative(s). Ranking will be done accordingly. BHEL's decision in such situations shall be final and binding."

3. If the bidder back outs after opening of tender, the contractor is liable for forfeiture of the EMD paid.

4. BHEL reserves the right to increase or decrease the tendered quantity.

5. BHEL does not guarantee ordering of any minimum quantity.

6. Income Tax deduction at source as applicable in the IT Act from time to time will be made on the value of the bills in the absence of Income Tax Exemption Certificate from the concerned IT officer.

7. All the Statutory Obligations such as ESI, PF, Labor Acts, Factories Act, Goods & Services tax (GST), etc. will have to be taken care of by the vendor. BHEL will have no liability on them. Notwithstanding the above, if any demand notice is served by the concerned Statutory Authorities for recovery of any of their dues on BHEL, the same would be paid to the statutory authorities without notice to the vendor and recovered as a due from any pending / future bills.

8. BHEL reserves the right to reject the tender, if it contains any tampering to the tender documents submitted by the Bidder, at any stage.

9. BHEL reserves the right to cancel the tender or reject the lowest or any tender in full or in part without assigning any reasons whatsoever.

10. Other than the Bidder, none of its group concerns or affiliates etc. are participating in the tender either directly or indirectly through any other agency under same proprietor / common director(s) / common partner(s). The Bidder should declare the same in the Tender. Even during the course of evaluation /finalization of Tender/ at any stage, if it is found that some of the parties are not fulfilling the above clauses, BHEL will not consider them for further participation in the Tender/ reject such tender/contract.

# SECTION 4 - SPECIAL CONDITIONS OF CONTRACT

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## CHAPTER I

## SCOPE OF CONTRACT

**1. Heading to the Contract:**

The heading to these conditions shall not affect the interpretation thereof.

**2. Contract Documents**:

The Accepting Officer shall furnish to the Contractor on demand "FREE OF COST" three copies of signed drawings and one copy of the signed agreement comprising of preamble to agreement, General and Special Specifications, Schedule 'A', 'B', 'C', & 'E', etc., (but excluding General Conditions of Contract and Drawings) and **three** copies of all further drawings issued during the progress of work.

However, for any additional copies of the agreement or drawings required by the Contractor the same will be supplied on payment at the specified cost.The Contractor shall keep one copy of all the Drawings and the Specifications at the site and the Engineer-in-charge or his representative shall have access to them at all reasonable times. None of these documents shall be used by the contractor for any purpose other than that of this contract.

The Contractor shall take necessary steps to ensure that all persons employed on any work in connection with this contract have noticed that the Indian official Secrets Act 1923 (XIX of 1923) applies to them and shall continue so to apply even after the execution of such works under the contract.

**3. Works to be Carried Out:**

The Contract shall, except as provided under Schedules 'B' and 'C' include all labour, materials, tools, plants equipment and transport which may be required in preparation for, and in the entire execution and full completion of the work. Schedule 'A' shall be deemed to have been prepared in accordance with good practice and recognized principles and unless otherwise stated, the descriptions given therein shall be held to include waste on materials carriage and cartage, lead, return of empties, hoisting, setting, fitting in position and all other labour necessary in and for the entire execution and full completion aforesaid. Any error in description or quantity in schedule 'A' or any omission there from shall not vitiate the Contract or release the Contractor from the execution of the whole or any part of the work comprised therein according to the Drawings and Specifications, or from any of his obligations under the Contract**.**

In the case of a discrepancy between Schedule 'A' the specification and / or the Drawing, the Accepting Officer shall be the sole deciding authority as to which shall prevail and his decision shall be final and conclusive. If neither Drawings nor Specifications contain any mention of minor details of construction, which in the opinion of the Accepting Officer whose decision shall be final and conclusive, are reasonable and obviously and fairly intended for the satisfactory completion of the work, such details shall be provided by the Contractor without any extra cost as if they were specially mentioned and shall be deemed to be included in the contract.

The contractor will be deemed to have satisfied himself as to the nature of the site, local facilities of access and all matters affecting the execution and completion of the work. No extra charges consequent on any mis-understanding in these respects or otherwise will be allowed.

**4. Deviations:**

The contractor shall not make any alteration in addition to or omission from the work as described in the tender documents except in pursuance of the written instructions of the Engineer-in-charge. No such deviation from the work described in the tender documents shall be valid unless the same has been specifically confirmed and accepted by the Accepting Officer in writing and incorporated in the contract.

The Accepting Officer may deviate either by way of addition or deduction, from the work so described, provided that the contract sum be not thereby varied on the whole by more than the percentage set out in the tender documents. The value of all addition and deductions will be added to, or deducted from the contract sum. Whenever the Accepting Officer intends to exercise such a right, his intention shall specify the deviations which are to be made, the lumpsum assessment or the proposed basis of payment, the extra time allowed, if any, and the date for completion of the entire contract.

Any objection by the Contractor to any matter concerning the order shall be notified by him in writing to the Engineer-in-charge within **Seven days** from the date of such order, but under no circumstances shall the work be stopped (unless so ordered by the Engineer-in-charge) owing to differences or controversy that may arise from such an objection. In the absence of such a notification of objection by the contractor, he will be deemed to have accepted the order and the conditions stated therein. In the event of the contractor failing to agree with the Engineer-in charge regarding the terms of the proposed deviation, the objection shall be referred to the Project Manager whose decision shall be final conclusive and binding on the Contractor.

**5. Stores and Materials:**

The Contractor shall, at his own cost and expense, provide all materials required for the works, other than those listed in Schedule 'B', which are to be supplied by Bharat Heavy Electricals Limited. All materials to be supplied by the Contractor shall be of the best kind as described in the specifications and the Contractor shall, if requested by the Engineer–in–charge, furnish proof to the satisfaction of the Engineer-in-charge, that the materials so comply with the specifications.

The contractor shall, at his own expense and without delay, supply samples of materials proposed to be used in the execution of the work for approval of the Engineer–in–charge, who may reject the materials not corresponding either in quality or character to the approved samples.

In the case of stores provided under Schedule 'B' the Contractor shall bear the cost of loading, transporting to site, unloading, storing under cover as required assembling and jointing the several parts together as necessary and incorporating or fixing these stores materials in the work, including all preparatory work of whatever description as may be required, and of closing, preparing, loading and returning empty cases or containers to the place of issue without any extra charges.

**6. Patent Rights:**

The Contractor shall fully indemnify B.H.E.L or the agent, servant, or employee of B.H.E.L against any action, claim or proceeding relating to infringement or the use of any patent or design or any alleged patent or design rights, and shall pay any royalties which may be payable in respect of any article / or part there of included in the contract.

In the event of any claims being made or action brought against B.H.E.L or any agent, or servant or employee of BHEL in respect of matters aforesaid the Contractor shall immediately be notified thereof for taking necessary action provided that payment of indemnity shall not apply when such infringement has taken place in complying with the specific directions issued by the BHEL but the Contractor shall pay any royalties payable in respect of any such use.

**7. Royalties:**

Royalties fixed from time to time as per prevalent local rules will be recovered for materials, which the Contractor may be allowed to remove from quarries situated on land which is in charge of the B.H.E.L authorities.

**8. Plant and Equipment:**

The Contractor, shall at his own expense, supply all tools, plant and equipment (here-in-after referred to as T & P) required for the execution of the contract other than those listed in Schedule 'C' which subject to their availability may be hired by B.H.E.L., to the Contractor or issued free for use in the execution of the work as specified in Tender Documents.

**9. Assignment or Transfer of Contract:**

The Contractor shall not, without the prior written approval of the Accepting Officer, assign or transfer the Contract or any part thereof, or any share, or interest therein to any other person. No sum of money which may become payable under the Contract shall be payable to any person other than the Contractor unless the prior written approval of the Accepting Officer to the assignment or transfer of such money is given.

**(a) Sub Contract:**

The Contractor shall not sub–let any portion of the Contract without the prior written approval of the Accepting Officer.

**10. Compliance to Regulations and Bye Laws:**

The Contractor shall conform to the provision of any statute relating to the work and regulations and bye-laws of any local authority and of any water and lighting Companies or Undertakings with whose system the work is proposed to be connected. He shall, before making any variation from the drawings or the specifications that may be necessitated for such connections give the Engineer–in– charge notice, specifying the variation proposed to be made and the reasons there for and shall not carry out any such variation until he has received instructions from the Engineer–in–charge in respect thereof. The contractor shall be bound to give all notice required by Statute Regulations or Bye-laws as aforesaid and to pay all fees, and taxes payable to any authority in respect thereof.

## CHAPTER II

## PERFORMANCE OF THE CONTRACT

**11. Admission to site:**

The Contractor shall not enter on (other than for inspection purposes) or take possession of the site unless permitted to do so by the Engineer-in-charge. The portions of the Site to be occupied by the Contractor will be clearly defined and marked on the site plan, and the Contractor will on no account be allowed to extend his operations beyond these areas.

The Contractor shall provide, if necessary or required at the Site, temporary access there to and shall alter, modify and maintain the same as required from time to time. He shall take out and clear away the access route when no longer required and restoring the area to its original condition.

The Engineer-in-charge shall have power to execute other works (whether or not connected with the work in the contract agreement) on the site contemporaneously with the execution of the original work and Contractor shall give reasonable facilities for this purpose.

B.H.E.L reserves the right of taking over, at any time, any portion of the site which they may require and the Contractor shall at his own expense clear such portion forthwith. No photographs of the Site or of the work or any part there of shall be taken, published or otherwise circulated without the prior approval of the Engineer-in-charge.

No such approval shall however exempt the contractor from complying with any statutory provisions in regard to the taking and publication of such photographs.

B.H.E.L Officials connected with the Contract shall have the right of entry to the Site at all times.

Engineer-in charge shall have the power to exclude from the site any person whose admission there to may, in his opinion be undesirable for any reason whatsoever.

**12. Contractor's Supervision:**

The Contractor shall either himself supervise the execution of the Contract or shall appoint a competent Agent approved by the Engineer–in–charge to act in his stead. The contractor shall employ an Engineer/Agent having at least a 'Degree of Bachelor of Civil Engineering' from a recognized University/on any work with a Contract value exceeding rupees two lakhs, and having at least a Diploma in civil Engineering from a recognized college, on work with a contract value exceeding Rs. 50,000/- but not exceeding rupees two lakhs.

The Employment of an Engineer/Agent as aforesaid shall not be necessary if the Contractor himself in possession of a recognized technical qualification and is in opinion of the Engineer-in-charge capable of receiving instructions of the Engineer–in–charge and of executing the work to the satisfaction of the Engineer-in–charge. If the Contractor fails to appoint a suitable Engineer/ Agent as aforesaid, the Engineer–in–charge shall have full powers to suspend the execution of work and stop payment of any advances that may have become due until such date as a suitable Engineer/Agent is appointed and the contractor shall be held responsible for the delay caused to the work and no extension of time on this account shall be given to him.

Orders given to the Contractor's Agent/Engineer shall be considered to have the same force as if they had been given to the Contractor himself.

The contractor or his Agent shall be in attendance at the site during all working hours and shall superintend the execution of work with such additional assistance in each trade as the Engineer–in - charge may consider necessary.

The contractor or his accredited agent shall attend when required and without making any claim for doing so, either the Office of the Engineer–in–charge or the work site to receive instructions.

The Engineer–in–charge shall have full powers, and without assigning any reason to require the Contractor immediately to cease to employ in connection with the Contract any Agent, servant or employee whose continued employment is, in his opinion undesirable.

The Contractor shall not be allowed any compensation on this account.

**LABOUR**

**13.** The Contractor shall employ labourer in sufficient numbers either directly or through sub-contractors to maintain the required rate of progress and of quality to ensure workmanship of the degree specified in the Contract and to the satisfaction of the Engineer-in-charge. The Contractor shall not employ in connection with the works any person who has not completed his fifteen years of age.

The Contractor shall furnish to the Engineer-in-charge at the intervals specified by him, a distribution return of the number and description by trades of the work people employed on the works. The Contractor shall also submit on the 4th and 19th of every month to the Engineer-in-charge a true statement showing in respect of the second half of the preceding month and the 1st half of the current month (i) the accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused by them and (ii) The number of female workers who have been allowed maternity benefit as provided in the Maternity Benefit Act, 1961 or Rules made thereunder and the amount paid to them.

The Contractor shall pay to labour employed by him either directly or through sub–contractor's wages not less than fair wages as defined in the Contractor's Labour Regulations.

The contractor shall in respect of labour employed by him either directly or through sub – contractors comply with or cause to be complied with Contractor's Labour Regulations in regard to all matters provided therein.

The Contractor shall comply with the provisions of the Payment of Wages Act 1936, Minimum Wages Act 1948, Employers liability Act 1938, Workmen's Compensation Act 1923, Industrial Disputes Act 1947, Maternity Benefit Act 1961 and Mines Act 1952, Contract Labour Regulation and Abolition Act 1970 or any modifications there of or any other law relating thereto and rules made thereunder from time to time.

The contractor shall be liable to pay his contribution and the employees' contribution to the State Insurance Scheme in respect of all labour employed by him for the execution of the contract, in accordance with the provision of "The Employees" State Insurance Act, 1948" as amended from time to time. In case the contractor fails to submit full details of his account of labour employed and the contribution payable, the Engineer–in–charge shall recover from the running bills of contractor an amount of contribution as assessed by him. The amount so recovered shall be adjusted against the actual contribution payable for Employees' State Insurance.

The Engineer–in–charge shall on a report having been made by an Inspecting Officer as defined in the Contractor's labour Regulations have the power to deduct from the **amount** due to the Contractor any sum required or estimated to be required for making good the loss suffered by the worker or worker by reason of non-fulfillment of the Conditions of the Contract for the benefit of workers, non-payment of wages or of deductions made from his or their wages which are not justified by the terms of the Contract or non-observance of the said Contractor's Labour Regulations.

The Contractor shall indemnify the B.H.E.L against any payments to be made under and for observance of the Regulations aforesaid without prejudice to his right to claim indemnity from his sub-contractors.

In the event of the Contractor committing a default or breach of any of the provisions of the aforesaid Contractor's Labour Regulations, as amended from time to time or furnishing any information or submitting or filling any form / Register/Slip under the provisions of these Regulations which is materially incorrect then on the report of the Inspecting Officers as defined in the Contractor's Labour Regulation, the Contractor shall without prejudice to any other liability pay to the B.H.E.L a sum not exceeding Rs. 50/- as liquidated damages for every default breach or furnishing, making submitting, filling materially incorrect statement as may be fixed by the Engineer–in–charge and in the event of the Contractor's default continuing in this respect, the liquidated damages may be enhanced to Rs. 50/- per day for each day of default subject to a maximum percent of the estimated cost of works put to tender.

The Engineer in charge shall deduct such amount from bills or security deposit of the Contractor and credit the same to the Welfare Fund constituted under Regulations. The decision of the Engineer-in-charge in this respect shall be final and binding.

**Model Rules for Labour Welfare**

The Contractor shall at his own expense comply with or cause to be complied with Model Rules for Labour welfare as appended to these Conditions or rules framed by Government from time to time for the protection of health and for making sanitary arrangements for workers employed directly/or indirectly on the works. In case the Contractor fails to make arrangements as aforesaid, the Engineer–in– charge shall be entitled to do so and recover the cost thereof from the Contractor.

**Safety Code**

The Contractor shall at his own expense arrange for the safety provisions as appended to these conditions or as required by the Engineer – in – charge, in respect of all labour directly or indirectly employed for performance of the works and shall provide all facilities in connection therewith. In case the Contractor fails to make arrangements and provide necessary facilities as aforesaid, the Engineer– in–charge shall be entitled to do so and recover the cost thereof from the Contractor.

Failure to comply with model Rules for Labour Welfare, Safety Code, or the provisions relating to report on accidents and to grant of maternity benefits to female workers shall make the Contractor liable to pay to the B.H.E.L as liquidated damages an amount not exceeding Rs. 50/- for each default or materially incorrect statement. The decision of the Engineer–in–charge in such matters based on reports from the Inspecting Officers as defined in the Contractor's Labour Regulation as appended to these conditions shall be final and binding and deductions for recovery of such liquidated damages may be made from any amount payable to the Contractor.

**WATER**

**14.** The Contractor shall allow in his Tender and provide at his cost all water required for the work or his employees on the work, together with all pipes and fittings or other means that may be necessary or required to ensure a proper and ample supply of water for all purposes connected with the work.

Water will be supplied from the BHEL supply system, or other sources at one point fixed by the Engineer-in-charge on the site of work at free of cost. The Contractor shall make necessary arrangement for lifting pumping, carrying or conveying the water as required at his own cost.

**15. Temporary Workshops, Stores Etc.:**

The Contractor shall, during the progress of the work provide, erect and maintain at his own expense all necessary temporary workshops, stores, offices, etc., required for the proper and efficient execution of the work. The planning, siting and erection of these buildings shall have the approval of the Engineer-in-charge and the Contractor shall at all times keep them tidy and in a clean and sanitary condition to the entire satisfaction of the Engineer-in-charge.

On completion of the work all such temporary buildings shall be cleared away and the site restored and left in a clean and tidy condition to the entire satisfaction of the Engineer-in-charge.

**16. Stores and Materials on Site**:

All stores and materials required for the work are to be deposited by the Contractor only in places to be indicated by the Engineer-in-charge.

Where in accordance with the contract stipulations certain Stores & Materials (for incorporation in the work) are to be issued to the Contractor by the BHEL as detailed under Schedule 'B' **such items will be so issued only to the extent required for the actual completion of the work** as stipulated in the contract. The decision of the Engineer-in-charge regarding the quantities to be issued as above shall be final and binding on the contractor. For any excess quantities consumed on the work upto 5% over the theoretical consumption will be charged at issue rates and excess consumption beyond this limit, their cost will be recovered from the Contractor at punitive rates which will be 100% (Hundred Percent) more than the issue rates of the BHEL as specified in the Instructions to the Bidder .

In regard to the materials and stores which may be issued to the Contractor by BHEL the Contractor shall give the Engineer-in-charge reasonable notice in writing of his requirements of such stores and materials and on the approval of his demand being notified to him, he shall make immediate arrangements for drawing the same. Such stores and materials shall be transported by the Contractor at his own expense direct from the place of issue to the site of the work, unless prior written approval is obtained from the Engineer-in-charge to take them to a Store or Workshop elsewhere.

The Contractor shall have to build a weather proof shed for the storage of cement required for 15 days consumption of the work.

BHEL Officers connected with the Contract shall have the power at any time to inspect and examine any stores or materials intended to be used in or on the work, whether on the site or at any factory or workshop or other place where such stores or materials are being fabricated or manufactured or at any place where the same are lying and the contractor shall give necessary facilities for such inspection and examination.

The Engineer-in-charge shall be entitled to have tests made of any stores or materials supplied by the Contractor who shall provide at his own expense all facilities which the Engineer-in-charge may require for this purpose. If at the discretion of the Engineer-in-charge an independent expert is employed to make

any such tests his charges shall be borne by the Contractor only if the test discloses that the said stores or materials are not in accordance with the provisions of the Contract.

Should the Engineer-in-charge consider at any time during the construction or re-construction, on prior to the expiry of the "MAINTENANCE PERIOD (DEFECTS LIABILITY PERIOD)" that the stores or materials provided by the Contractor are unsound or of a quality inferior to that contracted for or otherwise not in accordance with the contract (in respect whereof the decision of the Engineer-in-charge shall be final and conclusive) the Contractor, shall on demand, in writing from the Engineer-in-charge specifying the Stores or materials complained of, notwithstanding that the same may have been inadvertently passed, certified and paid for, forthwith remove the stores or materials so specified and provide other proper and suitable stores or materials at his own expense; to the entire satisfaction of the Engineer-in-charge and in the event of his failing to do so within a period to be specified by the Engineer-in-charge in his demand aforesaid the Engineer-in-charge may replace within others the stores or materials complained of at the risk and expense in all respects of the Contractor. The liability of the contractor under this condition shall not extend beyond the maintenance period (Defects Liability Period) aforesaid except as regards stores or materials which the Engineer-in-charge shall have previously given notice to the contractor to replace.

All stores and materials brought to the Site shall become and remain the property of B.H.E.L and shall not be removed from the site without prior written approval of the Engineer-in-charge. However, when the work is finally completed, the Contractor shall at his own expense forthwith remove from the site all surplus stores or materials originally supplied by him and upon such removal, the same shall revert in and become the property of Contractor. All B.H.E.L Stores and materials issued to Contractor for in-corporation or fixing in the work and which, making due allowance for reasonable wear and tear/or waste, have not on completion of the work been so incorporated or fixed, shall be returned by the Contractor at his own expense to the place of issue.

Credit for surplus stores and/ or materials returned by the contractor to B.H.E.L will be given to him at a price based on the prevailing market rate but not exceeding that at which the said stores and materials were originally issued to him but due consideration shall be given to the allowance claimed by B.H.E.L in respect or any depreciation or damage suffered by the stores and/or materials whilst in the custody of the Contractor regarding which the decision of Engineer-in-charge shall be final and conclusive.

If, in the opinion of the Engineer-in-charge (which shall be final and conclusive) any stores, supplied by B.H.E.L have either during currency of the work or after completion of the work whilst under the custody of the Contractor, become damaged to such an extent that they cannot be usefully utilized, either in the same work or in other works, the Engineer-in-charge shall not accept the stores and in the event of his rejection the contractor shall be charged for the said Stores at a rate as fixed by the Accepting Officer. The Contractor shall not be entitled to any claim whatsoever on this account.

**17. Tools and Plants on site:**

All tools, plants and equipment brought to the site shall become the property of B.H.E.L and shall not be removed from the site without the prior written approval of the Engineer-in-charge when the work is finally completed or the Contract is determined for reasons other than the default of the Contractor he shall forthwith remove from the site all tools, plants, equipments etc., (other than those as may have been provided by B.H.E.L) and upon such removal, the same shall in, and become the property of the Contractor.

**18. Statement of Hire Charges:**

A monthly detailed statement of the hire charge incurred in respect of B.H.E.L tools, plants, equipments etc., shall be given to the Contractor by the Engineer-in-charge.

**19. Precaution Against risks:**

The Contractor shall be responsible for providing at his own expense, for all precautions to prevent loss or damage from any and all risks and to minimize the amount of any such loss or damage and for the necessary steps to be taken for the said purpose until the works have been handed over complete in all respect of the Engineer-in-charge.

The Contractor shall provide all watchmen necessary for the protection of the site, the work, the materials, tools, plants, equipments and anything else lying on the Site during the progress of the work. He shall be solely responsible for and shall take all reasonable and proper steps for protecting, securing, lighting and watching, all places on or about the work and the Site which may be dangerous to any person whomsoever.

**20. Notices and Fees:**

The Contractor shall give all notices required by any Statutory provision or by the regulations and/or bylaws of any local Authority and/or of any Public Service, Company or Authority affected by the work or with whose system the same are or will be connected. The Contractor shall pay and indemnify B.H.E.L against any fees and charges payable under such Acts. Regulation and/or byelaws in respect of the work and shall make and supply all drawings and plans required in connection with any such notice.

**21. Setting out of the Works and Protective and Maintaining Signals and Works:**

The Engineer-in-charge shall supply dimensioned drawings, levels and other information necessary to enable the contractor to set out the work. The Contractor shall at his own expense set accurately according to the drawings and figured dimension thereon, all the work comprised in the contract and any extras or additions there-to and shall be solely responsible for their being so set out and executed. All bench marks, pegs, signals on the surface, alignment stones, milestones and all similar marks whether put in by B.H.E.L Authorities for the purpose of checking the Contractor's work or in the nature of permanent survey marks will during the tenure of the contract, be under the care of the Contractor who shall, at his own expense, take all proper and reasonable precautions and care to preserve and maintain them in their true position. In the event of these marks being disturbed or obliterated by accident or due to any other cause whatsoever, the same may, if deemed necessary, be replaced by the Engineer-in-charge at the Contractor's expense and the cost thereof deducted from any money then or thereafter becoming due to the Contractor.

Where requested by the Contractor, the level marks, center line and chainage pegs corresponding to those shown on the Drawing will be pointed out to the Contractor on the ground but all bench marks or chainage pegs additional to those shown on the Drawing will be set out by BHEL authorities.

**22. Site Drainage:**

All water that may accumulate on the site during the progress of the work or in trenches and excavations shall be removed to the entire satisfaction of the Engineer-in-charge and at Contractor's expense.

**23. Excavations, Relics Etc.:**

Material of any kind obtained from excavation on the site shall remain the property of BHEL and shall be disposed off as Engineer-in-Charge directs.

All gold, silver, oil and other minerals of any description and all precious stones, coins, treasures, relics, antiques and other similar items which may be found in or upon the site shall be the property of Bharat Heavy Electricals Limited and the Contractor shall duly preserve the same to the satisfaction of the BHEL and shall from time to time deliver the same to such person or persons as the B.H.E.L may appoint to receive the same.

**24. Foundations:**

The Contractor shall not lay any foundations until the excavations for the same have been examined and approved in writing by the Engineer-in-charge.

**25. Covering-in Work:**

The Contractor shall give reasonable notice in writing to the Engineer-in-charge whenever any work is to be permanently covered up or concealed, whether by earth or other means so that it can finally be inspected or measured if necessary. In default of so doing, the Contractor shall, if required by the Engineer-in-charge uncover such work at his own expense.

**26. Approval of works by Stages:**

All work embracing more than one process shall be subject to examination and approval at each stage thereof and the Contractor shall give due notice in writing to the Engineer-in-charge when each stage is ready. In default of such notice being received, the Engineer-in-charge shall be entitled to approve the quality and extent thereof at any time he may choose and in the event of any dispute, the decision of the Engineer-in-charge thereon shall be final and conclusive.

**27. Execution of the Work:**

The work shall be executed in a workman-like manner and to the satisfaction in all respects of the Engineer-in-charge.

The Engineer-in-charge will communicate or confirm his instructions to the Contractor in respect of the execution of the Work in a "Work Site Order Book" maintained at his office and the Contractor shall visit this office daily and shall confirm receipt of such instructions by signing the relevant entries in this book. Such entries will rank as order or notices in writing within the intent and meaning of these conditions.

**28. Day Work:**

No day-work shall be performed without the prior written instructions of the Accepting Officer.

The Contractor shall give to the Engineer-in-charge reasonable notice of the start of any work ordered to be executed by day-work and shall deliver to the Engineer-in-charge within two days of the end of each pay week a return in duplicate giving full detailed accounts of labour and materials for that pay-week. One copy of each of these returns, if found correct, will be certified by the Engineer-in-charge and returned to the contractor and must be produced at the time of adjustment of accounts.

An invoice in duplicate signed by the Contractor or his agent shall be sent with each delivery of materials for day-work and the Contractor will be furnished with a receipt signed by the Engineer-in-charge specifying the description, quantities weight or measurement (as the case may be) of the articles approved, reference will be made in this receipt in the return aforesaid and the Contractor's Bill.

In the case of Lumpsum Contracts, the rates to be charged and the percentage addition for profit and establishment charges, etc., will be agreed upon between the Accepting Officer and the Contractor prior to the execution of the work.

**29. Inspection of the Work:**

B.H.E.L Officers concerned with the Contract shall have power at any time to inspect and examine any part of the work and the Contractor shall give such facilities as may be required to be given for such inspection and examination Should Engineer-in-charge consider, at any time during the expiry of the maintenance period (Defects Liability Period), that any work has been executed with unsound, imperfect or unskilled workmanship or of a quality inferior to that contracted for or not otherwise in accordance with the contract (in respect) whereof the decision of the Engineer-in-charge shall be final and conclusive the Contractor shall on demand in writing from the Engineer-in-charge specifying the fault notwithstanding that the same may have been inadvertently passed, certified and paid for, forthwith

rectify or remove and reconstruct the work so specified in whole or in part as the case may be required at his own expense to the entire satisfaction of the Engineer-in-charge and in the event of his failing to do so within a period to be specified by the Engineer-in-charge in his demand as aforesaid, the Engineer-in-charge may carry out the work by other means at the risk and expense in all respects of the Contractor. However, the liability of the Contractor under this condition shall not extend beyond the maintenance period (Defects Liability Period) except as regards workmanship which the Engineer-in-charge shall have previously given notice to the Contractor to rectify.

**30. Responsibility for Building:**

In the event of any building or part of any building being handed over to the Contractor for the execution of work thereto under the provisions of the Contract, he shall give a written receipt for all fixtures, glass etc. and he shall be required to make good at his own expense all damages resulting from any cause whatsoever while in his charge and on completion of the work to deliver the said building or part thereof in a clean state complete in every particular to the entire satisfaction of the Engineer-in-charge.

**31. Damage and loss to private property and injury to workmen:**

The contractor shall at his own expense reinstate and make good to the satisfaction of the Engineer–in-charge and pay compensation for any injury, loss or damage occasioned to any property or rights whatever including property and rights of **B.H.E.L**, (or agents, servants or employees of **B.H.E.L**) the injury loss or damage arising out of or in anyway in connection with the execution or purported execution of the contract and further the contractor shall indemnify B.H.E.L, against all claims enforceable against B.H.E.L, or any agent, servant, or employee of B.H.E.L a private person, in respect of any such injury (including injury resulting in death loss or damage to any person) whosoever or property, including all claims which may arise under the workmen's Compensation Act or otherwise, or which would be enforceable against B.H.E.L.

**32. Termination of Contract for Death:**

Without prejudice to any of the rights or remedies under this contract if the contractor dies, the accepting Officer shall have the opinion of terminating the contract without compensation to the contractor.

**33. Special Powers of Determination:**

If at any time after the acceptance of the tender B.H.E.L shall for any reason whatsoever not require the whole or any part of the work, to be carried out the project Manager/Engineer shall give notice in writing of the fact to the Contractor who shall have no claim to any payment of compensation or otherwise howsoever on account of any profit or advantage which he might have derived from the execution of the work in full but which he did not derive in consequence of the foreclosing of the work.

He shall be paid at Contract rates, for the full amount of the work executed including such additional works, e.g. clearing of site, etc., as may be rendered necessary by the said fore closing. He shall also be allowed a reasonable payment (as decided by the Accepting Officer ) for any expenses sustained on account of labour and materials collected but which could not be utilised on the work, as verified by the Engineer-in-charge. Neither shall the Contractor have any claim for compensation on account of any alterations having been made in the original specifications, drawings, designs and instructions, involving any curtailment of the work as originally contemplated.

**34. Fair Wage**

a) The contractor shall pay not less than the "Fair Wage" to labourers engaged by him on the work. "Fair Wage" means wage whether for time or piece work notified at the time of inviting tenders for the work and where such wages have not been notified the wages prescribed by the Project Manager/Engineer for the stations at which the work is done.

b) The Contractor shall not be withstanding the provision of any contract to the contrary, cause to be paid a "Fair Wage" to labourers indirectly engaged on the work, including any labour engaged by the Sub-Contractors in connection with the said work, as if the labourers had been directly employed by him.

c) In respect of labourers directly or indirectly employed on the work for the performance of the Contractors part of this Agreement, the Contractor shall comply with or cause to be complied with B.H.E.L Contractor's Labour Regulations (appended here to as Annexure 'A' to these conditions) in regard to payment of wages, wage period deduction from wages, recovery of wages not paid and deductions unauthorisedly made, maintenance of wage book, wage-slips publication of scale of wage and other terms of employment inspection and submission of periodical returns and all other matters of alike nature.

d) The Engineer-in-charge concerned shall have the right to deduct from the money due to the contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non-fulfilment of the conditions of the contract for the benefit of the workers non-payment of wages or of deductions made from his or their wages which are not justified by the terms of the contract or non-observance of the regulations.

e) The Contractor shall be liable primarily for all payments to be made under the contract and for the observance of the Regulations aforesaid without prejudice to his right to claim indemnity from his sub-contractors.

f) The regulations aforesaid shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a breach of this Contract.

## CHAPTER III

**35. Valuation of Deviations:**

Rates for deviated items of work will be fixed as follows: -

**1.** For any item of work required to be carried out after the contract has been awarded and which is not covered by Contractor's Schedule but is covered by B.H.E.L Schedule of rates (BHEL SR 2013-14) the rate payable for such a fresh item will be derived from B.H.E.L Schedule by the method of proportion as follows:

a. In the same proportion to rate in B.H.E.L Schedule of Rates as the tendered rate for the nearest analogous item of work in Contractor's schedule bears to rate for the particular analogous item of work in B.H.E.L Schedule of rates.

b. If a single appropriate analogous item of work is not available in both Schedule (Contractor's and B.H.E.L Schedule) then the method of proportion will be applied to the nearest analogous group of items available in both the Schedules referred to i.e. in the same proportion as the total tendered cost of that particular group of items (the sum of the products of the tendered rates

and the quantities for which orders are placed bears to the total cost of the same items and quantities at the B.H.E.L Schedule of Rates.

c. If even an appropriate analogous group of items is not available in Contractor's Schedule and B.H.E.L Schedule, then the methods of proportion will be applied to all those items of the whole work, which are available in both the Schedules and for which orders have been placed on the contractor, i.e., in the same proportion as the total cost of all these items of work (the sum of the products of the tendered rates and the quantities for which orders are placed) bears to the total cost of the same items and qualities at the B.H.E.L Schedule of Rates.

2. If any work not covered by any of the foregoing is ordered on the Contractor, the basis of payment shall be decided by the Accepting Officer whose decision shall be final and conclusive and binding on the parties.

The selection of analogous items or analogous group of items referred to above shall be done by the Engineer-in-charge. Where the rates for deviated items or new items of work can be derived by the selection of different analogous items or analogous group of items, the lowest of all such derived rates shall be taken as the correct rate.

In the case of the contracts for which the Engineer-in-charge is the Accepting Officer, all disputes regarding the settlement of rates of deviated or new items or work shall be referred to the Deputy Manager/Manager whose decision shall be final and conclusive as the case may be.

**36. Recovery from Contractor:**

Whenever under the contract any sum of money shall be recoverable from or payable by the contractor the same may be deducted from any sum then due or which at any time thereafter may become due to the Contractor under the contract or under any other Contract with BHEL or from his Security Deposit or he shall pay the claim on demand.

**37. Post Technical Audit of Work and Bills:**

BHEL reserves the right to carry out a post-payment audit and technical examination of the work and final bill including all supporting vouchers, abstracts etc., and to enforce recovery of any sums becoming due as a result thereof in the manner provided in the preceding sub-paragraphs provided however that no such recovery shall be enforced after three years of passing the final bill.

## 38. Materials Issued by BHEL

1. Unless otherwise indicated in the Bill of Quantities cement, reinforcement steel (MS rods, CTD bars etc.,), structural steel sections and other items (as mentioned in Schedule B) will be issued at BHEL Stores at free of cost. The Contractor's quoted rates shall therefore be inclusive of the cost of conveyance of these items from BHEL Stores to site of work including, loading, unloading and other incidental costs etc. The quantities of each items to the extent required for actual incorporation of the work will be treated as ISSUED FREE OF COST.

2. **CEMENT:**
**Excess consumption of cement over and above the theoretical requirement as per BHEL Data upto a limit of 5% will be charged at the rate of Rs. 5865/per M.T. + applicable taxes at the time of recovery.**

**Consumption beyond 5% will be charged at the punitive recovery rate of Rs. 11,730/per M.T.+ applicable taxes at the time of recovery.**

**The above rates are only indicative and BHEL issue rate on date of actual recovery will be applied.**

Gunny bags or Polythene Bags or Paper Bags in which cement is issued from BHEL Stores, need not be returned by Contractor to BHEL. The cost for each empty cement bag will be recovered from the Contractor's bills at the following rates.

| | | |
|---|---|---|
| i. | Empty cement gunny bag | Rs.1.25 + Applicable GST / each |
| ii | Empty Polythene bag | Rs. 0.50 + Applicable GST / each |
| iii | Empty paper bag | Rs. 0.25 + Applicable GST / each. |

3. **REINFORCEMENT STEEL:**
All surplus reinforcement rod with the contractor shall be returned to BHEL Stores at his own cost in the form of full lengths, useful cut bits and scrap. The invisible (non-returnable) wastage should not exceed a maximum of 0.5% of the actual quantity consumed in the work.
The contractor shall return all the scrap to the disposal stores at his own cost. Bent rods will also be taken as scrap only, irrespective of their length. The maximum permissible limit of scrap without recovery is 5% of actual consumption. The recovery details for the materials are as follows:

| | | | |
|---|---|---|---|
| **a)** | **Single recovery rate for the non-returned scrap up to 5% of actual consumption** | : | **Rs. 58,167/- per M.T + applicable taxes at the time of recovery** |
| **b)** | **The punitive recovery rate for steel qty. not accounted and extra scrap generated beyond 5% of actual consumption** | : | **Rs. 1,16,334/- per M.T. + applicable taxes at the time of recovery** |

**The above rates are only indicative and BHEL issue rate on date of actual recovery will be applied.**

4. **STRUCTURAL STEEL SECTIONS:**
All surplus raw steel remaining with the contractor shall be returned to BHEL stores at his own cost after completion of fabrication, in the form of full lengths, useful cut bits and scrap. The following yardstick will be adopted for the purpose of classification of scrap.

| | | |
|---|---|---|
| (a) Mild steel and alloy steel plates and sheets | 500 X 250 mm and above | Useful cut bit |

| | | |
|---|---|---|
| (b) Mild steel and alloy steel plates and sheets | Less than 500 X 250 mm | Scrap |
| (c) Structurals | One metre and above in length | Useful cut bits |
| (d) Structurals | Less than one metre in length | Scrap |

The invisible (Non-returnable) wastage should not exceed a maximum of 2% by weight of fabricated steel work and returnable wastage generated by way of scrap or useful cutbits shall be returned at "Actuals". Maximum permissible limit for scrap without recovery shall be 5% of actual fabricated quantity. However, every care should be taken to see that raw steel is utilized most economically by preparing necessary cutting lists to restrict the scrap within the permissible limit.

Should the quantum of invisible wastage exceed the 2% permissible limit, RECOVERY AT TWO TIMES OF THE VALUE OF the extra tonnage involved (which will be evaluated on an average cost per tonne basis considering the total raw steel materials issued) will be effected from the contractor for the excess quantity involved **(2 times x Rs. 62,740 = Rs. 1,25,480 / MT + applicable taxes at the time of recovery)**. The above rates are only indicative and BHEL issue rate on date of actual **recovery,** will be applied.

The Contractor shall submit a material tallying statement on completion of the work indicating the details of quantities of each material (section by section) received quantities used for fabrication as per DOD lists. Quantity returned in full length, useful cut bits and scrap and the quantity reckoned as invisible wastage.

| | | | |
|---|---|---|---|
| **i)** | **For Structural Steel:** | | |
| **a)** | **Single recovery rate for the non-returned scrap up to 5% of actual consumption** | : | **Rs. 62,740 /- per M.T + applicable taxes at the time of recovery** |
| **b)** | **The punitive recovery rate for steel qty. not accounted and extra scrap generated beyond 5% of actual consumption** | : | **Rs. 1,25,480 /- per M.T. + applicable taxes at the time of recovery** |

| | | | |
|---|---|---|---|
| **ii)** | **For Rails:** | | |
| **a)** | **Single recovery rate for the non-returned scrap up to 5% of actual consumption** | : | **Rs. 65,739/- per M.T + applicable taxes at the time of recovery** |
| **b)** | **The punitive recovery rate for steel qty. not accounted and extra scrap generated beyond 5% of actual consumption** | : | **Rs. 1,31,478/- per M.T. + applicable taxes at the time of recovery** |

| | | | |
|---|---|---|---|
| **iii)** | **For ERW Tubes:d** | | |
| **a)** | **Single recovery rate for the non-returned scrap up to 5% of actual consumption** | : | **Rs. 42,534/- per M.T + applicable taxes at the time of recovery** |
| **b)** | **The punitive recovery rate for steel qty. not accounted and extra scrap generated beyond 5% of actual consumption** | : | **Rs. 85, 068/- per M.T. + applicable taxes at the time of recovery** |

| | |
|---|---|
| **iii)** | **For Seamless Steel Tubes:** |

| | | | |
|---|---|---|---|
| **a)** | **Single recovery rate for the non-returned scrap up to 5% of actual consumption** | : | **Rs. 1,23,260/- per M.T + applicable taxes at the time of recovery** |
| **b)** | **The punitive recovery rate for steel qty. not accounted and extra scrap generated beyond 5% of actual consumption** | : | **Rs. 2, 46,520/- per M.T. + applicable taxes at the time of recovery** |

**The above rates are only indicative and BHEL issue rate on date of actual recovery will be applied**.

5. The Contractor should maintain proper accounts of cement, MS rods / CTD bars, structural steel sections and other materials if any supplied by this organization and these should be available at the site of the work for verification and check by the official of this organization at any time.

6. All materials brought by the Contractor for incorporation in the work shall be got inspected and approved by the Engineer-in-charge before they are incorporated in the work

7. The Engineer-in-Charge or his duly authorized representative shall have all reasonable times access to Contractor's premises of work and shall have the power at all the reasonable times to inspect and test any portion of the work or examine the materials and workmanship of the structures during their manufacture and test. The contractor shall give due notice in writing to the Inspecting Engineer of BHEL when the materials supplied to be incorporated in the work are ready for Inspection and test. No material shall be incorporated in the work until the inspecting Engineer certified in writing that such materials have been inspected and approved by him.

8. The Contractor shall closely scrutinize all the drawings issued in connection with the work by this organization and bring to the notice of the Engineer-in-charge if any discrepancies, omissions in the drawings before undertaking the actual work pertaining thereto.

9. The contractor should submit in advance every fortnight a detailed programme of work to be undertaken from time to time strictly in conformities with the "Time and Progress Chart" covering the entire constructed work and reschedule them wherever necessary during the progress of the work so as to achieve the target set. Periodical progress reports of every fortnight should also be furnished by the Contractor regarding the collection of materials issued and to be issued from BHEL Stores and other relevant information as asked for by the Engineer-in-charge and other BHEL Officers-in-charge of the work.

10. The contractor should extend full co-operation to the other contractors who may be doing other works in the same areas to enable them to execute their portions of work without any delay or difficulty

***39. Liquidated Damages for AMC Contracts***

**1.Daily Reporting Requirement:**

a. There exist different work areas (Quarters, Public Buildings, Hortciculture etc.,) in the Township complex. The Contractor or his authorised representative shall report to the Engineer-in-Charge (EIC) at **09:00 AM** daily or at the time fixed by EIC.

2. **Sub Work Orders**

**a.** Sub work orders will be issued through e-mail under this contract with specific completion period.

b. Sub work orders will be classified as "Maintenance Category" and "Other Category" works.

**3. Delay in Commencement of Sub Work Orders (Maintenance Category & Other Category)**

a. If the Contractor fails to commence the work within **7 days** from SWO issue date, delay attributable to the Contractor shall attract Liquidated damages @ Rs 1000 per day from day 8 till day 14

b. If the Contractor does not commence the work even after **14 days**, BHEL May cancel the sub work order and get the work executed through alternative agency **without prejudice to BHEL's other rights and remedies under this contract and the applicable laws**

**4. "Other Category" Sub Work orders**

a) Immediately after issue of "Other" category sub work order and before work is to begin, the Engineer-in-charge and the Contractor shall agree to a Time and Progress Chart with due consideration of completion date given in the sub work order. In any case the completion date given in the sub work order can't be extended without proper approval from the competent authority which has to be substantiated with documents such as Hindrance register etc., Hindrance register shall be maintained by Engineer in Charge.

b) Contractor must examine the SWO and inform the Engineer In-charge in writing about additional required items (if any) before starting the work

c) In the absence of any specific Time and Progress chart to be agreed between the Contractor and the Engineer–in–charge, the contractor shall ensure and maintain uninterrupted progress of the work such that the entire work shall be completed within the time imposed in the other category sub work order and that the proportion of work completed up to any time in relation to the entire work to be under the sub work Order shall not be less than the proportion that the time elapsed bears to the total time of completion provided in the other category sub work order.

d) If the contractor fails to complete the "other" category sub work orders within the stipulated completion date as mentioned in the sub work order or as per the due date for completion as approved by the Engineer in-Charge, which is binding both the parties, Liquidated Damage will be imposed (Ref Clause 6).

**5. "Maintenance Category" Sub Work Orders**

a) Under maintenance category Sub-Work Orders (SWO), the SWO serves as an enabling order against which the Engineer-in-Charge (EIC) shall communicate complaints in writing, specifying the resolution timeframe. The Contractor shall promptly evaluate, and upon approval by EIC, rectify each complaint within the stipulated period as per the instructions of EIC. If addressing a complaint requires items not available in the enabling SWO, the Contractor shall notify the EIC in writing for inclusion of such items in the SWO.

b) The Maintenance complaints under maintenance category sub work orders have to be attended / resolved at the end of day or within the time as decided by the Engineer in charge.

c) If the contractor fails to complete the maintenance complaint within the completion schedule as communicated by Engineer-in-charge under Maintenance category work, such complaint shall be withdrawn from the contractor and the same shall be executed by engaging alternate agency without any further notice. Subsequently, a recovery in the form of LD for not attending the complaint shall be recovered from the dues of the defaulting contactor as calculated below.

LD Amount = [(A-B) + (A x H/100)]

Where,

A = Value of work executed by engaging alternate agency.

B = Value of Work as per awarded rates to the defaulting contractor

H = Overhead Factor to be taken as 10.

In case (A-B) is less than 0 (zero), value of (A-B) shall be taken as 0 (zero).

If there are complaints that have been withdrawn from a sub work order, as referred to in the preceding clauses and the value of such withdrawn complaints as assessed by the Engineer in Charge which is final & binding the contractor, exceeds 5% of that specific sub-work order's value, due to contractor's unsatisfactory performance, the sub-work order itself shall be withdrawn from the contractor without further notice and **without prejudice to BHEL's other rights and remedies under this contract and the applicable laws**

**6. LIQUIDATED DAMAGES FOR "OTHER CATEGORY" SUB WORK ORDERS**

a) If the contractor fails to maintain the required progress of work which results in delay in the completion of the work as per the sub work order, BHEL shall have the right to impose Liquidated Damages in line with clause 2.7.9 of General Conditions of Contract. For the purpose of Calculating LD, "Contract value" means "Final Completed Value of the Particular Sub Work Order"

b) if the contractor fails to complete the 'other' category sub work orders for reasons of delay, attributed to the contractor, where delay occurred is such that

i) even after the imposition of LD at 10 % (or)

ii) with delay period attributable to the contractor has equaled / exceeded half the original delivery period specified in the sub work order.

whichever among the above is earlier, the engineer in-charge may cancel the sub work order and execute the balance work by engaging alternate agency **without prejudice to BHEL's other rights and remedies under this contract and the applicable laws**

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*7. Any tools/spares/machinery (other than free issue materials) issued by BHEL on written request by contractor will be on chargeable basis and based on availability. The charges shall be decided by BHEL and deemed to be final binding the contractor.*

## CHAPTER IV

## 40 BHEL CONTRACTOR'S LABOUR REGULATIONS

**1. Definition:**

In these regulations, unless otherwise expressed or indicated, the following words and expressions shall have the meaning hereby assigned to them.

a. "Labour" means workers employed by a contractor directly, or indirectly through a sub-contractor, or by an agent on his behalf on a payment not exceeding Rs.500 per month.

b. "Fair Wage" means wages, which shall include wages for weekly day of rest and other allowances, whether for time or piece work, after taking into consideration prevailing market rates for similar employments in the neighborhood but shall not be less than the minimum rates of wages fixed under the minimum Wages Act.

c. "Contractor" for the purpose of these Regulations shall include an agent or Sub-Contractor employing labour on the work taken on contract.

d. "Inspecting Officer" means any Labour Enforcement Officer, or Assistant Labour Commissioners of the Chief Labour Commissioner's Organization.

e. "Form" means a form appended to these Regulations.

**2. Notice of Commencement:**

The Contractor shall, within **SEVEN DAYS** of commencement of the work, furnish in writing to the Inspecting Officer of the area concerned the following information with copy to the Engineer-in-charge.

a) Name and situation of the work.
b) Contractor's name and address.
c) Particulars of the Department for which the work is undertaken.
d) Name and address of sub-contractors as and when they are appointed
e) Commencement and probable duration of the work
f) Number of workers employed and likely to be employed,
g) 'Fair wages' for different categories of workers.

**3.**

(i) Number of hours which shall constitute a normal working day:
The number of hours which shall constitute a normal working day for an adult shall be **NINE** hours. The working day of an adult worker shall be so arranged that of intervals, if any, for rest it shall not spread over more than twelve hours on any day. When an adult worker is made to work for more than **NINE** hours on any day or for more than FORTY-EIGHT hours in any week he shall in respect of overtime work, be paid wages at double the ordinary rate of wages.

(ii) Weekly day of rest: Every worker shall be given a weekly day of rest which shall be fixed and notified atleast TEN days in advance. A worker shall not be required or allowed to work on the weekly rest day unless he has or will have a substituted rest day, on one of five days immediately before or after the rest day. Provided that no substitution shall be made which will result in the worker working for more than ten days consecutively without a rest day for a whole day.

Where in accordance with the foregoing provisions a worker works on the rest day and has been given a substituted rest day he shall be paid wages for the work done on the weekly rest day at the overtime rate of wages.

**NOTE: The expression 'Ordinary rate of wages' means the fair wage the worker is entitled to.**

4. **Display of Notice Regarding Wages, Weekly Day of Rest, Etc.:**

The Contractor shall before he commences his work on contract display and correctly maintain and continue to display and correctly maintain in clean and legible condition in consipicuous places on the works, notice in English and in the local Indian languages, spoken by majority of workers, given the rate of fair wages, the hours of work for which such wages are payable, the weekly rest days workers are entitled to and name and address of the Inspecting Officer. The Contractor shall send a copy each of such notices to the Inspecting Officers and the Engineer-in-charge.

5. **Fixation of Wage Periods:**
The Contractor shall fix wage periods in respect of which wages shall be payable.
No wage period shall normally exceed one week.

6. **Payment of Wages:**
Wages due to every worker shall be paid to him direct. All wages shall be paid in current coins or currency or in both.

Wages of every worker employed on the contract shall be paid where the wage period is one week, within, **THREE DAYS** from the end of the wage period, and in any other case before the expiry of the 7$^{th}$ day or 10$^{th}$ day from the end of the wage period according as number of workers does not exceed 1,000.

(i) When employment of any worker is terminated by or on behalf of the contractor, the wages earned by him shall be paid before expiry of the day succeeding the one on which his employment is terminated.

(ii) Payment of wages shall be made at the work site on a working day except when the work is completed before expiry of the wage period, in which case final payment shall be made at the work site within 48 hours of the last working day and during normal working time.

NOTE: The term "Working Day" means a day on which the work on which labour is employed is in progress.

7. **Register of Workmen:**
A register of workmen shall be maintained in the form appended to these regulations and kept at the work site or as near to it as possible, and the relevant particulars of every workmen shall be entered therein within **THREE** days of his employment.

8. **Employment Card:**
The Contractor shall issue an employment card in the Form appended to these regulations to each worker on the day of work or entry into his employment. If a worker has already any such card with him issued by the previous employer the contractor shall merely endorse that Employment Card with relevant entries. On termination of employment the Employment Card shall again be endorsed by the Contractor and returned to the worker.

9. **Register of Wages etc.:**

(i) A register of Wages-cum-Muster Roll in the Form appended to these regulations shall be maintained and kept at the work site or as near to it as possible.

(ii) A wage slip in the form appended to these regulations shall be issued to every worker employed by the Contractor atleast a day prior to disbursement of wages.

**10.Fines and Deductions which may be made from wages:**

(i) Wages of worker shall be paid to him without any deductions of any kind except the following:

**a.** Fines;

**b.** Deductions for absence from duty, i.e., from the place or the places where by the terms of his employment he is required to work. The amount of deduction shall be in proportion to the period for which he was absent.

**c.** Deduction for damage to or loss of goods expressly entrusted to the employed person for custody, or for loss of money which he is required to account for, where such damage or loss is directly attributable to his neglect or default;

**d.** Deductions for recovery of advances or for adjustment of overpayment of a wages. Advance granted shall be entered in a register;

and

e. Any other deduction, which the B.H.E.L may from time to allow.

(ii) No fines shall be imposed on a worker save in respect of such acts and omissions on his part as have been approved by the Chief Labour Commissioner.

(iii) No fines shall be imposed on a worker and no deductions for damage or loss shall be made from wages until the worker has been given an opportunity of showing cause against such fines or deductions.

(iv) The total amount of fines which may be imposed in any one wage period on a worker shall not exceed an amount equal to three paise in rupee of the wages payable to him in respect of that wage period.

(v) No fine imposed on a worker shall be recovered from him in instalments, or after expiry of sixty days from the date on which it was imposed. Every fine shall deemed to have been imposed on the day of the act or omission in respect of which it was imposed.

(vi) The Contractor shall maintain both in English and the local Indian language a list, approved by the Chief Labour Commissioner, clearly stating the acts and omissions for which penalty or fine may be imposed on a workman and display it in good condition in a conspicuous place on the work site.

(vii) The Contractor shall maintain a register of fines and the register of deductions for damage or loss in the Forms appended to these regulations which should be kept at the place of work.

**11.Register of Accidents:**

The Contractor shall maintain a register of accidents in such form as may be convenient at the work place but the same shall include the following particulars:

a. Full particulars of the labourers who met with the accident.
b. Rates of Wages.
c. Sex
d. Age
e. Nature of accident and cause of accident.
f. Time and date of accident.
g. Date and time when admitted in hospital.
h. Date of discharge from the hospital.
i. Period of treatment and result of treatment.
j. Percentage of loss of earning capacity and disability as assessed by Medical Officer.
k. Claim required to be paid under Workmen's Compensation Act.
l. Date of payment of compensation.
m. Amount paid with details of the person to whom the same was paid.
n. Authority by whom the compensation was assessed.
o. Remarks.

**12.Preservation of Registers:**

The Register of Wages-cum-Muster Roll required to be maintained under these Regulations shall be preserved for 3 years after the date on which last entry is made therein.

**13.Enforcement:**

The Inspecting Officer shall either on his own motion or on a complaint received by him carry out investigations, and send a report to the Engineer-in-charge specifying the amounts representing workers, dues and amount of penalty to be imposed on the contractor for breach of these Regulations, that have to be recovered from the contractor, indicating full details of the recoveries proposed and the reasons therefore. It shall be obligatory on the part of the Engineer-in-Charge on receipt of such a report to deduct such amounts from payments due to the contractor.

**14.Disposal of amounts recovered from the Contractor:**

The Engineer-in-charge shall arrange payment to workers concerned within **FORTY FIVE** days from receipt of a report from the Inspecting Officer except in cases where the contractor had made an appeal under Regulation, 16 of these Regulations. In cases where there is an appeal, payments of workers, due would be arranged by the Engineer-in-charge, wherever such payments arise, within **THIRTY** days from the date of receipt of the decision of the Regional Labour Commissioner (R.L.C.).

**15.Welfare Fund:**

All money that are recovered by the Engineer-in-charge by way of workers, due which could not be disbursed to workers within the time–limit prescribed above, due to reasons such as where-about of workers not being known, death of a worker, etc., and also amounts recovered as penalty, shall be credited to a fund to be kept under the custody of B.H.E.L for such benefit and welfare of workmen employed by contractors.

**16.Appeal against decision of Inspecting Officer:**

Any person aggrieved by a decision of the Inspecting Officer may appeal against such decision to the Regional Labour Commissioner concerned within THIRTY days from the date of the decision, forwarding simultaneously a copy of his appeal to the Engineer-in-charge. The decision of the Regional Labour Commissioner shall be final and binding upon the Contractor and the workmen.

**17.Representation of Parties:**

i. A workman shall be entitled to be represented in any investigation or enquiry under these Regulations by an Officer of a registered trade union of which the said trade union is affiliated or where the workman is not a member of any registered trade union, by an Officer of a registered trade union connected with, or any other workmen employed in the industry in which the worker is employed.

ii. A Contractor shall be entitled to be represented in any investigation or enquiry under these Regulations by an officer of an association of contractors of which he is a member or by an officer of a Federation of Associations of Contractors to which the said association is affiliated or where the contractor is not a member of any association of employers, connected with, or by any other employer engaged in the industry in which the contractor is engaged.

iii. No party shall be entitled to be represented by a legal practitioner in any investigation or enquiry under these Regulations.

**18. Inspection of Books and other Documents:**

The Contractor shall allow inspection of the Register and other documents prescribed under these Regulations by Inspecting Officer and the Engineer-in-charge or his authorized representative at any time and by the worker or his agent on receipt of due notice at a convenient time.

**19. Interpretation etc.**:

On any question as to the application, interpretation or effect of the Regulations the decision of the Chief Labour Commissioner or Deputy Chief Labour Commissioner (Central) shall be final and binding.

**20.Amendments:**

Central Government may, from time to time, add to or amend the Contractor's Labour Regulations and issue such directions as it may consider necessary for the proper implementation of the Contractor's Labour Regulations or for the purpose of removing any difficulty which may arise in the administration thereof, based on which the B.H.E.L., Contractor's Labour Regulations herein contained shall be subject to revision.

## 41.MODEL RULES FOR LABOUR WELFARE

**1. Definition:**

a) 'Workplace' means a place at which, on an average, twenty or more workers are employed.
b) 'Large Workplace' means a place at which on an average, 500 or more workers are employed.

**2. First Aid:** At every workplace, there shall be maintained in a readily accessible place first-aid appliances including an adequate supply of sterilized dressings and sterilized cotton wool as prescribed in the Factory Rules of the State in which the work is carried on. The appliances shall be kept in good order and, in large work places, they shall be placed under the charge of a responsible person who shall be readily available during working hours.

At large workplaces, where hospital facilities are not available within easy distance of the works First Aid posts shall be established and be run by a trained compounder.

Where large workplaces are remotely situated and far away from regular hospitals an indoor ward shall be provided with one bed for every 250 employees.

Where large workplaces are situated in cities, towns or in their suburbs and no beds are considered necessary owing to proximity of city or town hospitals, suitable transport shall be provided to facilitate removal of urgent cases to these hospitals. At other workplaces, some conveyance facilities shall be kept readily available to take injured person or persons suddenly taken seriously ill, to the nearest hospital.

At large workplaces there shall be provided and maintained an ambulance room of the prescribed sizes, containing the prescribed equipment and in the in-charge of such medical and nursing staff as may be prescribed. For this purpose the relevant provisions of the Factory Rules of the State Government of the area where the work is carried on may be taken as the prescribed standard.

3. **Accommodation for Labour:** The Contractor shall during the progress of the works provide, erect and maintain necessary temporary living accommodation and ancillary facilities for labour at his own expense and to standards and scales as approved by the Engineer-in-charge.

4. **Drinking Water:** In every workplace, there shall be provided and maintained at suitable places, easily accessible to labour, a sufficient supply of cold water fit for drinking. Where drinking water is obtained from an intermittent public water supply each workplace shall be provided with storage where drinking water shall be stored. Every water supply storage shall be at a distance of not less than 15 meters from any latrine drain or other source of pollution. Where water has to be drawn from an existing well, which is within such proximity of latrine drain or any other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be entirely closed in and be provided with a trap door which shall be dust and water-proof.

   A reliable pump shall be fitted to each covered well, the trap door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month.

5. **Washing and Bathing places:** Adequate washing and bathing places shall be provided separately for men and women. Such places shall be kept in clean and drained condition.

6. **Scale of Accommodation in Latrines and Urinals:** These shall be provided within the precincts of every workplace latrines and urinals in an accessible place, and the accommodation, separately for each of these, shall not be less than at the following scales:

| | No.of Seats |
|---|---|
| a) Where number of persons does not exceed 50 | 2 |
| b) Where number of persons exceed 50 but does not exceed 100 | 3 |
| c) For additional persons | 3 Per 100 or part thereof. |

   In particular cases, the Engineer-in-charge shall have the power to increase the requirement, where necessary.

7. **Latrines and Urinals:** Except in workplaces provided with water flushed latrines connected with a waterborne sewage system, all latrines shall be provided with receptacles on dry-earth system which shall be cleaned at least four times daily and at least twice during working hours and kept in a strictly sanitary condition. Receptacles shall be tarred inside and outside at least once a year.

   If women are employed, separate latrine and urinals, screened from those for men and marked in the vernacular in conspicuous letters “For Women only” shall be provided on the scale laid down in rule 6. Those for men shall be similarly marked “For Men only” A poster showing the figure of a man and of a woman shall also be exhibited at the entrance to latrines for each sex. There shall be adequate supply of water close to latrines and urinals.

8. **Construction of Latrines:** Inside walls shall be constructed of masonry or other non-absorbent material and shall be cement-washed inside and outside at least once a year. The dates of cement washing shall be noted in a register maintained for the purpose and kept available for inspection. Latrines shall have at least thatched roof.

9. **Disposal of Excreta:** Unless otherwise arranged for by the local sanitary authority, arrangement for proper disposal of excreta by incineration at the workplace shall be made by means of a suitable incinerator approved by the local medical health and municipal or cantonment authorities. Alternatively local excreta may be disposed off by putting a layer of night soil at the Bottom of pucca tank prepared for the purpose and covering it with a 15 cm. layer of waste or refuse and then covering it with a layer of earth for a fortnight (when it will turn into manure).

   The contractor shall, at his own expenses, carry out all instruction issued to him by the Engineer-in-charge to effect proper disposal of soil and other conservancy work in respect of Contractor's work-people or employees on the Site. The Contractor shall be responsible for payment of any charges which may be levied by municipal or cantonment authority for execution of such work on his behalf.

10. **Provision of shelters during rest:** At every workplace there shall be provided, free of cost, four suitable sheds, two for meals and two others for rest, separately for use of men and women labour. Height of each shelter shall not be less than 3 meters from floor level to lowest part of roof. Sheds shall be kept clean and space provided shall be on the basis of at least 0.5 sq.m. per head.

11. **Crèches:** At a place at which 20 or more women workers are ordinarily employed, there shall be provided at least one hut for use of children under the age of 6 years of such women. Huts shall not be constructed to a standard lower than that of thatched roof, mud floor and walls with wooden planks spread over mud floor and covered with matting.

    Huts shall be provided with suitable and sufficient openings, for light and ventilation. There shall be adequate provision of sweepers to keep the places clean. There shall be two 'dais' in attendance. Sanitary utensils shall be provided to the satisfaction of local medical, health and municipal or cantonment authorities. Use of huts shall be restricted to children, their attendants and mothers of children.

    When the number of women workers is more than 25 but less than 50, the Contractor shall provide at least one hut and one Dais to look after children of women workers.

    Size of crèche (s) shall vary according to the number of women workers employed. Creche(s) shall be properly maintained and necessary equipment like toys, etc. provided.

12. **Canteen:** A cooked food canteen on a moderate scale shall be provided for the benefit of workers wherever it is considered necessary.

13. Planning, setting and erection of the above mentioned structures shall be approved by the Engineer-in-charge, and the whole of such temporary accommodation shall at all times during the progress of the works be kept tidy and in a clean and sanitary condition to the satisfaction of the Engineer-in-Charge and at the Contractor's expense. The Contractor shall conform generally to sanitary requirements of local medical, health and municipal or cantonment authorities and at all times adopt such precautions as may be necessary to prevent soil pollution of the site.

    On completion of the works the whole of such temporary structures shall be cleared away, all rubbish burnt, excreta or other disposal pits or trenches filled in and effectively sealed off and the whole of site left clean and tidy to the entire satisfaction of the Engineer-in-Charge, and at the Contractor's expenses.

14. **Anti-malarial precautions:** The Contractor shall, at his own expense, conform to all anti-malarial instructions given to him by the Engineer-in-charge, including filling up of any borrow pits which may have been dug by him.

**15.Enforcement:** The Inspecting Officer mentioned in the Contractors Labour Regulations or any other officer nominated in his behalf by the Engineer-in-Charge shall report to the Engineer-in-Charge all cases of failure on the part of the Contractor and or his sub-contractors to comply with the provisions of these Rules either wholly or in part and the Engineer-in-Charge shall impose such fines and other penalties as are prescribed in the conditions.

**42 TERMS AND CONDITIONS REGARDING COMPLIANCE WITH VARIOUS LABOUR LAWS BY THE CONTRACTORS FOR BHEL**

1. The Contractor shall not employ in connection with the work any person who has not completed 18 years of age.

2. The Contractor shall in respect of labour employed by him either directly or through subcontractors, comply with or cause to be complied with the following statutory provisions and rules and in regard to all matters provided therein.

   a) The Contract Labour (Regulation & Abolition) Act 1970 and the related Tamil Nadu Rules.
   b) The Minimum Wages Act 1948 and the related Tamil Nadu Rules.
   c) The Payment of Wages Act 1936 and the related Tamil Nadu Rules.
   d) The Factories Act 1948 and the related Tamil Nadu Rules.
   e) The Employee's Provident Fund & Miscellaneous Provisions Act 1952.
   f) The Employees State Insurance Act 1948.
   g) The Workmen Compensation Act 1923.
   h) The Industrial Disputes Act 1947.
   i) **The Payment of Bonus Act 1965**.

   **and any other law or modifications to the above or to the Rules made thereunder from time to time.**

**REGISTRATION AND LICENSING**

3. Every Contractor shall register his name with the Welfare Section of BHEL before taking up the work awarded to him by giving the following information and getting a Code Number:

   a) The Name of the Contractor
   b) Nature of Contract Work
   c) Period of work
   d) Number of maximum labour employed by him on any one day
   e) License No. & Date (Applicable in case of contractor employing 20 or more workers)
   f) Whether enrolled for PF, ESI, etc., and enrolment No.

   This information is called for, for the purpose of informing the Inspectorate of Factories whenever they call for information regarding contracts.

4. The Contractor employing 20 or more workmen is required to obtain license from the authorities ( The Deputy Chief Inspector of Factories / Assistant Commissioner of Labour as the case may be). The license shall be amended and / or renewed wherever, there is an increase in the workmen employed by him or in the event of contract being extended or renewed. The Contractor shall inform the licence number to the BHEL Management before taking up the work.

5. The Contractor (Licensed or unlicensed) shall promptly furnish every information and document required by BHEL authorities for the purpose of fulfilling their obligations as Principal Employer and / or Occupier of the Factory and shall render all necessary assistance for the same.

**WAGES**

**6. The Bidder has to ensure payment of Minimum Wages as per Tamil Nadu State Minimum Wages as applicable under law from time to time.**

**Also the labourers shall be paid a minimum bonus which shall be 8.33% as per the payment of Bonus Act 1965 for the total wages paid (i.e.) Payment of minimum wages.**

**The Contractor shall have to remit EPF & ESI contributions at the rates applicable under law to the authorities concerned for the total wages paid (i.e.) Payment of minimum wages.**

**At present the Tamil Nadu State Government Minimum wages for "Engineering & Fabrication Industry" declared is enclosed for your reference. Normally the revision will be with effect from 1st April of every year. Bidder are requested to quote their offer after taking into account of the above factor also.**

7. The Contractor shall fix wage periods in respect of which wages shall be payable. No wage period shall exceed one month.

8. The Contractor shall ensure payment of wages to the contract labour employed by him within three days from the end of wage period in case the wage period is one week or a fortnight and in all other cases before 10th day of the following month.

9. All Payment of wages shall be made on working days at the work site and during the working time and on date notified in advance. In case the work is completed before the expiry of the wage period final payment shall be made within 48 hours of the last working day.

10. Where the employment of any worker is terminated by or on behalf of the Contractor, the wages earned by him shall be paid before the expiry of the second working day from the day on which his employment is terminated.

11. Wages due to every worker shall be paid to him direct or to the person authorized by him in this behalf. All wages shall be paid in current coin or currency in both.

12. The Contractor shall ensure the disbursement of wages in the presence of such authorized representative of BHEL Management.

13. The above payment shall be verified by the authorized officer / representative of BHEL with the following certificate of the payment sheet "Certified that the amount shown in Column No……. has been paid to the workmen concerned in my presence on ……..at…….

14. A certificate of payment shall be furnished in duplicate by the Contractor to the Engineer in charge each month in Form 'A'.

15. A notice showing the wage period and the place and time of disbursement of wages shall be displayed at the place of work and a copy to be sent to the Welfare Department by the Contractor under acknowledgement.

16. Notices showing the rate of wages, weekly rest days, hours of work, wage period, date of payment of wages, names and addresses of the Inspector having jurisdiction, the date of unpaid wages shall be

displayed in Tamil and English in conspicuous places at the establishment and at work site by the Contractor. The Contractor shall inform the BHEL Management every month the details of contract labour engaged for contract in this following form :

a) Serial Number
b) Location
c) Period of work
d) No. of contract labour engaged during the month
e) No. of days worked
f) No. of men worked
g) Wages paid to workers

The above statement shall be furnished to BHEL Management at the end of every month.

**REGISTERS AND RECORDS AND COLLECTION OF STATISTICS**

17. The following documents / formats under Contract Labour ( Regulation & Abolition ) Act 1970 and Tamil Nadu Rules thereunder shall be maintained by each contractor.

a) Register of persons employed by the Contractor
b) Employment Card
c) Service Certificate
d) Muster Roll, Wage Register, Deduction Register, Wage slip, Overtime Register, Register of Fines, Register of Advances etc.,

18. The Contractor shall display the abstract of the Contract Labour (Regulation & Abolition) Act and the Rules thereunder both in English and Tamil.

19. Half yearly Return shall be sent by the Contractor in duplicate to the Licensing Officer.

20. The Contractor shall submit the returns required under the Contract Labour (Regulation & Abolition) Act 1970 periodically to BHEL Management.

21. The Contractor shall without fail give up to date information in writing of the attendance of the workers employed by him.

22. The Contractor shall ensure that his workers keep and produce their Employment Card when coming to duty and take them back when leaving duty.

23. All the above registers and records shall be preserved in original for a period of three years. All the registers, records and notice maintained under the Act and rules shall be produced on demand by Inspector or any authority under the Act.

**WORKING HOURS AND WORKING CONDITIONS**

24. No worker shall be required or allowed to work on Sunday unless he has or will have a holiday on anyone of the three days before or after the said day.

25. The Contractor shall inform BHEL Management in the prescribed form details of the contract workers scheduled to work on Sunday, the day of rest and also indicate the substituted holiday in lieu thereof. This shall be intimated two days in advance before his workmen are booked for work on Sunday.

26. The contract labour working for more than nine hours in any day or for more than 48 hours in any week shall be paid wages at the rate of twice the ordinary rate of wages in accordance with the provisions of Sections 59 of the Factories Act 1948.

27. The Contractor shall provide all safety devices and personal protective equipment to his workmen at his own cost and shall ensure that his workmen wear / use such devices or equipment provided to them while doing the work and there should not be any relaxation on this.

28. The Contractor shall give four paid National Holidays to his workers, viz., 26th January, 1st May, 15th August and 2nd October.

29. The Contractor shall ensure that his workmen vacate the premises after the shift is over.

30. The Contractor shall give leave with wages to his workmen who have worked for a period of 240 days or more in the Factory premises during a calendar year. This leave shall be allowed during the subsequent calendar year at the rate of one day for every 20 days of work performed by the worker during the previous calendar year. The worker whose services commences on a day other than the first of January shall be entitled to leave with wages at the above rate (One day for every 20 days of work) only if he had worked for a minimum of 2 /3 of the total number of days in the reminder of the calendar year. This leave will be admissible only during the subsequent calendar year.

31. No woman worker shall be required or allowed to work in the Factory except between the hours of 6.00 A.M. and 7.00 P.M.

32. The Contractor shall comply with the provisions relating to Welfare and Health facilities as provided in the Contract Labour (Regulation and Abolition) Act 1970 read with the Tamil Nadu Contract Labour Rules 1975.

**NOTICE OF ACCIDENTS**

33. Notwithstanding anything contrary to this, in the event of accident the contractor shall be required to fill injury report and submit the Engineer in charge immediately and ensure the compliances of ESI / Workmen's compensation Act, Factories Act and Rules made thereunder. He shall also maintain a register of accident as per the Act.

34. The Contractor shall get the contract labour engaged by him insured under Workmen's Compensation policy from General Insurance Corporation of India before actually starting the work of contract. The insurance coverage should be for the entire period of Contract. The Contract shall comply with the provisions of the Workmen's Compensation Act 1923. (This should be read in conjunction with the provisions of ESI Act)

**COVERAGE UNDER THE ESI ACT / PF AND MISCELLANEOUS PROVISIONS ACT**

35. The contractor shall ensure that all his workmen are covered under the Employee's State Insurance Act and produce to BHEL such Registration Number / Enrolment Number before executing the contract work.

36. The Contractor shall regularly pay the amount of contribution. i.e., employer's contributions as well as employees' contribution pursuance of the above scheme as fixed from time to time. The Contribution payable presently is 1.75% wages to be recovered from his workmen and 4.75% of wages to be contributed by the Contractor. Contributions recovered from employee and contribution made by the contractor may be rounded to the next higher multiples of five paise.

37. The Contractor shall take note of any amendment that may be brought forth in the above contribution rate and act accordingly.

38. The contractor shall ensure that his workmen are covered under the EPF & Miscellaneous Provisions Act 1952 and accordingly produce to the BHEL Management the registration / enrolment number before awarding of contract work. As per the existing provisions every worker shall be entitled and required to become a member of the fund. The employee's contribution payable at present is 12% of wages which will be recovered by the contractor from the wages of his workmen and the contractor should pay equal contribution. The contractor is also liable to pay any administrative charges in this behalf that may be decided from time to time. It will be the responsibility of the contractor to ensure such contribution payable in respect of workmen employed through sub-contractors also.

39. The Contractor shall take note of any amendment in the rate of contribution payable under the scheme from time to time.

40. The Contractor shall within seven days of the close of every month submit to BHEL a statement showing the amount of contribution payable / paid for employees engaged by him or through him and shall also furnish to BHEL such information as Principal Employer is required to furnish under the provisions of the ESI Act and PF as well as the schemes made thereunder to the authorities concerned.

41. Whenever any sum of money is found to be recoverable from or payable by the contractor under the above Act, the sum shall be deducted from any sum that may be due or which at any time thereafter may become due to the Contractor under this contract or under any other contract or from his security deposit. In case the recoveries are not sufficient to satisfy the claim, the contractor shall pay the balance thereof on demand. In case any recoveries are made under this clause from security deposit, the contractor shall immediately thereafter pay such further sums as may be required to replenish the shortage caused by such recoveries in amount of security deposit.

42. The Contractor shall abide by all the labour and other laws applicable to contract labour / worker under this contract and shall at all times keep BHEL indemnified against all loses, claims, prosecutions under any law.

43. In case of non-compliance of any of the provisions of the Acts and in case BHEL having complied with the same, BHEL will be entitled to recover the same from the contractor / sub-contractor.

44. Non-exercise of any of the powers or rights available to BHEL hereunder or under any law, shall not in any way operate as waiver thereof.

Note: The Specimen forms for the following are available in BHEL.

| | | | |
|---|---|---|---|
| 1) | Form 'A' | - | Payment Certificate |
| 2) | Form IV | - | Application for License |
| 3) | Form XIII | - | Register of Workmen employed by contractor |
| 4) | Form XIV | - | Employment Card |
| 5) | Form XV | - | Service Certificate |
| 6) | Form XVI | - | Muster Roll |
| 7) | Form XVII | - | Register of wages |
| 8) | Form XIX | - | Wage slip |

***45) Documents Required to obtain new ID Cards for contract workmen:***

The contractor shall follow norms of BHEL security system for movement of men & material including bio-metric system & materials within the complex. ***Contractor has to submit the following documents to obtain new ID Cards for contract workmen.***

| S.No | Document | **Description** |
|---|---|---|
| 1 | Bio-data form for Contract Workman | Bio-data form for Contract Workman should be submitted duly signed by contractor and contract labour in prescribed format attached in the following page. |
| 2 | E-pehchan Card | The existing wage limit for coverage under the ESI Act effective from 01.01.2017 is Rs.21,000/- per month (Rs.25,000/- per month in the case of Persons with Disability). Contract workmen covered under the Act needs to produce the E-pehchan Card. the contractors establishment must be indicated as current employer in e-pehchan.If the workman draws the wage / salary above the ceiling limit, undertaking letter should be produced by the contractor and workman. copy of payslip / appointment order required |
| 3 | PF / Universal Account Number | Universal Account Number of the individual to remit the EPF amount in EPF portal |
| 4 | Passport size Photo – 1 No | The passport size photograph of the individual should be in colour & legible pixels in the size of 3.5cm X 4.5 cm |
| 5 | Copy of Bank Pass Book | Copy of Bank Pass Book of the contract workman which will be used for making payment of wages |
| 6 | Copy of Aadhar Card | Copy of Aadhar of the contract workman should be submitted with self attestation |
| 7 | Police Verification Report | Police Verification Report of the individual needs to be submit who is newly joining in tiruchirappalli complex as a contract workman. The PVR must be recent one (i.e. not older than 3 months at the time of application submitted). |

After submission of above documents, Fingerprint needs to be captured.

| ***BIO DATA OF CONTRACT WORKMEN (Please fill the form in block letters only)*** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| CTR NO | | | | | | | | | |
| CONTRACTOR NAME | | | | | | | | | |
| VENDOR CODE | | | | | | | | | |
| GATE ENTRY | | | | | | | | | |
| WORKER ID NO | | | | | | | | | |
| WORKER NAME | | | | | | | | | |
| FATHER / HUSBAND NAME | | | | | | | | | |
| CATOGORY | SKILLED | | SEMI SKILLED | | | UN SKILLED | | | SUP |
| DATE OF BIRTH (DDMMYYYY) | D | D | M | M | Y | Y | Y | Y | |
| QUALIFICATION | BELOW SSLC | | | SSLC | | | ITI | | |
| | DIPLOMA | | | DEGREE | | | PG | | |
| COMMUNITY | OC | | OBC | | SC | | ST | | |
| GENDER | M | F | | | | | | | |
| NATIONALITY | | | | | | | | | |
| RELEGION | | | | | MOBILE NO | | | | |
| BLOOD GROUP | | | | | | | | | |
| MARITAL STATUS | MARRIED | | UN MARRIED | | | WIDOW(ER) | | | DIVORCED |
| ESIC NO | | | | | | | | | |
| PF NO | | | | | | | | | |
| UAN NO | | | | | | | | | |
| AADHAR CARD NO | | | | | | | | | |
| BANK ACC NO | | | | | | | | | |
| BANK NAME | | | | | | | | | |
| BANK BRANCH | | | | | | | | | |
| IFSC CODE | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| IDENTIFICATION MARK - I | | | | | | | | | |
| IDENTIFICATION MARK - II | | | | | | | | | |
| NOMINEE DETAILS | NAME | | | | RELATIONSHIP | | | DOB | |
| | | | | | | | | | |
| WORK ORDER NO | | | | | | | | | |
| CONTRACT PERIOD | TO | | | | | | | | |
| CONTRACT VALUE | | | | | | | | | |
| CONRTACT TYPE | WORKS CONTRACT | | | | MANPOWER CONTRACT | | | | |
| TOTAL NO OF WORKERS AS PER WO | SUP | SKILLED | SEMI SKILLED | UN SKILLED | TOTAL | | | | |
| | | | | | | | | | |
| TOTAL NO OF CARDS RECEIVED | SUP | SKILLED | SEMI SKILLED | UN SKILLED | TOTAL | | | | |
| | | | | | | | | | |
| LABOUR LICENCE OBTAINED | YES | NO | NOT APPLICABLE | | | | | | |
| EXPIRY DATE OF LABOUR LICENCE | D | D | M | M | Y | Y | Y | Y | |
| IF NOT OBTAINED, WHEHER UNDERTAKING GIVEN BY CONTRACTOR FOR OBTAINING LABOUR LICENCE | YES(Undertaking letter in original is enclosed) | | | | NO | | NOT APPLICABLE | | |
| PRESENT ADDRESS | PERMENANT ADDRESS | | | | | | | | |
| | | | | | | | | | |
| I Declare that the information given above is true to the best of my knowledge | | | | | | | | | |
| | | | | | | | | | |
| CONTRACTOR'S SIGN WITH SEAL | SIGNATURE OF CONT. WORKMAN | | | | | | | | |
| | | | | | | | | | |
| REMARKS | APPROVED | | | | NOT APPROVED | | | | |
| | | | | | | | | | |
| SIGNATURE / CONTRACT CELL | | | | | | | | | |

## 43. B.H.E.L SAFETY CODE

1. Suitable scaffolds shall be provided for workmen for all work that cannot safely be done from the ground, or from solid construction except such short period of work as can be done safely from ladders. When a ladder is used an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well, suitable footholds and hand-holds shall be provided on the ladder and the ladder shall be given an inclination not steeper than ¼ to 1 (¼ horizontal and 1 vertical).

2. Scaffolding or staging more than 3.25 meters above the ground or floor, swung or suspended from an overhead support or erected with stationary support, shall have a guard rail properly attached, bolted, braced and otherwise secured atleast 1 meter high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.

3. Working platform, gangways, and stairways shall be so constructed that they do not sag unduly or unequally, and if height of a platform or gangway or stairway is more than 3.25 meters above ground level or floor level, it shall be closely bordered have adequate width and be suitably fenced, as described in 2 above

4. Every opening in floor of a building or in a working platform shall be provided with suitable means to prevent fall of persons or materials by providing suitable fencing or railing with a minimum height of 1 meter.

5. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 meters in length. Width between side rails in a rung, ladder shall in no case be less than 30 cm, for ladders upto and including 3 metres in length. For longer ladders this width shall be increased by atleast 6 mm for each additional 30 cm. of length. Uniform step spacing shall not exceed 30 cm.

Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The Contractor shall provide all necessary fencing and lights to protect public from accidents and shall be bound to bear expenses of defence of every suit action or other proceedings at law that may be brought by any person for injury sustained owing to neglect of the above precautions, and pay any damages and costs which may be awarded in any such suit, action or proceeding to any such person or which may with the consent of the Contractor be paid to compromise any claim by any such person.

6. Excavation and Trenching:
   All trenches, 1.5 metres or more in depth, shall at all times be supplied with atleast one ladder for each 30 m length or fraction thereof. Ladder shall be extended from bottom of trench to atleast 1 metre above surface of the ground. Sides of a trench 1.5 metres or more in depth shall be stepped back to give suitable slope or securely held by timber bracing, so as to avoid the danger of sides collapsing. Excavated materials shall not be placed within 1.5 metres of the edge of trench or half the depth of trench, whichever is more. Cutting shall be from top to bottom. Under no circumstances shall undermining or undercutting be done.

7. **Demolition:** Before any demolition work is commenced and also during the process of the work:

a) All roads and open areas adjacent to the work site shall either be closed or suitably protected:

b) No electric cable or apparatus which is liable to be a source of danger over a cable or apparatus used by the operator shall remain electrically charged.

c) All practical steps shall be taken to prevent danger to persons employed, from risk of fire or explosion, or flooding. No floor, roof, or other part of a building shall be so overloaded with debris or materials as to render it unsafe.

8. All necessary personal safety equipment as considered adequate by the Engineer-in-Charge shall be

available for use of persons employed on the site and maintained in a condition suitable for immediate use and the Contractor shall take adequate steps to ensure proper use of equipment by those concerned.

a. Workers employed on mixing asphaltic materials cement and lime mortars/ concrete shall be provided with protective footwear and protective gloves.

b. Those engaged in handling any material which is injurious to the eye shall be provided with protective goggles.

c. Those engaged in welding works shall be provided with welder's protective eye-shields.

d. Stone breaker shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.

e. When workers are employed in sewers and manholes which are in use, the Contractor shall ensure that manhole covers are opened and manholes are ventilated atleast for an hour before workers are allowed to get into them. Manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to public.

The Contractor shall not employ men below the age of 18 and women on the work of painting with products containing lead in any form. Whenever men above the age of 18 are employed on the work of lead painting, the following precautions shall be taken:

i. No paint containing lead or lead products shall be used except in the form of paste or ready-made paint.

ii. Suitable face masks shall be supplied for use by workers when paint is applied in the form of spray or a surface having lead paint is dry rubbed and scraped.

iii. Overalls shall be supplied by the Contractor to workmen and adequate facilities shall be provided to enable working-painters to wash during on cessation of work.

9. When work is done near any place where there is risk of drowning, all necessary equipment shall be

provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.

10. Use of hoisting machine and tackles including their attachments, anchorage and supports shall conform to the following:

a.

i. These shall be of good mechanical construction, sound material and adequate strength and free from defects and shall be kept in good working order.

ii. Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from defects.

b. Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years shall be in charge of any hoisting machine including any scaffolding winch or give signals to operator.

c. In case of every hoisting machine and of every chain, ring, hook, shackle, swivel and pulley block used in hoisting or lowering or as means of suspension, safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall have the safe working load plainly marked there on, In case of a hoisting machine having a variable safe working load, each safe working load and the conditions under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.

d. Incase of departmental machine, safe working load shall be notified by the Engineer-in-Charge. As regards contractor's machine the Contractor shall notify safe working load of each machine to the Engineer-in-Charge whenever he brings it to site of work and get it verified by the Engineer-in-Charge.

11. Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances shall be provided with efficient safeguards; hoisting appliances shall be provided with such means as will reduce to the minimum risk of accidental descent of load. Adequate precautions shall be taken to reduce to the minimum risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energized, insulating mats, working apparel such as gloves, sleeves and boots, as may be necessary shall be provided. Workers shall not wear any rings, watches carry keys or other materials which are good conductors of electricity.

12. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in a safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities shall be provided at or near the places of work.

13. These safety provision shall be brought to the notice of all concerned by display on a notice board at a prominent place at the work spot. Persons responsible for ensuring compliance with the Safety Code shall be named thereon by the Contractor.

14. To ensure effective enforcement of the rules and regulations relating to safety precautions, arrangements made by the Contractor shall be open to inspection by the Engineer-in-Charge or his representatives and the Inspecting Officers as defined in the Contractor's Labour Regulations.

15. Notwithstanding the above conditions 1 to 14, the Contractor is not exempted from the operation of any other Act or Rule in force.

## 16. NON COMPLIANCE OF SAFETY RULES

NONCONFORMITY OF SAFETY RULES AND SAFETY APPLIANCES WILL BE VIEWED SERIOUSLY AND BHEL HAS RIGHT TO IMPOSE FINES ON THE SUBCONTRACTOR AS UNDER FOR EVERY INSTANCE OF VIOLATION NOTICED

| SN | Violation of Safety Norms | Fine (in Rs) |
|---|---|---|
| 01 | Not Wearing Safety Helmet | 200/- * |
| 02. | Not wearing Safety Belt or not anchoring life line | 500/-* |
| 03 | Not wearing safety shoe | 200/-* |
| 04 | Not keeping gas cylinders vertically | 200/- |
| 05 | Not using flash back arrestors | 100/- |
| 06 | Not wearing gloves | 50/- * |
| 07. | Grinding Without Goggles | 50/- * |
| 08. | Not using 24 V Supply For Internal Work | 500/- |
| 09. | Electrical Plugs Not used for hand Machine | 100/- |
| 10. | Not Slinging properly | 200/- |
| 11. | Using Damaged Sling | 200/- |
| 12. | Lifting Cylinders Without Cage | 500/- |
| 13. | Not Using Proper Welding Cable With Lot of Joints And Not Insulated Property. | 200/- |
| 14. | Not Removing Small Scrap From Platforms | 500/- |
| 15. | Gas Cutting Without Taking Proper Precaution or Not Using Sheet Below Gas Cutting | 500/- |
| 16. | Not Maintaining Electric Winches Which are Operated Dangerously | 500/- |
| 17. | Improper Earthing Of Electrical T&P | 500/- |
| 18 | No or improper barricading | 500/- |
| 19. | Activity carried out without Safety work permit (Height work, Lifting activity, Hot work-each person/case) | 1000/- |

Legend:-

*: per head. For repeated violation by the same person, the penalty would be double of the previous penalty. Date of “Repeated violation” will be counted from subsequent days.

#: For repeated fatal incident in the same Unit incremental penalty to be imposed. The subcontractor will pay 2 times the penalty compared to previously paid in case there are repeated cases of fatal incidents under the same subcontractor for the same package in the same unit.

Any other non-conformity noticed not listed above will also be fined as deemed fit by BHEL. The decision of BHEL engineer is final on the above. The amount will be deducted from running bills of the subcontractor. The amount collected above will be utilized for giving award to the employees who could avoid incident by following safety rules. Also the amount will be spent for purchasing the safety appliances and supporting the safety activity at site.

**17 . Compensation Clause:**

BHEL shall recover the amount of compensation paid to victim(s) by BHEL towards loss of life / permanent disability due to an accident which is attributable to the negligence of contractor, agency or firm or any of its employees as detailed below.

a) Victim: Any person who suffers permanent disablement or dies in an accident as defined below.

b) Accident: Any death or permanent disability resulting solely and directly from any unintended and unforeseen injurious occurrence caused during the manufacturing/operation and works incidental thereto at BHEL factories/offices and precincts thereof, project execution, erection and commissioning, services, repairs and maintenance, trouble shooting, serving, overhaul, renovation and retrofitting, trial operation, performance guarantee testing undertaken by the company or during any works/during working at BHEL Units/Officers/townships and premises/Project sites

c) Compensation in respect of each of the victims:

   (i) In the event of death or permanent disability resulting from Loss of both limbs: Rs 10,00,000/- (Rs Ten lakh)

   (ii) In the event of others permanent disability: Rs.7,00,000/- (Rs. Seven Lakh)

d) Permanent Disablement: A disablement that is classified as a permanent total disablement under the proviso to section 2 (I) of the Employee's Compensation Act,1923"

**FORM OF REGISTER OF WORKMEN**

**(Regulation-7)**

i. Name and address of the Contractor----------

i. Number and date of the **WORK ORDER & CONTRACT AGREEMENT** ----------

iii. Name and address of the department awarding the contract----------

iv. Nature of the Contract and location of the work----------

v. Duration of the Contract----------

| Sl. No | Name and surname of the workers | Age & Sex | Father's / Husband's Name | Nature of employment Designation. | Permanent / Home address of Employee (Village, Distt. Thana). | Present address of employment | Date of commencement of employment | Date of termination or leaving of the employee. | Signature or thumb impression | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |

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CONTRACTOR



ACCEPTING OFFICER

**FORM OF EMPLOYMENT CARD**
**(Regulation-8)**

i Name and Sex of the Worker----------
ii Father's / Husband's Name ----------
iii Address ----------
iv Age or Date of birth----------
v Identification mark ----------

Particulars of next of kin (wife/husband and children, if any, or of dependent next of kin in case the worker has no wife/ husband or child):-

Name----------

Full address of Dependents
(Specify Village, Dist., and State----------
---

| Sl. No | Name & Address of employer (specify Whether a contractor or a sub contractor). | Particulars of location of worksite and description of work done | Total period for which the worker is employed from……. to……) | Actual number of days worked | Leave taken (No. of days should be specified). | Nature of Work done by the worker. | Wage rate With Parti-culars of unit in Case of Piece work. | Total Wage earned by the Worker during the period shown Under Col.5. | **REMARKS** | Signature of the Employee |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |

N.B:- For a worker employed at one time on piece-work basis and at another on daily wages, relevant entries in respect of each type of employment should be made separately.

CONTRACTOR



ACCEPTING OFFICER

**FORM OF WAGE SLIP**
**(Regulation-9)**

i. Name of the Contractor ----------

ii. Place ----------

---

1. Name of the worker with
   father's / husband's name.
2. Nature of employment.
3. Wage period.
4. Rate of Wages payable
5. Total attendance / Unit of work done.
6. Dates on which overtime worked
7. Overtime Wages.
8. Gross Wages payable.
9. Total deductions (indicating nature of deductions)
10. Net wages payable.

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Contractor's Signature / Thumb impression.

Employees' Signature/ Thumb impression.

**FORM OF REGISTER OF FINES** (Regulations No.10 vii)

| Sl. No. | Name | Father's / Husband's name | Sex | Department | Nature and date of the offence for which fine imposed | Whether workmen showed cause against fine or not, if so, enter date | Rate of wages | Date and amount of fine imposed | Date on which fine realised | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |

**FORM OF REGISTER OF WAGES-CUM-MUSTER ROLL**

**(Regulation – 9)**

i. Name and address of the Contractor----------
ii. No. & Date of the Contract Agreement /Work Order----------
a. Name and address of the department awarding the Contract----------
b. Nature of the Contract and location of the work----------
c. Duration of the Contract----------
d. Wage period----------

| | | | | | | | Fair Wage Wages payable paid | | | | Overtine Worked | | | | Deduction from wages | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Serial Number | Name and Surname of the worl | Father's/Husband's name | Sex | Designation and Nature of work | Daily attendance (No. of units worked 1,2,3,4,5,6,7.,31) | Total attendance Units | Basic | D.A. & other allowance | Basic | D.A. & other allowance | Date | No.of hours. | Overtime wages earned. | Total wages paid | *Fine | Deduction for damage or loss | House rent | Recovery of advances | Other deductions | Net wages payable | Date of payment | Signature of thumb impression of the worker | Remarks |
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| Reasons to be recorded in Column 24. | | | | | | | | | | | | | | | | | | | | | | | |

CONTRACTOR



ACCEPTING OFFICER

**FORM OF REGISTER OF DEDUCTIONS FOR DAMAGES OR LOSS CAUSED TO THE B.H.E.L.**

**BY THE NEGLECT OR DEFAULT OF THE EMPLOYED PERSONS**

**Regulation No 10 (vii)**

| Sl. No | Name | Father's / Husband's Name | Sex | Department | Damage or loss caused with date | Whether worked showed cause against deduction if so, enter date | Date & amount of deduction imposed | Number of Instal-ment, if any | Date on which total amount realised | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |

**GENERAL SAFETY PRECAUTIONS TO BE FOLLOWED AT WORK SITE DURING EXECUTION**

The following safety measures should be strictly adhered to during execution of works at sites.

i. Providing the working platform with toe board and handrail for continuous working at heights.
ii. Providing safety belt and life line at all times for men working at heights.
iii. Providing dust or fume respirator in places where dust and fume concentration exists.
iv. Providing goggles and welding screens.
v. Providing acid and alkali proof rubber gloves for handling acid and alkali and chemical which are corrosive.
vi. Providing rubber gloves for working on electrical works.
vii. Ensuring proper lashing of the components while being transported in vehicles.
viii. The vehicles must have side supports or have body to support the materials conveyed.
ix. The materials should not be allowed to extend or overflow the sides of the vehicles.
x. Materials should not be allowed to overhang from the rear edge of the body of the vehicle.
xi. Driver of the vehicle must possess license.
xii. Vehicle must not be overloaded prescribed limits.
xiii. Red flags and lights for parts projecting from the body of vehicle must be provided.
xiv. The speed restrictions within the factory premises must be strictly adhered to.
xv. The gas cylinders must be always handled on trolleys or kept tied down not in use. They should never be rolled as Roller for conveying.
xvi. Cylinders should not be used without regulators.
xvii. All excavations must be barricaded and red lamps must be provided.
xviii. All electrical connections must be properly earthed.
xix. No work should be taken up for execution inside shop floor, without obtaining necessary work permit.
xx. Providing helmet, safety belt, etc., for high level work and sufficient number of Industrial Safety nets at appropriate level to safeguard the persons working at high level particularly nin trusses, girders, roofing etc., of industrial and high roof buildings.
xxi. The contractor should maintain a register regarding the driver license particulars.
xxii. All personal protective equipment conform with standard specification as per the details given in the code of conduct.

Contractor including their sub-contractors, agents and labour engaged on the work are required to scrupulously adhere to the safety regulations, safety precautions and measurers. Any violation thereof will invite punitive action being taken against them. Also contractors with frequent violations of safety regulations will not be entrusted with further work in this organization.

**SAFETY PRECAUTIONS TO BE OBSERVED WHILE TRANSPORTING MATERIALS**

**I. VEHICLE**

1. Vehicles carrying material should have proper registration documents and must be produced on demand by our Security Staff.
2. The light on right side, i.e., over the drivers cabin shall be in working condition.
3. Both the head lights as well as park lamps must be in working conditions.

**II. MOVEMENT OF VEHICLE**

1. The vehicle should not travel at more than 20 km.ph in our premises.
2. The Driver of the vehicle must possess heavy duty license and produce on demand by the Security Staff.
3. Vehicles carrying inflammable liquids in the tank containers should have grounding chain or the tank should be coated with insulating material also to avoid Static Electricity.
4. In road junctions, speed breakers and railway crossing, the speed should be lowered and vehicle should proceed cautiously.
5. The driving should 'KEEP TO THE LEFT' at all places.
6. The vehicle should not be parked in road which could obstruct the vehicular traffic.
7. No person other than driver should be allowed to sit or stand on the prime mover or trailer.
8. The vehicle should pass only through the approved routes. Short cuts should be forbidden.
9. There must be a safe distance behind another moving truck.
10. The driver should avoid making quick starts, jerky stops or quick turns at excessive speed.

**III. SHIPPING**

1. Strong side supports should be provided on both sides of the trailer. The side supports should be fixed in such a way that it cannot be removed even temporarily.
2. Adequate packing must be given for easy slinging operation. The packing materials should be good enough to withstand the load.
3. The stacking of loads in the truck should be evenly placed. The load should not be heaped together or dumped over the chassis.
4. The loaded materials should be fastened tightly with 'WIRE ROPE'. Manila rope or coir rope should not at all be used. There must be side packing such as gunny or rubber tyre between the sharp edge of the job and wire rope in order to avoid cut in the wire rope.
5. There must be minimum two fastenings and it should be more in case of lengthier loads.
6. The wire rope should be in sound conditions i.e, there should not be links, knots or bristles etc.
7. The wire rope ends should be clamped with 'U' clamps.
8. The load on the truck should not be beyond its standard capacity. The carrying capacity must be clearly marked on the trailer also.
9. The loose pieces should be bundled before loading on the truck.
10. There must be red flags or red lamps for the lengthy loads which extend beyond chassis.
11. The load should not be over hanging more than 3 ft. from the end of the body.
12. The materials should not be stacked too high to avoid hitting against live electric lines.
13. While transporting the scraps, there must be wire knitting cover to prevent falling of scrap.

**IV. GENERAL:**

The vehicles should not be moved directly inside the production building in case the materials are to be unloaded there. But the vehicle should be parked outside the building and the driver should ascertain the passage as well as the unloading points with the help of shop officials. This will avoid the congestion of blocking of traffic in the gangway.

# BHEL-Trichy : Contractor Safety Guidelines

**Following are the points to be ensured for the safety of contract employees.**

## I. Identity and Entry:

1. The contractors to give identity card to their employees with full details like employee name, company name, age, blood group, contact person with phone no. etc.

2. The contractors not to employ people whose age is below 18 years.

3. HR/Welfare will issue passes to the trained employees only.

4. Welfare has to arrange for necessary infrastructure (biometric entry) for enrolment of new contract workers. Biometric entry system will be made available in North Gate and Unit 2 initially.

5. The data of daily entry of contract workers through biometric will be made available online to the contract awarding departments HR/Welfare.

## II. Training:

1. Safety, first aid and fire fighting training to be given to two responsible persons in each contract and they should take care of their groups on day to day working.
2. This shall be done within a period of 2 weeks after awarding of fresh contract.
3. For ongoing contracts the contractors has to identify the persons to be trained within a period of 2 weeks.
4. Driving/operation of Crane/jumbo/Fork lift etc are to be done only by authorized persons.

## III. Dress Code:

1. Male employees should enter gates only with Safety shoes, Pants-Shirts, (Dothi, Lungi not permitted).

2. Female employees should enter gates only with Safety shoes. Loose dress must be avoided. (A shirt over saree /chudithar is a must).

3. Normal shoes are acceptable for office area work only.

4. Employees working in canteens can wear sandex.

5. Welfare will finalize and indicate a color coding to be provided in the dresses used by contract employees for uniformity and easy identification of the contract workers.

**IV. Procedures:**

1. Smoking, audio-playing (mobile phone, iPod, inbuilt music systems etc in the vehicles.) are banned within the factory premises.

2. Moving to unrelated areas must be strictly avoided by the contract employees entering to the other areas only with knowledge of concerned department.

3. Procedure (SOP) given from user departments are to be adopted for all operations and maintenance – e.g. tank cleaning, ET plant maintenance, Sewage maintenance, Oxidation pond maintenance, operation of substation, transformer maintenance etc. User departments agreed to generate procedures incase if not available already (Snake catching, Monkey catching, Honey comb removal etc.).

4. Adequate precautions to be taken while waste removal like paint sludge removal, chromic sludge removal, phenol and tar removal by contract employees.

5. The contractor should clearly inform the hazards involved to the employees MSDS to be displayed.

6. The contract employees involved in tank cleaning, ET plant maintenance, Oxidation pond maintenance should know swimming and strict monitoring should be ensured.

7. Line clearance(LOTO)procedure to be followed during bulb changing, electrical substation maintenance, DSL maintenance, furnace instrumentation etc.

8. Work permits to be obtained for jobs like work at height, excavation, blasting, hot work, pipe line work, roof light maintenance, work at confined space like cellar.

9. Users agreed to initiate the permits for all the works mentioned in the table given below to safety mgt for clearance.

**Work Permit Instructions**

| Sl No | Works | Instruction |
|---|---|---|
| 1 | Construction, erection & Commission of new and modification of existing civil structure | The contract workers employed shall have sufficient job knowledge shall follow the procedures and dress code |
| 2 | Periodical Civil maintenance work at height | Only experienced people shall be allowed to carry out the work at height. Physically fit without any vertigo problem. Wear safety belt and use life line, Net etc. |
| 3 | Work at height - including roof light maintenance and furnace work | Only experienced and qualified electrician shall be allowed to carry out the work at height. Physically fit without any vertigo problem. Wear safety belt and use life line, Net etc. |
| 4 | Welding work at process plant including pipe lines, PG and acetylene plant | Only experienced people shall be allowed to carry out the work at height. Shall take care of nearby pipeline, remove all flammable materials. Get help from fire service. |
| 5 | Crane erection and modification work | Only experienced people shall be allowed to carry out the work. Wear safety belt and use life line. Net etc. Remove all loose material |
| 6 | Excavation and Blasting. | Some lapse is noticed obtaining Excavation permit, shall be strictly followed. Only licensed holder shall carry out blasting, accountability shall be properly maintained for the explosives, unauthorised/unapproved explosives shall not allowed. Only authorised equipment shall be used for blasting |
| 7 | Fragile roof work | Only experienced people shall be allowed to carry out the work at the fragile roof. Physically fit without any vertigo problem. Wear safety belt and use life line. Net etc. They shall be properly instructed before going to the roof. |
| 8 | Confined space work, cellars, furnace ducts | Oxygen level to be checked before work, proper breathing apparatus to be used. Only experienced people shall be allowed to carry out the work at cellars/confined space |

10. Specified Speed limit 20 kmph to be followed by all the vehicles entered in factory premises.

11. Procedure given by user departments for spray painting, brush painting and dip painting should be followed. Paint sludge removal, empty tin removals etc. are to be periodically carried out and sent to disposal stores.

**B. Electrical Contractors:**

1. Must ensure proper care before working on electrical lines.

2. Must have obtained line clearance/work permit for all electrical work, panel board cleaning, roof light changing, cable trench works and works in confined areas.

3. After completion of the work the line clearance/ permits must be closed.

4. Must remove all the left out choke, bulbs, tools, fasteners etc. after completion of the work (working on height).

5. Portable machines, lines drilling machines must be with proper plug points.

6. Unused new cables and fittings are to be returned to the concerned. Old cables/ used cables are to be removed and returned properly.

**C. Painting Contractors:**

1. Must know the characters of paints, thinners, solvents etc before handling.

2. User departments and the contractor must provide Materials Safety Data Sheets (MSDS) for the contract employees involved in painting work.

3. Contractors should provide respirators to the employees doing painting work.

4. User departments should ensure training for contract employees in Fire prevention, fire fighting etc.

5. The training shall be through Fire/Security department.

6. Contract employees must take adequate precaution to prevent fire while working.

**D. Civil Contractors:**

1. Employees working in Civil constructions should be familiar with the relevant work viz masonry work construction, tiles, partition, floor elevated work etc.

2. Tools, equipment pertaining to their works must be in good condition and with valid certificates. The workers employed must be skill ful enough to complete the work- roof work, work at height, excavation blasting etc.

3. Contractors must check the health of employees specific to occupation periodically and furnish evidence to welfare department/BHEL. This is a must for the works like working at height, Jack hammering, sewage cleaning etc.

4. Vehicles used for construction works like lorries, excavation equipments (JCB), Mixing machines etc., are sound in operating condition.

5. User departments should ensure that the applicable procedures are clearly understood by contract employees involved in civil maintenance viz flooring, floor cleaning, building maintenance, water line, pipe lines, storm water, ETP Maintenance etc. The adherence to the procedures must be ensured by contract supervisor.

6. The operators should be licensed, trained and authorized persons. Valid certificates/ documents must be shown on demand.

7. Employees should remove the waste materials from the work spot after completing the works.

**E. Transport Contractors:**

1. Vehicles carrying materials should have proper registration documents and must be produced on demand to BHEL security staff.

2. The driver of the vehicle must possess valid heavy duty license, vision Test certificates & relevant valid vehicle documents as per the factory Rules and to be produced on demand to the security staff.

3. The cleaner should be knowledgeable enough to give correct direction. Also should not drive inside or take training inside. Every vehicle should have pair of skilled driver and cleaner.

4. No persons other than driver should be allowed to sit or stand on the Prime Movers of the trailer.

5. Should not do Cooking, Bathing, Vehicle cleaning etc. within the premises.

6. The lights on right side (i.e.) over driver's cabin should be in working condition.

7. Both the head lights as well as park lamps must be in working condition.

8. The tire, brake, horn, turning lamps, etc must be in good conditions.

9. The vehicle should not be parked in the road in such a way to cause obstruction to vehicular traffic.

10. There must be a safe distance behind another moving truck.

11. If vehicle got break down, they should attend maintenance work and ensure to avoid oil and grease spillage & traffic issues.

12. Drivers should not do material handling activities.

13. Must not stand under/close to load while lifting the materials

14. Speed limit 20 km/hr to be maintained inside the factory premises.

**F. Shipping:**

1. Strong side supports should be provided on both sides of the trailer. The side supports should be fixed in such a way that it cannot be removed even temporarily.

2. Adequate packing must be given for easy slinging operations. The packing materials should be good enough to withstand the load.

3. The stacking of loads on the truck should be evenly placed. The load should not be heaped together or dumped over the chassis.

4. The load on the truck should not be beyond its standard capacity. The carrying capacity must be clearly marked on the trailers also.

5. The loaded materials should be fastened tightly with wire rope. Coil rope should not at all be used.

6. There must be side packing such as gunny, rubber-tire between the sharp edges of the job and Wire rope in order to avoid cut in the wire rope.

7. There must be minimum two fastening and it should be more in case of lengthier loads.

8. The loose pieces should be bundled before loading on the truck.

9. There must be red flags or red lamps for the lengthy load which extend beyond chassis.

10.The materials should not be stacked too high to avoid hitting against live electric lines.

11. Must not lift beyond the capacity (SWL) of mobile cranes.

12.Must keep valid certificates for the individual (inclusive of vision Test certificates) and lifting equipment.

13. Should not use mobile cranes for transporting and dragging

**VII Travels/Taxi Contractors:**

1. Must have valid documents like Driving license, RC, Insurance, FC, Vision Test Certificate.

2. Max speed limit 20 KM/Hr must be followed, Timing prescribed for entry and exit to be strictly followed. Not to overtake inside the Premises.

3. Seat belt must be worn by taxi drivers, Park cars only in the permitted areas.

4. Using mobile phones while driving and playing iPod, inbuilt music systems etc in the vehicles. are banned within the factory premises.

**VIII Welfare:**

1. The contractors are directed to generate PF number and ensure PF contribution remittance for all contract workmen engaged by them.

2. Bio-Metric Entry for Contract Workmen : Contractors have been directed to cover all the contract workmen engaged by them through Bio-Metric Entry System

**XI Health Check up**

Contractors must check the health of employees specific to occupation periodically and furnish evidence to welfare department/BHEL for updating. Specific test is a must apart from General Health checkup for the works like

1. Working at height- Vertigo test
2. Mobile crane operator- Vision test, audiometric test
3. Vehicle drivers- Vision test, audiometric test
4. Shot blasting operations- Lung function test, audiometric test
5. Canteen employees- Dermatitis
6. Jack hammering- Lung function test, audiometric test
7. Sewage cleaning- Lung function test,
8. Electro-plating- Skin and respiratory tract
9. Grinding - Lung function test, audiometric test
10. Spray painting - Skin and respiratory tract

**X. Safety Equipment:**

Contract employees must wear the PPEs relevant to the nature of work in addition to the safety shoes.

1. Welding – Welding Shield and goggles
2. Gas cutting – Aprons, Gas cutting goggles
3. Painting - PVC gloves, PVC apron, respirators
4. Electrical work - Electrical Resistance gloves, gum boots (during rain)
5. Work near hot furnace - Heat resistant gloves & Apron
6. Glass wool related works - Respirators, Barrier Cream
7. Slag removal, cleaning and grinding work - Goggles / dust respirators.
8. Handling of rough and sharp surfaced objects - Leather gloves
9. Sanitary work - Hand gloves, Gum boots
10. Concrete preparation - Gum boots Electrical
11. Work at height - Rubber gloves, Safety Belt, Fall arrestors, Life line Rope.

**XI. Violations:**

The following will be treated as serious violations and appropriate actions are to be initiated by the users.

1. Employing people whose age is below 18 years.
2. Not wearing safety shoes or normal shoes (Contract employees will not be permitted after the security gates).
3. Not wearing PPEs.
4. Working without proper work permit.
5. Possession of mobile phones other than taxi drivers..
6. Using mobile phones while driving .
7. Unauthorized electrical connections .
8. Driving/operation of Crane/jumbo/Fork lift etc by unauthorized persons.
9. Unauthorized operation/driving of lorries, mobile cranes etc.
10. Smoking, alcohol, audio-playing etc.
11. Moving to unconnected areas.
12. Any willful act that creates unsafe conditions .

**CHECK FOR HEALTH PERFORMANCE**

| Sl. No. | Activity | Hazard | Exposure Consequence | Check for | Periodicity |
|---|---|---|---|---|---|
| 1 | Concrete Dismantling | Emission of Dust & Noise | 1 | Lung function | Once in a Year |
| 2 | Concrete Mixing | Emission of Dust & Noise | 1 | Lung function | Once in a Year |
| 3 | Painting | Emission of Dust & fumes | 1 | Lung & throat function | Once in a Year |
| 4 | Cutting & Welding | Emission of fumes and gas. Exposure to Live wire | 3 | Eyes & Lung function | Once in a Year |
| 5 | Working on AC sheets | Emission of Dust | 3 | Lung function | Once in a Year |
| 6 | Sweeping of Roads | Emission of Dust | 2 | Lung function | Once in a Year |
| 7 | Collection and disposal of Sanitary waste | Foul smell & susceptibility to decease. | 3 | Lung function and skin irritation | Once in a Year |
| 8 | Handling of Oxygen & Acetylene Cylinders | Leakage of gas | 4 | Throat irritation | Once in a Year |
| 9 | Cleaning of Manholes | Exposure to poisonous gas | 4 | Suffocation | Once in a Year |
| 10 | Cleaning of Overhead tank | Emission of Dust | 1 | Suffocation & skin irritation | Once in a Year |

NOTE: Exposure Consequence

1.Slightly harmful
2. Harmful
3.Very harmful
4. Extremely harmful

**2. Site Clearance**

All the area upon which the construction is to be carried out and areas which are required by the Contractor for his construction facilities are to be cleared off all rubbish and objectionable matter at Contractor's own cost. Trees, if any, shall not be uprooted or cut without the prior approval of the Engineer-in-charge. All spoils, unserviceable materials and rubbish shall be burnt or removed from site. Usable materials, saleable timber, fire-wood etc., shall be stocked properly at work site in the manner as directed by the Engineer-in-charge. The cost of clearing the areas shall be deemed to have been included by the Bidder in his general rate.

**3. Earthwork for Foundations**

Earthwork excavation for foundations and filling in foundations shall conform to TNBP 23 and 24. The area to be excavated or filled in with excavated materials shall be clearly demarcated in the field by the Contractor. Excavation shall be done to lines and levels defined. Excavation shall be carried out to such widths, lengths, depths, profiles and grades as shown in the drawing or as may be specified by the Engineer – in – charge. Rough Excavation may be carried out up to a depth 15 cm less than the final level but the balance shall be excavated to precise level with special care. All soft pockets of soil met with even below the final level shall be removed and the excavation filled up as directed by Engineer-in-charge. The methods of excavation shall in every case be subject to the approval of the Engineer-in-charge and the contractor shall ensure the safety and stability of the excavations, being executed by him as well adjacent buildings, structures, services and other works in the vicinity of the site of work. Wherever necessary Engineer-in-charge may direct that the sides of the excavation should be timbered and shored at the contractor's own cost, adopting a proper method approved by the Engineer-in-charge. Notwithstanding the above, should any slip occur, the contractor shall remove all the slipped materials from the excavated pit, at his own cost. He shall also make good at his own all damages caused to the work as well as adjacent buildings, structures etc., as a result of the slip, referred to.

All excavation work shall be subject to inspection and approved by the Engineer-in-charge before any further works in the excavated areas allowed to commence. Should any excavation be carried out beyond the specified depth, the contractor should fill it up at his own cost with the same type and class of material as it is proposed to be laid over the excavated portion. No payment will however be made to the contractor on his account. The contractor shall ensure that the excavations and the structures under construction are kept free from water logging at all stages of construction. He shall take all necessary precautions and `streams, acquifers, springs, surface flows etc., are excluded effectively so as to ensure that the works are carried out in a reasonable dry conditions in accordance with the construction schedule. Back filling around the foundations, trenches, plinth and under the floor shall be done in accordance with TNBP 24 and 25. The finished level of the plinth filling shall be trimmed to the slope required to be given to the finished floor. Back filling, watering and consolidation of excavated earth in layers etc., complete as per specifications shall be done unless otherwise stipulated in the tender schedule.

**Removal of Hard rock by Blasting**

This shall include all rock occurring in large masses which cannot be removed except by blasting. Blasting shall be done in conformity with TNBP 19 & 23 and as instructed by the Engineer-in-charge. When rock blasting has to be done adjacent to structures, the following precautions shall be observed.

(1) All blasting should be completely muffled to prevent damage by flying pieces.

(2) Blasting within 3 meters of the structures shall be avoided.

(3) No blasting should be done within 1.5 meters of concrete / masonry structures.

(4) An isolated boulder extending under the existing structure but projecting within the area of blasting should be blasted.

(5) The contractor shall be responsible for all damages caused by blasting and shall replace or repair the damaged structures at his own cost.

**4. Plain and Reinforced Cement Concrete Works:**

All design and construction shall be performed in accordance with the Indian standard code of Practice for plain and reinforced concrete – IS 456 and TNBP 30. Any Special requirements noted on the drawings or bill of quantities shall govern over the provisions of this specifications. Controlled concrete shall be used wherever specified in the schedule of items complying with all requirements of IS: 456 and as per special specifications appended herewith. The coarse aggregate to be used shall be of hard broken granite stone jelly of various sizes as specified under respective items in the Bill of Quantities, conforming to IS 383 latest editions. The Engineer-in-charge may require the contractor to carryout moisture content tests in both fine and coarse aggregates. For determination of moisture content IS – 2386 shall be referred to. The amount of water to be added shall be then adjusted to compensate for any observed variation in the moisture contents. Proper control of mixing water is deemed of paramount importance. Mixtures with automatic water measuring drums shall be used or else. Water should be measured by volume in calibrated buckets. All measuring equipments shall be maintained in a clean serviceable condition and the accuracy periodically checked and got certified by the Engineer-in-charge. The contractor shall carryout slump tests apart from taking test cubes at regular intervals. All such methods of sampling and analysis of concrete shall be in accordance with IS – 1199.

Mixing of concrete shall be strictly carried out in an approved type mechanical mixer. The mixing equipment shall be capable of combining the aggregates, cement and water within the specified time (not less than 2 Minutes) into a thoroughly mixed and uniform mass and of discharging the mixture without segregation. Mixing shall be continued until there is a uniform colour and consistency, Concrete shall be handled from the place of mixing to the place of final deposit as rapidly as practicable by methods which will prevent segregation or loss of any of the ingredients. Before depositing the concrete, all debris and dirt shall be removed from the space to be occupied by concrete. Concreting shall not be done unless the formwork conform to the shapes, lines and dimension as shown in the drawings.

Unless otherwise approved, concrete shall be placed on single operation to the full thickness of slabs and beams and similar members and not exceeding 1 metre deep in walls, columns and similar members. Concrete shall be placed continuously until completion of the part of the work between construction joints or as directed by the Engineer-in-charge. The concrete after being laid shall be compacted by means of vibrators of approved type under proper supervision as directed by the Engineer-in-charge. Care should be taken to avoid segregation and formation of air bubbles. The whole process starting from the mixing of concrete to the placing and compaction shall not take more than 20 minute and the process shall be completed before the initial setting takes place. Curing shall be accomplished in accordance with IS-456 by keeping the concrete covered with a layer of sacking, canvas or similar absorbent materials and kept constantly wet for the period as directed by the Engineer-in-charge.

**Reinforcement**

All reinforcement shall be clean and free from pitting, loose mill-scales, dust, loose rust and coats of paint, oil or other coatings which may destroy or reduce bond. General construction details and workmanship relative to reinforcement including bar bends, lap splices and installation shall be in accordance with the IS-2502 as well as IS-456. All bars be bent as per the bar bending schedules indicated in the drawings or supplied separately relevant to particular drawing. The contractor shall in all cases verify himself the correctness of schedules, giving the number, length and the bending details of the bars. The numbers, sizes, shape and position of all the reinforcement shall, unless otherwise, directed or authorized by the Engineer-in-charge be strictly in accordance with the drawing. The reinforcement shall be adequately held in position by 18 / 20 SWG soft black annealed binding wire. The contractor must obtain the approval of Engineer-in-charge for the reinforcement placed, before any concrete is placed in the form. All reinforcing bars shall be so tied as to form a rigid cage to prevent displacement before or during concreting. Rate quoted for reinforcement should include cost of transporting M.S. Rods / CTD bars from BHEL Store to site of work, cleaning, cutting, bending, placing, binding with

contractor's own binding wire and providing necessary cover blocks of concrete but excluding cost of steel which shall be supplied free of cost at BHEL Stores.

**Form Work**

Formwork shall conform to the shape, lines and dimensions of concrete and RCC structures as shown in the drawings and shall be well within the permissible tolerance. Formwork for concrete shall be of plywood, steel, good seasoned timber or other approved materials, properly designed easy for removal and cleaning. They shall be of sufficient strength and rigidity to maintain their position and shape under loads incidental to placing concrete. The number of props, their sizes and dispositions shall be such as to able safely carry the full dead load area constructional loads. The arrangement and alignment of formwork shall be got approved by the Engineer-in-charge prior to concreting. However, this shall not relieve the contractor from his responsibility for proper work and safety. Formwork shall be sufficiently tight to prevent loss of cement slurry from the concrete. All joints and holes in the formwork shall be caulked with putty jute cloth or other approved materials to the satisfaction of the Engineer-in-charge. The stripping time for the shuttering and the formwork shall in general conform to the provisions in the relevant clauses of IS 456. Unless otherwise specified rates for reinforced cement concrete shall include cost of centering, shuttering charges also.

**Expansion and Other Joints**

Expansion Joints in concrete structures shall be provided at specified places as indicated in the drawings. The material shall be as specified by the Engineer-in-charge, expansion joints, with or without metal strip shall be as shown on drawings the filler shall be "EXPANDEX JOINT FILLER" premoulded non – extrudent type fibrous joint filler impregnated with bitumen conforming to IS : 1838. The filler shall be durable, waterproof, compressible and shall have a high degree recovery after compression is released, ensuring thereby that no free space develops in the expansion joints. The top 25 mm, or as specified in the drawings, shall be sealed with "SHALITEX SEALING COMPOUND" or equivalent after application of approved primer.

**5. Stone Masonry**

General: Stone masonry shall conform to TNBP 35. Stone shall be obtained from the approved quarry and shall be free from decay and weathering. All stones shall be thoroughly wetted before use. The mortar used for jointing shall be as specified under the respective items of the 'Bill of Quantities'. The walls shall be carried up truly plumb. Every stone shall be carefully fitted to the adjacent stones so as to form neat and closed joints.
To give sufficient lateral bond, vertical joints shall be avoided. Prescribed number of headers as required shall be provided to give sufficient transverse bond. At junctions of wall the stones each alternate course shall be so carried into each of the respective walls as to unite the work thoroughly. Where breaks are unavoidable in carrying up the work continuously in horizontal course sufficiently long steps shall be left to joint the old and new work building of two thin faces and filling up the middle with small stuff or dry packing shall be strictly avoided. When plastering or raised pointing is not required to be done joints shall be struck flush and finished simultaneously.

**Coursed Rubble Masonry**

Coursed rubble masonry shall conform to TNBP 35-H, I and J. Faces shall be accurately squared and all face joints shall be dressed at right angles. This bushing on the facing stones shall not project more than 38mm.

Face stones shall be laid alternate headers and stretchers. Depth of each course shall not be less than 150 mm. No course shall be greater than any course below. The height shall not exceed the breadth of stones of face. No stone shall tail into the wall less then its height. No pinning shall be allowed on the face. The stones shall be solidly bedded set full in mortar with joints not exceeding 12 mm in thickness.

**Random rubble masonry**

Random rubble masonry work shall conform to TNBP 35-L and J. Stones shall be hammer dressed at faces and joints to enable them to come into close proximity with each other. The face stone shall be laid headers and stretchers alternately, so as to break joint by at least 75mm. Thickness of joint shall not exceed 12mm. No

pinning shall be used on the face and face stone shall extend well back into the headers. Stones less than 130 mm. in height shall not be used on the face.

Bond stones running through the wall shall be provided at 1.8M intervals in walls up to 0.60 M. thickness and if the wall is more than 0.60 M. thick a line of headers shall be laid from face to back each header overlapping the other by at least 150 mm.

**6. Brick Masonry:**

First class Bricks: Brick shall be sound, hard, tough, rectangular in shape and size, well burnt of uniform deep red or copper colour and conform to IS – 1077.Brick shall be free from cracks, chips, flaws, stone or humps of any kind. Bricks shall be homogeneous in texture and evict a clear ringing sound on being struck and shall have a minimum compressive strength of 50KG / sq.cm. and shall not absorb water more than 20% of its weight, when soaked cold water for 24 Hrs. All bricks shall be table moulded. Second Class Bricks: These shall be ground moulded but should otherwise conform to the specifications of first class bricks except for some surface cracks are allowable. These shall have minimum compressive strength of 50 Kg./sq.cm. Samples of each type of brick, shall be got approved by the Engineer-in-charge before being used. All subsequent deliveries shall be up to the standards of the approved samples. Brickwork shall conform to TNBP31 and IS –2212.Brick works shall be classified as first or second class according to the classification of bricks used and the method of laying. The thickness of joints shall not exceed 6 mm. In first class brickwork and 10 mm in second class brick work. Bricks shall be well soaked before use on works for at least 6 hrs. The soaked bricks shall be kept on wooden planks or platform. Brick required for masonry with clay or lime mortars shall not be soaked. Brick work shall be laid with specified mortar to be prepared in accordance with IS –2250. Brick works shall be laid in English Bond unless otherwise specified. Half or cut bricks shall not be used except when needed to complete the bond. Each course shall be taken up truly plumb, if battered, the batter is to be truly maintained. The level of brickwork shall be checked up at every one metre interval. Bricks shall be laid with frogs upward, while laying bricks shall be thoroughly bedded and flushed in mortar and taped into position with a wooden mallet and the superfluous mortar removed. Walls of all structures shall be carried up regularly in all cases, leaving no part, one metre lower than the other. Where the masonry of one part has to be delayed, the work shall be raked back according to bond (and not toothed) an angle not exceeding 45 Deg. But the raking back should not start within 60cm. of a corner vertical joints in alternate courses shall come directly over one another. The brickwork shall not be raised more than 14 courses per day. All iron fixtures, pipes, conduits, drains, sleeves, bolts, holdfasts of doors and windows etc. which are required to be built in walls shall be embedded in cement mortar or cement concrete as specified, in their correct position as the work proceeds.

**Joints**

Joints shall be restricted to 6 mm in first class brickwork and 10mm in second class brick work. All bed joints shall be normal to the pressure upon them, radial in arches and at right angles to the face in battered retaining walls. Care shall be taken that all joints are fully mortared (proportion as specified in the schedule items) well flushed up and in case where no pointing to be done, neatly struck at the work proceeds. The joints in faces which are to be plastered or pointed shall be squarely raked out to a depth of 12 mm while the mortar is still green. The raked joints shall be well brushed to remove loose particles. After the work the faces of work shall be cleared well by brush so as to remove any splashed mortar during the course of raising the brickwork.

**Curing**

Green work shall be protected from rain by suitable covering. Masonry work shall be kept thoroughly well watered on all faces for atleast 10 days after completion. In case of fat lime mortar curing shall commence two days after laying of masonry and shall continue for seven days.

**7. Scaffolding**

Scaffolding will generally be single but may be double if warranted for the particular work as approved by the Engineer-in-charge. The contractor shall take all measure to ensure safety of work and the working people. Payment for brickwork shall be made on cubic metre basis on the volume of actual work done. Half brick wall

and brick on edge wall shall be paid on square metre basis. The rate of brick work shall include scaffolding and all items mentioned above and no extra payment will be made for cutting bricks if required either for openings or for rounding or insertions or for recesses at the time of brick wall construction.

**8. Damp Proof Course**

Damp proof course shall either be with cement concrete or with cement mortar of specified thickness as mentioned in the relevant item of schedule. Damp proof course shall not be carried across doorways. It shall be laid for all walls except verandah retaining wall or for particular wall only directed by the Engineer-in-charge. It shall be laid flush with floor level or as instructed by the Engineer-in-charge. Damp proof course with cement concrete shall be of 25 or 38 mm thick in cement concrete M15/M20 as specified using 12mm. and down size aggregate well rammed and smoothened with trowel. It will be kept wet for 40 hours and after it has dried, two coats of hot bitumen shall be applied over it and allowed it to dry after which sand shall be sprinkled over it. Damp proof course with cement mortar shall be 12 or 20 mm thick in cement mortar 1:3 well mixed with crude oil at 5% by weight of cement used.

**9. Cement Plastering:**

Cement plastering shall be in accordance with IS – 1661 and TNBP –56 & 57, Cement mortar shall conform to IS – 269. The mortar of specified mix and thickness shall be used.

The surface to be plastered shall be thoroughly cleaned so that it is free from dust, oil, salts etc., the joints of masonry shall be racked out to a depth of atleast 12mm. On cement concrete surfaces the surface shall be cleaned with wire brush and scarified by lines with trowel or hacking done. The surfaces in both cases shall be washed properly and kept wet for 4 hours before plastering is commenced. Plastering shall be started from top and gradually worked down towards the floor. It shall not at any place be thinner than specified. To ensure even thickness plaster of about 15 cm X 15 cm shall be first applied horizontally and vertically at not more than 2 metres intervals over the entire surface to serve as gauges. The surface of these gauges shall be truly in the plane of finished surface. The mortar shall then be laid in the wall or other surfaces between the gauges and finished even. All corners shall be rounded to a radius of 24 mm unless otherwise directed. The contractor shall not be paid for any extra thickness of plaster done than as specified. Plaster, when more than 15 mm thick shall be applied in two coals, a base coat followed by the finishing coat. Thickness of the base coat shall be just sufficient to fill up unevenness in the surface, no single coat, however, shall exceed 12mm in thickness. The under coat shall be roughened or scratched before it is fully hardened. Curing shall start 24 hours after the plaster is laid. It shall be kept wet for 14 days. During this period it shall be suitably protected from all damages at the contractor's cost by such means as approved by the Engineer-in-charge. Anycracks which appear in the surface shall be cut out in rectangular shape and redone as directed by the Engineer-in-charge. Wherever specified standard waterproofing compound as approved by the Engineer-in-charge shall be added to the mortar at the rate of 2% or as specified by the manufacturer by the weight of cement for which the rate shall be paid separately. The rate for plastering shall include cost of scaffolding, swing etc., needed for the work with labour and material all complete.

**10. Steel Door, Windows and Ventilators:**

All steel doors, windows and ventilators shall conform to IS – 1038, IS – 1361 and IS 1081 or equivalent as mentioned in the bill of quantities and as approved by the Engineer-in-charge. Rolled steel sections shall conform to Is – 226. The sections shall be cold straightened and finished goods shall be free from bends and other defects. Materials used in the fabrication shall be the best procurable and conforming to relevant IS specification. Thickness and specification of the glass to be provided shall be as indicated in the relevant item of the bill of quantities. Glass shall be free from flaws, specks, bubbles, etc., Bolts, nuts, screws, peg stays and other mild steel fittings shall be treated for corrosion as per relevant Indian Standards. Putty for glazing shall conform to IS – 420.

Doors, windows and ventilators, etc., shall be truly square and free from twist and warp. They shall be constructed of sections which have been cut to the required lengths and welded or riveted at the corners as per standard specifications.

All steel surfaces shall first be thoroughly cleaned free of rust scale or dirt and mill scale by approved means and shall be painted with one coat of approved primer conforming IS – 102 before dispatch. Alternatively, if specified they may be galvanised by the "Hot dip" zinc spray or electro galvanising process described IS – 1361. Doors, windows and ventilators shall be fixed in positions, as specified under IS 1081.
Whenever contractor is required to supply the doors, windows and ventilators etc., he shall first submit to the Engineer-in-charge, the details about source of supply, detailed drawing and specifications etc, for prior approval.

**11. M.S Rolling Shutters:**
It shall be of approved quality, made out of 18 gauge 75 mm black laths mechanically operated by reduction gear type mechanism. It shall be fitted with two self-aligning ball bearing with locking arrangements (both inside and outside) including M.S pressed side guides bottom rails brackets and top rolling spring pressed etc., complete provided with locking arrangements for padlocks, pulling hooks, handles, top cover etc., It shall be painted with one coat of approved primer conforming to Is – 102 before dispatch.

**12. Wooden Doors, Windows and Ventilators:**
All wood work for doors, windows, ventilators cup board, shelves, etc., conform to relevant IS specification and TNBP 82 and shall be well seasoned teak wood or well-seasoned country wood (pillamarudu or karumarudu) as the case may be. Timber shall be best quality and shall be free from knots, injurious open shales, bore holes, decay, soft or spongy spots, hollow pockets and all other defects and blemishes. Timber shall conform to IS 1003 (Part 1). Size of doors, windows and ventilators shall as specified in the relevant item of schedule and detailed drawings and generally in conformity with IS – 1003, part I and part II. The rates for doors, windows and ventilators etc., shall be for the finished work inclusive of fixing them in position with necessary iron hold fasts and furniture fitting of oxidized iron or aluminium or oxidized brass as stated in the description of the relevant items of the bill of quantities and as directed by the Engineer-in-charge. Fittings and furniture shall be of best quality and machine made and robust type. Wherever glazed shutters are to be provided, the cost of glass panes of specified thickness and fixing them in position should be included in the quoted rate. All glass shall be of superior quality from approved manufacturer. In case of solid core flush doors, they should conform to IS: 2202 Part I and Part II. The flush door shutters should have a finished thickness as specified in the scheduled item. Flush door shutters shall be obtained from firms of repute as approved by the Engineer-in-charge.

**13. ROOFING: (A) R.C.C Slabs:**
Roof slab shall be of RCC of specified mix conforming to IS: 456, with adequate main tensile, transverse and adhesive reinforcement of ribbed steel bars of mild steel rounds. Unless otherwise mentioned the rates for RCC slab shall include cost of concrete, centering and shuttering charges, vibration charges, rounding of corners, curing and finishing etc., complete. Expansion joints in reinforced cement slabs shall be as per TNBP 30. The ceiling should be finished as per Clause 30 of TNBP. No extra payment shall be made towards cost of ceiling plaster necessitated on account of defective centering materials used or poor workmanship.
The top of roof slab shall be finished with weathering course treatment if so specified. The weathering course work shall conform to TNBP 44-HJ and consist of concrete with broken brick in neat slacked lime of specified thickness finished with one course of pressed split tiles / pressed tiles of specified thickness and size as described in the bill of quantities.

**(B) Roofing and Side Cladding with A.C. sheets:**
The A.C. sheets shall be of specified and approved quality and shall conform to IS 459- 1962 in all respects. The sheet shall be laid with the smooth side upwards and with a minimum end lap of 15cm. and for every flatter slopes this should be 20cm. The laying operation shall include scaffolding works involved. Sheets shall be secured to the purlins by means of 8mm galvanized iron J or L hook bolts and nuts. The gripof the hook bolt on the side of the purlin shall be not less than 25mm. Each bolt shall have a bitumen washer and galvanized iron washer placed over the sheet before the nuts are screwed down from above. Hole for hook bolts etc., shall be drilled

and not punched in the ridges of the corrugations in the exact positions. The diameter of these holes shall 1.5 mm more than the diameter of the fixing bolts. The payment will be square metre basis of the laid area.

**14. A.C. Rain Water Pipes**

The pipes shall be of standard quality conforming to IS 1628. These shall be straight, true smooth and regular in thickness. They shall be free from cracks and other flaws. The supply shall include all necessary pipe fittings and accessories.

All pipes shall be fixed to wall or columns by standard M.S butt holder clamps of approved make. The spigot of the upper pipe shall be properly fitted into the socket of the lower pipe, such that there is uniform annular space for filling with the jointing materials. One third depth of this annular space is to be filled with spun yarn soaked in bitumen of approved quality and properly pressed with caulking tool. The remaining two, third depth of the joint is to be filled with Cement Mortar 1:2 (1Cement: 2 coarse sand) and shall be pressed with caulking tool and finished smooth at the top at an angle of 45 Deg. sloping up. The rate shall include supplying and fixing pipes with specials and accessories, including sizing as required, jointing, testing, cutting of walls and making good necessary scaffolding etc., complete.

**15. Flooring:**

Flooring shall consist of a base course of cement concrete of specified thickness and proportion laid over the compacted earth or sand filling as specified and a finishing layer of concrete, mosaic, glazed tiles or any other material as specified to be laid. Flooring work for Factory shop floors as well as mosaic flooring shall be done as per the special specifications. The bed flooring shall be prepared either level or sloped as per relevant drawing or as instructed by the Engineer-in-charge. Filling in basement with earth or sand shall be in accordance with TNBP 25. On the prepared bed, cement concrete of specified mix and thickness shall be laid and well consolidated.

**A. Ellis pattern, 1st Sort Flooring**

On the clean wet surface of the concrete base before it has set, will be laid a layer of cement concrete to give a finished depth of 20/25 mm over the base concrete. The cement concrete will be of 1:3 proportion (one cement and 3 hard broken stone chippings 3 to 10 mm Size). To make a coloured floor red oxide iron powder or other approved materials should be mixed with cement at the rate 10% of the weight of cement or as directed by the Engineer-in-charge. Ellis pattern flooring shall be done as described under clause 41-G of TNBP.

**B. Glazed Tile Flooring**

The tiles shall be of ceramic white or coloured and of specified dimensions as described in the schedule item. The top surface of tiles shall be glazed with a neat finish of uniform colour and texture and free from flaws, cracks, craze, specks or other imperfections. Tiles shall be true and shape with straight edges, non-absorbing and non – fading. Samples of tiles together with manufacturer's literature shall be submitted to the Engineer-in-charge for approval. Tiles shall conform to IS 177 latest.

Over the prepared surface of the floor a bedding layer of Cement Mortar (1:3) of specified thickness shall be laid-in-proper level and slope using screed patterns. The bedding layer shall be deeply scratched while it is set. A mortar set bed of 6mmthickness in cement lime mortar 1:1:3 (one cement one lime putty and three sand), shall be laid over the bedding layer. After mortar setting, bed has been leveled, a skin of neat cement shall be troweled to the mortar setting bed immediately before the tiles are set. As soon as the mortar setting bed has sufficiently hardened, all tiles shall be finally secured in place and gently beaten in and finished surface brought to desired level. When grouting the glazed tiles, special care shall be taken to prevent scratching of the glazed surface. Joints shall be pointed with white or coloured cement to match the tile surface and cured. No joint shall be more than 1.5 mm thick.

**16.White Washing and Colour Washing**

White washing and colour washing shall be done as per clauses 63 and 64 of TNBP. The surface shall be thoroughly cleaned off mortar drops and foreign matter. All patching must be scraped properly. The white washing shall be done from pure shell lime / Janathacem. Samples of lime

shall be got approved by the Engineer-in-charge. The wash shall be applied with a brush, the coats being laid on vertically and horizontally alternatively, each coat being allowed to dry before next coat is applied. For colour washing the desired shade shall be obtained by mixing approved quantity of colouring matter or distemper with shell lime solution and applied as per white. The contractor shall take every precaution to prevent white wash being splashed on wall, floor and other places and articles not to be white washed. No colour wash shall be done unless a sample pattern of the mixed colour has been approved by the Engineer-in-charge. The rates shall be inclusive of scaffolding charges, cost of ladder etc,

**17. Painting**

All painting work shall be done in accordance with TNBP-66 and the relevant Indian Standard Specifications. Paints, varnishes, cement paints etc., shall be the highest grade products of well known approved manufacturer and shall be delivered to site in original sealed containers. It is desired that materials of one manufacturer only shall be used as far as possible. Colours shall be uniform and nonfading. Samples of all colours selected shall be submitted to the Engineer in charge for approval before bulk purchase is made. All finished work shall match corresponding samples kept with the Engineer.

**Preparation of Surface:**

Before painting wooden surfaces, protruding timber fibres shall be removed and nail marks shall be covered with putty. The surface shall be thoroughly cleaned and sand prepared. In case of steel work it shall be scraped, well brushed and cleaned free of rust, scale dirt. Base preparation for painting concrete, masonry and plastered surfaces shall be carried out as per IS 2395 – Part I. Before actually proceeding with the work of painting the concrete, masonry and plastered surfaces, it shall be verified that the surfaces shall be completely dry, free from efflorescence and alkaline effect.

**Application**

The primer shall be applied with brushes and spread as evenly and as smooth as possible. For steel work a priming coat of Red Oxide / Zinc Chromate paint shall be applied. Painting shall be done by skilled labourers in a work-man like manner. All coats shall be of proper consistency and shall be well brushed out, so that no brush marks are visible. The under coating should be nearest to the specified colour of the finishing coat. Unless otherwise specified ready mixed synthetic enamel paints shall be used for painting, wood and steel work. Under coats should be completely dry before finishing coat is taken up. Priming coat and under coat shall be rubbed with sand paper and dusted clean. The finished coat of approved paint shall then be applied.

**18. Cement Painting**

Cement Paint solution shall be applied to the surface with hair brushes in a number of coats to get uniform finish. After the first coat of paints has hardened, it shall be cured with water atleast for 24 hours. The surface shall be wetted again before the application of the second coat. Atleast 24 hours should lapse between the two coats, number of coats shall be as specified in the schedule of quantities. It shall be kept damp atleast for seven days.

**19. French Polish**

French polish to be used shall comply with IS 348. Polishing shall be obtained by dissolving 1 lbs, of shellac in one gallan of methylated spirit without applying any source of heat. After the shellac has dissolved ¼ lbs of cobalt, ¼ lbs of lobano and 0.4 oz of crystals of desired pigment shall be added. The solution shall be applied with a pad of fine muslin cloth tied as per general practice. The pad shall be dipped into the solution and wrung with fingers and be rubbed hard on the surface in this way, the first coat is to be given after this gets dried up, the successive coats shall be given in the same fashion till the mirror like surface is obtained. The wood to be polished shall be first applied with a filler composed of 1.25 Kg. of whiting mixed with one litre of methylated spirit and then sand papered when dry. The finished surface shall have uniform texture and gloss. Approved transparent sealer shall only be used in base preparation.

**19. Use of M Sand as Fine aggregate**

With prior approval from Engineer in charge M sand may also be used as fine aggregate for concreting works for which no separate payment shall be made by BHEL. However the M sand should confirm provisions of IS 383 - Specification For Coarse And Fine Aggregates From Natural Sources For Concrete , IS 2116- Specification for sand for Masonry & IS 1542 - Specification for sand for Plastering. No claim shall be entertained if Engineer In charge decides not to use M sand as fine aggregate.

**20 SPECIAL SPECIFICATION FOR CONTROLLED CONCRETE**

**a) PROPORTIONING MIX:**

The proportion of aggregate, Cement and water to be used for controlled concrete shall be designed by preliminary tests of the materials to be actually used to obtain the densest to workable concrete requiring the minimum quantity of cement paste for binding the materials to give the required strength. However, the maximum total quantity of aggregate by weight per 50 kg. of cement shall not normally exceed 450kg All proportions shall be by weight. However, water may be added by weight or volume.

**b) MIX DESIGN:**

Immediately upon the receipt of the award of the contract, the Contractor shall inform the Engineer-in-charge the exact location of the sources of materials which he proposes to use and get the materials approved. The mix with the actual approved materials to be used shall be got designed by the Contractor in an approved laboratory chosen by BHEL and got approved by the Engineer-in-charge. These proportions shall be used so long as the materials continue to be the same quality and from the same sources. If during the progress of work, the Contractor wishes to change the materials, the proportions shall be fixed on the basis of fresh preliminary tests to give the required strength. No change of materials shall be allowed unless fresh tests with new materials show satisfactory results.

**c) STRENGTH REQUIREMENTS OF CONCRETE:**

Controlled concrete shall be in the following grades, M 15, M 20, M 25, M 30, M 35 & M 40. The concrete mix shall be designed to produce the grade of concrete having the required workability and characteristic strength not less than the appropriate values (as per I.S. 456) as given in table below:

| Sl. No | Grade of. Concrete | Specified Characteristic Cube Strength | |
|---|---|---|---|
| | | Preliminary test N/mm2 | Works test N/mm2 |
| 1. | M 15 | 20 | 15 |
| 2. | M 20 | 26 | 20 |
| 3. | M 25 | 32 | 25 |
| 4. | M 30 | 38 | 30 |
| 5. | M 35 | 44 | 35 |
| 6. | M 40 | 50 | 40 |

**d) WORKABILITY OF CONCRETE:**

The proportions chosen shall be such that the concrete is of adequate workability for the conditions prevailing on the work in question, and shall be properly compacted. Water shall be added to the mixer to give the required workability. The water content of each batch shall be adjusted as necessary to maintain the required workability with simultaneous adjustment of cement concrete such that the water cement ratio is not changed. The workability tests shall be carried out in accordance with IS: 1199 – Latest, “Methods of sampling and analysis".

Workability of concrete shall be controlled by direct measurement of water content, making allowance for any surface water in the fine and coarse aggregates. Allowance shall be made for surface water present in the

aggregate when computing the water content. Surface water shall be determined by one of the field methods described in IS: 2386, Part III.

**e) CONSISTENCY AND SLUMP:**

The concrete shall have a consistency such that it will be workable in the required position. It shall be of such consistency that when properly vibrated it will flow around reinforcing steel and all embedded parts. The slump for concrete as determined by slump tests as per Indian Standard 456 (latest edition) shall not exceed the maximum slumps indicated below for each type of construction as approved by the Engineer-in-charge.

| Workability | Slum in MM Min. | Max. | Type of Construction |
|---|---|---|---|
| Medium | 40 | 80 | All RCC works |

The contractor shall not place concrete having a slump outside the limits specified without the approval of the Engineer-in-charge.

Atleast one slump test shall be made for every compressive strength test carried out. More frequent tests shall be made if there is a distinct change in job conditions or if required by the Engineer-in-charge.

**f) TESTS:**

Test shall conform to the specifications laid down in IS: 456. These tests shall be got done in an approved laboratory and in accordance with IS: 516 - Latest at the cost of the Contractor (for making necessary cube moulds, transporting the cubes to the Laboratory and all other incidental etc.). The test fees for the cubes shall be borne by the contractor. In order to ensure proper quality control sampling of the concrete of each specification placed on any day in work shall be done in accordance with the following table.

| Quantity of Concrete in work | Total Number of samples(each sample to consist of 6 test cubes) |
|---|---|
| Upto 5.00 Cu.m. | 1 |
| Greater than 5.00 Cu.m.and less than 15.00 Cu.m | 2 |
| Greater than 15.00 Cu.m.and less than 30.00 Cu.m. | 3 |
| Greater than 30.00 Cu.m.and less than 50.00 Cu.m. | 4 |
| Greater than 50.00 Cu.m. | 4 + one additional sample for each additional 50 Cu.m. or part thereof. |

**i)** The sampling shall be spread as evenly as possible throughout the day. When wide changes in weather conditions occur during concreting, additional samples may be taken as desired by Engineer-in-charge. Each sample shall consist of 6 cubes of 15 x 15 x 15 cm concrete. Test cubes shall be kept immersed in water until required for test which will be usually at 7 days and minimum crushing strength of not less than the following:

| Grade of Concrete | M15 | M20 | M25 | M30 | M35 | M40 |
|---|---|---|---|---|---|---|
| Crushing strength in N/mm2 at the end of | | | | | | |
| a) 7 days | 10 | 13.50 | 17 | 20 | 23.50 | 27 |

| | | | | | | |
|---|---|---|---|---|---|---|
| b) 28 days | 15 | 20 | 25 | 30 | 35 | 40 |

All costs connected with the preliminary tests for proportioning the mix, sampling, curing, handling, other incidental charges, labour charges and cost of materials shall be borne entirely by the Contractor. Testing charges for cubes (work tests) shall be borne by contractor. Such testing shall normally be conducted at the BHEL Central Laboratory or any other approved laboratory as directed by the Engineer-in-charge.

All samples for tests shall be taken in the presence of Engineer-in-charge and the Contractor or his authorised agents.

A set of six specimens from random mixer batches, shall constitute a test, three being tested for 7 days and three being tested for 28 days strength.

The strength test result shall be the average strength of the three companion test specimens, tested at 28 days, except that, if one specimen in a test shows manifest evidence of improper sampling, moulding or testing, the result shall be discarded and the remaining two strengths averaged.

**ii)** Normally, 7 days and 28 days tests shall be made on specimens. For any mix, a correlation between 7 days and 28 days strengths may be made in the laboratory. Soon after a job starts, a similar correlation will be evolved for samples of a concrete taken from the mixer. After that correlation has been established, the results of the 7 days test may be used as an indicator of the compressive strength which should be expected at 28 days, provided such results are consistent, if 7 days tests shown compressive strength that are too low, corrective measures shall be taken atonce, at the Engineer's direction, without waiting for the results of the 28 days tests.

**iii)** Each class of concrete shall meet the following strength requirements:

The average of any three consecutive strength tests shall have a value equal to or greater than the specified strength subject to the condition that only one out of three consecutive tests may give a value less than the specified strength but this shall not be less than 90% of the specified strength.

**iv)** In the event that concrete tested in accordance with the requirements of this specification, fails to meet the requirement, the Engineer shall have the right to require any one or all the following.

1. Changes in the concrete mix proportions for the remaining work.
2. Curing and testing of the concrete represented by the tests which failed.
3. **Replacement of any such portions of the structure. (No payment for dismantled concrete, associated from worker or reinforcement shall be made. Embedded fixtures, reinforcement and adjoining structures, damaged during dismantling shall be made good by the Contractor at his own expense).**
4. Extended curing of the concrete represented by the specimen.
5. The contractor shall carry out all such measures as directed at his own expense.

Load tests of structural members may be required by the Engineer when the strength of the job control tests falls below the required strength and is not acceptable as per “Acceptance Criteria” stated earlier. The entire cost of the load test shall be borne by the Contractor. If the load testing is decided by the Engineer, the member under consideration shall be subjected to a superimposed load equal to one and quarter (1.25) times the specified superimposed load used for design and this load shall be maintained for a period of 24 hours before removal.

The detailed procedure of the test shall be decided by the Engineer-in-charge.

If, within 24 hours of the removal of the load, the structure does not show a recovery of atleast 75 percent of the deflection after the 24 hours under load, the test should be repeated. The structure should be considered to have failed to pass the test if the recovery after the second test is not atleast 80 percent of the maximum deflection occuring during the second test.

If the member shows evident failure, such changes as are necessary to make the structure adequately strong, shall be made by the contractor free of cost to the Department. If on the other hand, the failure becomes apparent, the Engineer under special circumstances, can retain the portion of the structure under test, provided suitable strengthening and or load dispersed arrangement is feasible. Cost of such strengthening or load dispersed arrangement shall be borne by the Contractor.

Load test shall not be made until the expiry of 56 days of effective hardening of the concrete.
If a portion of the structure is found to be unacceptable it shall be dismantled and replaced by a fresh structure as per specification. The cost of such dismantling and reconstruction should be borne by the Contractor.

The proportions of cement, fine aggregate, coarse aggregate and water necessary to produce a concrete mix which will fulfill the requirements of this specification for each grade of concrete shall be determined on the basis of trial mixes conducted with the samples of the material to be used in the work by the Engineer-in-charge in the field Laboratory.

All mix design and test data and results shall be maintained as part of the record of the contract and shall be signed by the Engineer-in-charge and the Contractor. A register showing such record shall be maintained at site of work as shown below.

**BHEL APPROVED BRANDS FOR THE FOLLOWING MATERIALS / ITEMS**

| Sl. No. | Material | Manufacturing Co. | Brand |
|---|---|---|---|
| 1. | Synthetic Enamel Paint | Asian<br>Berger<br>ICI | Apcolite<br>Luxol<br>Dulux gloss |
| 2. | Aluminium Paint | Berger | Berger Aluminium |
| 3. | Interior Emulsion | Asian<br>Berger<br>ICI | Royale<br>Luxol Silk<br>Supercote |
| 4. | Exterior Emulsion | Asian<br>ICI | ACE<br>Supercote |
| 5. | Distemper | Asian<br>Berger<br>ICI | Tractor<br>Bison<br>Maxilite |
| 6. | Cement Paint | Snowcem<br>Agsarcem | Snowcem<br>Agsarcem |
| 7. | A.C. Sheets | Everest India Ltd.<br>Hyderabad India Ltd.<br>Visaka Industries Ltd.<br>Ramco | Everest I<br>Charminar<br>Visaka<br>Ramco |
| 8. | G.I. Pipes | TATA<br>Zenith | TATA<br>Zenith |
| 9. | PVC Pipes | Avonplast<br>Finolex<br>Truebore<br>Vignesh | Avonplast<br>Finolex<br>Truebore<br>Vignesh |

**In addition, CPWD approved brands shall also be considered based on written requests from contractor including for the materails which are not listed above. However, the decision of engineer in charge is final**.

# SECTION 6 - General Conditions of Contract (GCC)

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**CHAPTER -1**

## 1. GENERAL INSTRUCTION TO BIDDER

### 1.1. DESPATCH INSTRUCTION

i. The General Conditions of Contract form part of the Tender specifications. **For this tender, Bidder s shall use electronic Signature viz Digital Signature Certificate while uploading the tender documents on the GeM portal.** The information furnished shall be complete by itself. The Bidder is required to furnish all the details and other documents as required in the following pages.

ii. Bidder are advised to study all the tender documents carefully. Any submission of tender by the Bidder shall be deemed to have been done after careful study and examination of the tender documents and with the full understanding of the implications thereof. Should the Bidder have any doubt about the meaning of any portion of the Tender Specification or find discrepancies or omissions in the drawings or the tender documents issued are incomplete or shall require clarification on any of the technical aspect, the scope of work etc., he shall at once, contact the authority inviting the tender well in time (so as not to affect last date of submission) for clarification before the submission of the tender. Tenderer's request for clarifications shall be with reference to Sections and Clause numbers given in the tender documents. The specifications and terms and conditions shall be deemed to have been accepted by the Bidder in his offer. Non-compliance with any of the requirements and instructions of the tender enquiry may result in the rejection of the tender.

iii. Integrity pact (IP) shall be applicable for all tenders / contracts if indicated in NIT. This IP shall be issued as part of the Tender documents and shall be submitted by the Bidder along with Techno-commercial bid duly filled, signed and stamped by the authorized signatory who signs the bid. Entering into this pact shall be a preliminary qualification.

### 1.2. SUBMISSION OF TENDERS

1.2.1. The Bidder must submit their tenders to Officer inviting tender as per instructions in the NIT. Tenders shall be submitted through GeM portal as per instruction in NIT.

1.2.2. Bidder to upload offers well in advance in order to avoid last minute congestion in GeM website. However, after submission of the tender, the Bidder can re-submit revised tender but before due date and time of submission of tender as notified.

1.2.3. Tenders shall be opened by Officer of BHEL at the time and date as specified in the NIT ( or as per Corrigendum issued subsequently). For this tender, Bidder s may attend through online mode, if provisions are available in GeM portal.

1.2.4. Bidder whose bids are found techno commercially qualified shall be notified through GeM system about the date and time of opening of the Price Bids. BHEL's decision in this regard shall be final and binding.

1.2.5. The information given in the tender documents is for general guidance and shall not be construed as contractually binding on BHEL/ Owner. All relevant site data/ information as may be necessary for bidding shall have to be obtained/ collected by the Tenderer.

1.2.6. The Bidder are advised to physically visit the site to acquaint and satisfy themselves about the weather conditions, working culture in the area, socio- political environment, safety & security aspects, law & order situation, law of the land, transportation routes, various distances, surroundings of plant/ project premises together with all statutory, obligatory, mandatory requirements of various authorities and obtain for themselves all necessary information as to the risks, contingencies and all other circumstances, which may influence or affect the discharge of various obligations under the Contract during contract period including extended period (if any).

1.2.7. The submission of bid will tantamount to due diligence having been done and it shall be deemed that:

a) the Bidder has obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Works
b) the Bidder accepts total responsibility for having foreseen all difficulties and costs of successfully completing the Works
c) the Bidder accepts that, the Contract Price shall not be adjusted to take account of any unforeseeable or unforeseen difficulties or costs and the Bidder shall not raise any claims/ disputes against BHEL and/ or Owner at later date in any manner whatsoever.

**1.3. LANGUAGE**

1.3.1 The Bidder shall quote the rates in English language and international numerals. These rates shall be entered in figures as well as in words. Bidder are requested to refer the clauses of NIT/ Vol-II "Price Bid" for more details. For the purpose of the tenders, the metric system of units shall be used.

1.3.2 All entries in the tender shall either be typed or written legibly in ink. Erasing and over-writing is not permitted and may render such tenders liable for rejection. All cancellations and insertions shall be duly attested by the tenderer.

1.13.3 The language for Communication shall be "ENGLISH" with respect to all correspondence between the Bidder and BHEL

1.13.4 All orders, letters, eMails, notices served under this contract shall be in "ENGLISH" only

**1.4 PRICE DISCREPANCY:**

1.4.1 Price Bid opening: During opening of price bids, if there is any difference between the amount in figures and in words, the amount quoted by the Bidder in words shall be taken as correct.

1.4.2 Reverse Auction: In case of Reverse Auction, the successful Bidder shall undertake to execute the work as per overall price offered by him during the Reverse Auction process. (Guidelines as available on www.bhel.com on "supplier registration page".)

**1.5 QUALIFICATION OF BIDDER**

i. Only Bidder who have previous experience in the work of the nature and description detailed in the Notice Inviting Tender and/or tender specification are expected to quote for this work duly detailing their experience along with offer.
ii. Offers from Bidder who do not have proven and established experience in the field shall not be considered.
iii. The offers of the Bidder s who are on the debarred list shall be rejected. Further, offer of the Bidder s, who engage the services of the debarred firms or associated with the debarred firm, for present bid, shall also be rejected. The list of debarred firms is available on BHEL web site www.bhel.com.
iv. Offers from Bidder who do not comply with the latest guidelines of Ministry/Commissions of Govt. of India shall not be considered.

**1.6 EVALUATION OF BIDS**

i. Technical Bids submitted by the Bidder will be opened first and evaluated for fulfilling the Pre-Qualification criteria and other conditions in NIT/Tender documents, based on documentary evidences submitted along with the offer.

ii. In case the same qualifying experience is claimed by more than one agency, then:
   a. The agency who has executed the work as per documentary evidence submitted shall only be qualified. Scope of qualifying work should be totally with the agency who has executed and in case it is only labour and consumables without T&P, then the credentials of execution is assigned to the first agency and not to the agency who has executed only as labour supply contractor. Further, BHEL reserves the right to ask for any other proof for the said job.

   b. However, if the same is on account of subletting, part of scope by one agency to another agency in a project of BHEL, experience of both the agencies may be considered for the sublet portion of the work provided subletting has been done with the approval of BHEL.

iii. In case the qualifying experience is claimed by Bidder is based on 'Work Order' and 'Experience Certificates' from any organization other than BHEL (main agency), then it shall be the responsibility of the Bidder to submit (in addition to the experience certificate from main agency) relevant certificate regarding qualifying experience from the end Customer or the Turnkey-Contractor (if any) who has awarded the work to main agency, as a proof for having executed subject qualifying work. BHEL reserves the right to ask for any other proof for the said job.

iv. Assessing Bidder 's Capacity for executing the current tender shall be as per Notice Inviting Tender.

v. Price Bids of shortlisted Bidder s shall only be opened through the electronic price bid opening with/without Reverse Auction, at the discretion of BHEL. Unless specified otherwise in the tender, the L1 Bidder amongst all the shortlisted Bidder s shall be considered for award. However, the L1 Bidder shall have no claim on the award & BHEL reserves the right to award the tender at its sole discretion.

vi. Price Bids of unqualified Bidder s shall not be opened. Reasons for rejection shall be intimated in due course either through system generated e-mail or through letter/e-mail after award to successful Bidder .

vii. Bidder s are advised to also refer to clause no 2.9.4 regarding evaluation of their performance in ongoing projects.

**1.7 DATA TO BE ENCLOSED**

Full information shall be given by the Bidder in respect of the following. Non- submission of this information may lead to rejection of the offer.

i) **INCOME TAX PERMANENT ACCOUNT NUMBER**

Certified copies of Permanent Account Numbers as allotted by Income Tax Department for the Company/Firm/Individual Partners etc. shall be furnished along with tender.

ii) An attested copy of the Power of Attorney, in case the tender is signed by an individual other than the sole proprietor.

iii) The organization chart of the tenderer's organization, including the names, addresses and contact information of the Directors/Partners shall be furnished along with the offer.

iv) **IN CASE OF INDIVIDUAL TENDERER:**
His / her full name, address, PAN and place & nature of business.

v) **IN CASE OF PARTNERSHIP FIRM:**
The names of all the partners and their addresses, copy of self attested PAN of all the individual partners, copy of the partnership deed/ instrument of partnership dully certified by the Notary Public shall be enclosed.

vi) **IN CASE OF COMPANIES:**

a) Date and place of registration including date of commencement certificate in case of Public Companies (certified copies of Memorandum and articles of Association are also to be furnished).
b) Nature of business carried on by the Company and the provisions of the Memorandum relating thereof.

**1.8 AUTHORIZATION AND ATTESTATION**

Tenders shall be signed by a person duly authorized/empowered to do so, for which a Power of Attorney is to be submitted along with the tender offer. For company, a Power of Attorney (as per format in Annexure-15) shall be submitted.

**1.9 EARNEST MONEY DEPOSIT**

1.9.1 Every tender must be accompanied by the prescribed amount of Earnest Money Deposit (EMD) in the manner described herein.

i. EMD shall be furnished before tender opening / along with the offer in full as per the amount indicated in the NIT.

ii. The EMD up to an amount of Rs. 2 Lakh is to be paid only in the following forms:
   a. Cash deposit as permissible under the extant Income Tax Act (before tender opening).
   b. Electronic Fund Transfer credited in BHEL account (before tender opening).
   c. Banker's cheque / Pay order / Demand draft, in favour of 'Bharat Heavy Electricals
   d. Limited' and payable at Regional HQ issuing the tender (along with offer).
   e. Insurance Surety Bonds
   f. In case EMD amount is more than Rs. Two Lakhs, Bidder has the option to submit the amount in excess of Rs. Two lakhs in the forms described above in clause no. 1.7.1. ii) (a) to (e) or in the form of Bank Guarantee from Scheduled Bank (along with the Offer). The Bank Guarantee in such cases shall be valid for at least six months from the due date of tender submission. The Bank Guarantee format for EMD shall be in the prescribed formats.

iii. No other form of EMD remittance shall be acceptable to BHEL.
iv. Proof of EMD: Bidder shall upload the scanned copy of EMD along with bid submission through GeM Portal. However, for the purpose of realization, the Bidder shall send the demand draft/ banker's cheque/ pay order/ Bank Guarantee/ Insurance Surety Bonds, in original, to the designated officer through post/courier or by hand within reasonable time.

1.9.2 EMD by the Bidder will be forfeited as per NIT conditions, if:

i. After opening the tender and within the offer validity period, the Bidder revokes his tender or makes any modification in his tender which is not acceptable to BHEL. OR
ii. The successful Contractor, on whom the work has been awarded, fails to deposit the required Security deposit or commence the work within the period as per LOI/ LOA/ Contract or refuse to accept the LIO/LOA/Contract.

EMD by the Bidder shall be withheld in case any action on the Bidder is envisaged under the provisions of extant "Guidelines on Suspension of business dealings with suppliers/ contractors" of BHEL and forfeited/ released based on the action as determined under these guidelines.

1.9.3 EMD shall not carry any interest.

1.9.4 EMD given by all unsuccessful Bidder shall be refunded normally within fifteen days of award of work.

1.9.5 Cash portion of EMD of successful Bidder will be retained as part of Security Deposit. EMD submitted in the form of Bank Guarantee shall be retained by BHEL until the receipt of the Security Deposit.

**1.10 SECURITY DEPOSIT**

1.10.1 Upon acceptance of Tender, the successful Bidder shall be required to deposit the 5% of the contract value as Security Deposit towards fulfilment of any obligations in terms of the provisions of the contract.

1.10.2 The Security Deposit shall be furnished before start of the work by the contractor.

1.10.3 The required Security Deposit may be accepted in the following forms.

i) Cash (as permissible under the extant Income Tax Act).
ii) Local cheques of Scheduled Banks (subject to realization)/ Pay Order/ Demand Draft/ Electronic Fund Transfer in favour of BHEL.
iii) Securities available from Indian Post offices such as National Savings Certificates, Kisan Vikas Patras etc. (held in the name of Contractor furnishing the security and duly endorsed/ hypothecated/ pledged, as applicable, in favour of BHEL).
iv) Bank Guarantee from Scheduled Banks/ Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format for Security Deposit shall be in the prescribed formats.
v) Insurance Surety Bonds.

**Note:**

i) BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith.
ii) In case of delay in submission of Security Deposit, enhanced security deposit which would include interest (Repo rate + 4%) for the delayed period, shall be submitted by the Bidder before submission of first bill

1.10.4 The Security Deposit shall not carry any interest.

1.10.5 In case the value of work exceeds the awarded / accepted value, the Security Deposit shall be correspondingly enhanced as given below:

i) The enhanced part of the Security Deposit shall be immediately deposited by the Contractor or adjusted against payments due to the Contractor.
ii) Contract value for the purpose of operating the increased value of Security Deposit due to Quantity Variation, shall be exclusive of Price Variation Clause, Over Run Compensation and Extra works done on man-day rates.
iii) The recoveries made from running bills can be released against submission of equivalent Bank Guarantee in acceptable form, but only once, before completion of work, with the approval of competent authority of BHEL.

1.10.6 The validity of Bank Guarantees towards Security Deposit shall be valid till actual completion of work + Maintenance period (Defects Liability Period) + 3 months.

1.10.7 BHEL reserves the right of forfeiture of Security Deposit in addition to other claims, damages and remedies in the event of the Contractor's failure to fulfill any of the contractual obligations or in the event

of termination of contract as per terms and conditions of contract. BHEL reserves the right to set off the Security Deposit against any claims of other contracts with BHEL by giving prior notice to the contractor.

**1.11 RETURN OF SECURITY DEPOSIT**

Security Deposit shall be released to the contractor upon fulfilment of contractual obligations as per terms of the contract including completion of Maintenance period (Defects Liability Period) after deducting all expenses / other amounts due to BHEL under the contract.

The Security Deposit will be refunded to the contractor in respect of all contracts on completion of work and after payment of final bill and on expiry of the maintenance period (Defects Liability Period), provided the contractor shall have rendered a "No-Demand" Certificate. In case of works where maintenance period (Defects Liability Period) is not involved 100% of the Security Deposit may be refunded after payment of final bill provided that the contractor shall have rendered a "No-Demand Certificate

**1.12 BANK GUARANTEES**

Where ever Bank Guarantees are to be furnished/submitted by the contractor, the following shall be complied with

i. Bank Guarantees shall be from Scheduled Banks / Public Financial Institutions as defined in the Companies Act. Bank Guarantees issued by Co-Operative Banks/ Financial Institutions shall not be accepted.
ii. The Bank Guarantees shall be as per prescribed formats.
iii. It is the responsibility of the Bidder to get the Bank Guarantees revalidated/extended for the required period as per the advice of BHEL. BHEL shall not be liable for issue of any reminders regarding expiry of the Bank Guarantees.
iv. In case extension/further extensions of any Bank Guarantees are not required, the Bidder s shall ensure that the same is explicitly endorsed by the Construction Manager and submitted to the BHEL unit issuing the LOI/LOA.
v. In case the Bank Guarantees are not extended before the expiry date, BHEL reserves the right to invoke the same by informing the concerned Bank in writing, without any advance notice/communication to the concerned Bidder .
vi. Bidder s to note that any corrections to Bank Guarantees shall be done by the issuing Bank, only through an amendment in an appropriate non judicial stamp paper.
vii. The Original Bank Guarantee shall be submitted to BHEL Trichy/ WCM dept of BHEL unless specified otherwise in TCC.

**1.13 VALIDITY OF OFFER**

The rates in the Tender shall be kept open for acceptance for a minimum period of **SIX MONTHS** from latest due date of offer submission (including extension, if any). In case BHEL (Bharat Heavy Electricals Ltd) calls for negotiations, such negotiations shall not amount to cancellation or withdrawal of the original offer which shall be binding on the Bidder .

**1.14 EXECUTION OF CONTRACT AGREEMENT**

The successful tenderer's responsibility under this contract commences from the date of issue of the Letter of Award by Bharat Heavy Electricals Limited. The successful Bidder shall be required to execute an agreement in the prescribed form, with BHEL, within a reasonable time after the acceptance of the Letter of Award, and in any case before releasing the first running bill. The contract agreement shall be signed by a person duly authorized through /empowered by the tenderer. The expenses for preparation of agreement document shall be borne by BHEL. The contractor shall furnish a "Non Judicial Stamp Paper" of appropriate value (as of now Rs 100/-) for execution of the agreement

**1.15 REJECTION OF TENDER AND OTHER CONDITIONS**

1.15.1 The acceptance of tender will rest with BHEL which does not bind itself to accept the lowest tender nor any tender and reserves to itself full rights for the following without assigning any reasons whatsoever: -

a) To reject any or all of the tenders.
b) To split up the work amongst two or more Bidder as per NIT.
c) To award the work in part if specified in NIT.
d) In case of either of the contingencies stated in (b) and (c) above, the time for completion as stipulated in the tender shall be applicable.

1.15.2 Conditional tenders, unsolicited tenders, tenders which are incomplete or not in the form specified or defective or have been materially altered or not in accordance with the tender conditions, specifications etc. are liable to be rejected.

1.15.3 Tenders are liable to be rejected in case of unsatisfactory performance of the Bidder with BHEL or Bidder under suspension (debarred) by any unit / region / division of BHEL or Bidder who do not comply with the latest guidelines of Ministry/Commissions of Govt of India.

1.15.4 If a Bidder who is a proprietor expires after the submission of his tender or after the acceptance of his tender, BHEL may at their discretion, cancel such tender. If a partner of a firm expires after the submission of tender or after the acceptance of the tender, BHEL may then cancel such tender at their discretion, unless the firm retains its character. In case BHEL resolves to cancel the tender under this clause, BHEL will issue a notice in this regard containing reasons as to the cancellation of tender. The contractor shall be required to furnish his response to such notice within a period of 14 days from the date of receipt of such notice through any means (BHEL reserves the right to decrease the period upto 05 days). BHEL after due consideration of the representation made by contractor shall communicate its final decision within a reasonable period.
In case contractor fails to submit any response to the notice issued by BHEL within the period stipulated in the notice, BHEL at its discretion may proceed to cancel the contract.
Contractor shall not be eligible for any compensation whatsoever for the cancellation of contract under this clause

1.15.5 BHEL will not be bound by any Power of Attorney granted by changes in the composition of the firm made subsequent to the execution of the contract. BHEL may, however, recognize such power of Attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the contractor concerned.

1.15.6 If the Bidder deliberately gives wrong information in his tender, BHEL reserves the right to reject such tender at any stage or to cancel the contract if awarded and forfeit the Earnest Money/Security Deposit/any other money due.

1.15.7 Canvassing in any form in connection with the tenders submitted by the Bidder shall make his offer liable to rejection.

1.15.8 In case the Proprietor, Partner or Director of the Company/Firm submitting the Tender, has any relative or relation employed in BHEL, the authority inviting the Tender shall be informed of the fact as per specified format, along with the Offer. Failing to do so, BHEL may, at its sole discretion, reject the tender or cancel the contract and forfeit the Earnest Money/Security Deposit.

1.15.9 The successful Bidder (Contractor) shall not sub-contract any portion of work detailed in the tender specification undertaken by him without written permission of BHEL's Construction Manager/Site in charge. BHEL, at its discretion, may consider the written request from the Contractor and permit subletting of part scope. However, the Contractor is solely responsible to BHEL for the work awarded to him.

1.15.10 The Tender submitted by a techno commercially qualified Bidder shall become the property of BHEL who shall be under no obligation to return the same to the Bidder .

1.15.11 Unsolicited discount received after the due date and time of Bid Submission shall not be considered for evaluation. However, if the party who has submitted the unsolicited discount/rebate becomes the L-1 party, then the awarded price i.e. contract value shall be worked out after considering the discount so offered.

1.15.12 BHEL shall not be liable for any expenses incurred by the Bidder in the preparation of the tender irrespective of whether the tender is accepted or not.

**1.16 INTIMATION OF CHANGE OF NAME/ RE-CONSTITUTION OF THE ORGANIZATION**

In the event of the organization (Proprietorship/Partnership/Company) undergoing any change of name or reconstitution, prior intimation of the same shall be given to BHEL. Upon such changes coming into effect, the same is to be intimated to BHEL immediately with supporting documents as applicable.

## CHAPTER-2

**2.1 DEFINITION:** The following terms shall have the meaning hereby assigned to them except where the context otherwise requires

i) BHEL shall mean Bharat Heavy Electricals Limited, a company registered under Indian Companies Act 1956, having its Registered Office at BHEL HOUSE, SIRI FORT, NEW DELHI – 110 049, and its office at .BHEL,Trichy or its Authorized Officers.

ii) "EXECUTIVE DIRECTOR" or "GENERAL MANAGER (In- charge)" or "GENERAL MANAGER" shall mean the Officer in Administrative charge of the respective UNIT/Power Sector Region.

iii) "COMPETENT AUTHORITY" shall mean BHEL Officers who are empowered to act on behalf of BHEL.

iv) "ENGINEER" or "ENGINEER IN CHARGE" shall mean an Officer of BHEL as may be duly appointed and authorized by BHEL to act as "Engineer" on his behalf for the purpose of the Contract, to perform the duty set forth in this General Conditions of Contract and other Contract documents. The term also includes 'CONSTRUCTION MANAGER' or 'SITE INCHARGE' as well as Officers of the respective units. For the purpose of joint measurement, verification, certification and/ ar approval of the work and/ or documents under the contract the word "Engineer" or "Engineer Incharge" shall be deemed to include the Engineers of the Customer and/ or his Consultant also.

v) "SITE" shall mean the places or place at which the plants/equipments are to be erected and services are to be performed as per the specification of this Tender.

vi) "CLIENT OF BHEL" or "CUSTOMER" shall mean the project authorities with whom BHEL has entered into a contract for supply of equipments or provision of services.

vii) "CONTRACTOR" shall mean the successful Bidder /Bidder who is awarded the Contract and shall include the Contractor's successors, heirs, executors, administrators and permitted assigns.

viii) "CONTRACT" or "CONTRACT DOCUMENT" shall mean and includes the Agreement or Work Order, the accepted appendices of Rates, Schedules, Quantities if any, Offer submitted by contractor including acceptance to General Conditions of Contract, Special Conditions of Contract, Instructions to the Bidder , Drawings, Technical Specifications, the Special Specifications if any, the Tender documents, subsequent amendments /corrigendum to Tender mutually agreed upon and the Letter of Intent/Award/Acceptance issued by BHEL. Any conditions or terms stipulated by the contractor in the tender documents or subsequent letters shall not form part of the contract unless, specifically accepted in writing by BHEL in the Letter of Intent/Award and incorporated in the agreement or amendment thereof.

ix) "GENERAL CONDITIONS OF CONTRACT" shall mean the 'Instructions to Bidder ' and 'General Conditions of Contract' pertaining to the work for which above tenders have been called for.

x) "TENDER SPECIFICATION" or "TENDER" or "TENDER DOCUMENTS" shall mean General Conditions, Common Conditions, Special Conditions, Price Bid, Rate Schedule, Technical Specifications, Appendices, Annexures, Corrigendums, Amendments, Forms, Procedures, Site information etc. and drawings/documents pertaining to the work for which the Bidder are required to submit their offers. Individual specification number will be assigned to each Tender Specification.

xi) "LETTER OF INTENT/ AWARD" shall mean the intimation by a Letter/Fax/email to the Bidder that the tender has been accepted in accordance with provisions contained in the letter. The responsibility of the contractor commences from the date of issue of this letter and all terms and conditions of the contract are applicable from this date.

xii) "COMPLETION TIME" shall mean the period by 'date/month' specified in the 'Letter of Intent/Award' or date mutually agreed upon for handing over of the intended scope of work, the erected equipment/plant which are found acceptable by the Engineer, being of required standard and conforming to the specifications of the Contract.

xiii) "PLANT" shall mean and connote the entire assembly of the plant and equipments covered by the contract.

xiv) "EQUIPMENT" shall mean equipment, machineries, materials, structural, electricals and other components of the plant covered by the contract.

xv) "TESTS" shall mean and include such test or tests to be carried out on the part of the contractor as are prescribed in the contract or considered necessary by BHEL in order to ascertain the quality, workmanship, performance and efficiency of the contractor or part thereof.

xvi) "APPROVED", "DIRECTED" or "INSTRUCTED" shall mean approved, directed or instructed by BHEL.

xvii) "WORK or CONTRACT WORK" shall mean and include supply of all categories of labour, specified consumables, tools and tackles and Plants required for complete and satisfactory site transportation, handling, stacking, storing, erecting, testing and commissioning of the equipments to the entire satisfaction of BHEL.

xviii) "SINGULAR AND PLURALS ETC" words carrying singular number shall also include plural and vice versa, where the context so requires. Words imparting the masculine Gender shall be taken to include the feminine Gender and words imparting persons shall include any Company or Associations or Body of Individuals, whether incorporated or not.

xix) "HEADING" – The heading in these General Conditions are solely for the purpose of facilitating reference and shall not be deemed to be part thereof or be taken as instructions thereof or of the contract.

xx) "MONTH" shall mean calendar month unless otherwise specified in the Tender.

xxi) 'Day' or 'Days' unless herein otherwise expressly defined shall mean calendar day or days of twenty-four (24) hours each. A Week shall mean continuous period of seven (7) days.

xxii) "COMMISSIONING" shall mean the synchronization testing and achieving functional operation of the Equipment with associated system after all initial adjustments, trials, cleaning, re-assembly required at site if any, have been completed and Equipment with associated system is ready for taking into service.

xxiii) "WRITING" shall include any manuscript type written or hand written or printed statement or electronically transmitted messages, under the signature or seal or transmittal of BHEL.

xxiv) "TEMPORARY WORK" shall mean all temporary works for every kind required in or for the execution, completion, maintenance of the work.

xxv) 'CONTRACT PRICE' or 'CONTRACT VALUE' shall mean the sum mentioned in the LOI/LOA/Contract Agreement subject to such additions thereto or deductions there from as may be made under provisions hereinafter contained.

xxvi) 'EXECUTED CONTRACT VALUE' shall mean actual value of works executed by the contractor and certified by BHEL. This value shall not include PVC, ORC, Extra Works and Taxes.

xxvii) "COMMENCEMENT DATE" or "START DATE" shall mean the commencement/start of work at Site as per terms defined in the Tender.

xxviii) "SHORT CLOSING" or "FORE CLOSING" of Contract shall mean the premature closing of Contract, for reasons not attributable to the contractor and mutually agreed between BHEL and the contractor.

xxix) "TERMINATION" of Contract shall mean the pre mature closing of contract due to reasons as mentioned in the contract.

xxx) "DE MOBILIZATION" shall mean the temporary winding up of Site establishment by Contractor leading to suspension of works temporarily for reasons not attributable to the contractor.

xxxi) "RE MOBILIZATION" shall mean the resumption of work with all resources required for the work after demobilization.

xxxii) "OVERRUN CHARGES (ORC)" shall mean and include all the costs incurred by the Contractor during the extended period of the contract, including but not limited to any cost arising out of idle labour, administrative cost, T & P and machinery.

**2.2 LAW GOVERNING THE CONTRACT AND COURT JURISDICTION**
The contract shall be governed by the Laws of India. Subject to clause 2.15 of this contract, the Civil Court having original Civil Jurisdiction at Tiruchirappalli, shall alone have exclusive jurisdiction in regard to all matters in respect of the Contract.

**2.3 ISSUE OF NOTICE**
**2.3.1 Service of notice to the Contractor**
Any notice to be given to the Contractor under the terms of the contract shall be served by sending the same by Email/ Registered Post/Speed Post to or leaving the same at the Contractor's last known address of the principal place of business (or in the event of the contractor being a company, to or at its Registered Office). In case of change of address, the notice shall be served at changed address as notified in writing by the Contractor to BHEL. Such dispatch or display posting or leaving of the notice as the case may be shall be deemed to be good service of such notice and the time mentioned to the condition for doing any act after notice shall be reckoned from the date so mentioned in such notice.

**2.3.2 Service of notice to BHEL**
Any notice to be given to BHEL In-charge of the Region under the terms of the Contract shall be served by sending the same by Registered/AD or Speed post to BHEL address or changed address as notified in writing by BHEL to the Contractor.

**2.4 USE OF LAND**
No land belonging to BHEL shall be occupied by the contractor without written permission of BHEL.

**2.5 COMMENCEMENT OF WORK**
2.5.1 The contractor shall commence the work as per the time indicated in the Letter of Intent/Award from BHEL and shall proceed with the same with due expedition without delay.
2.5.2 If the contractor fails to start the work within stipulated time as per LOI/ LOA or as intimated by BHEL, then BHEL at its sole discretion shall have the right to cancel the contract. The Earnest Money and/or Security Deposit furnished by the contractor to under this tender will stand forfeited without any further reference to him and without prejudice to BHEL's other rights and remedies under this contract and the applicable laws in this regard.
2.5.3 All the work shall be carried out under the direction and to the satisfaction of BHEL.

**2.6 MEASUREMENT OF WORK AND MODE OF PAYMENT:**
2.6.1 All payments due to the contractors shall be made by e mode only, unless otherwise found operationally difficult for reasons to be recorded in writing and approved by contract executing department.

2.6.2 All items having a financial value shall be entered in the B.H.E.L Measurement Book so that a complete record is obtained of all works performed under the Contract.Buildings, etc., priced in Schedule 'A' as a unit lumpsum will be entered by number at the unit lumpsum.Work carried out for agreed lumpsum will be described and similarly recorded.Lumpsum omissions will be entered for deduction. Measurement shall be restricted to that required to ascertain the financial liability of B.H.E.L under the contract.Work which fails to be measured in detail shall be measured physically, without reference to any local custom that may obtain excepting where it may otherwise be directed in the tender documents. The measurements shall be taken jointly by any person duly authorized on the part of the BHEL and by the Contractor.

a) The contractor shall give not less than seven days' notice to the Engineer-in-Charge or his/her authorized representative in charge of the work before covering up or otherwise placing beyond the reach of checking and/or test checking the measurement of any work in order that the same may be checked and/or test checked and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of checking and/or test checking measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer-in-Charge or his/her authorized representative in charge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of checking and/or test checking measurements without such notice having been given or the Engineer-in-Charge's consent being obtained in writing the same shall be uncovered at the Contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

b) All measurements and levels recorded by the contractor or his authorized representative from time to time, during the progress of the work, shall be got checked by the contractor from the Engineer-in-Charge or his/her authorized representative as per interval or program fixed in consultation with Engineer-in-Charge or his/her authorized representative.

c) Measurement shall be restricted to that portion of work for which it is required to ascertain the financial liability of BHEL under this contract.

d) It is also a term of this contract that checking and/or test checking the measurements/ levels of any item of work in the measurement book and/or its payment in the interim, on account of final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.

e) All such measurements and levels of work done during previous month shall be recorded by the contractor and printed in pages of A-4 size as per the format of the department so that a complete record is obtained of all the items of works executed under the contract during the said period.

f) These measurement sheets shall be prepared jointly with BHEL Engineers and signed by both the parties. The basis of arriving at the quantities, weights shall be relevant documents and drawings released by BHEL.

g) Based on the above measurement sheets, contractor shall work out the financial value of the same as per the agreed price schedule in a prescribed format and submit the same as an abstract.

h) The Measurement sheets and abstracts, of work done during previous month (along with soft copy in MS-Excel in prescribed format) shall be computerized and submitted in triplicate through letter of transmittal to the Engineer-in-charge by seventh day of succeeding month. One copy shall be acknowledged & returned.

i) On submission of documents mentioned above, upon verification by the Engineer-in-charge and/or his/her authorized representative, if any change is required, then the same shall be done by the Engineer-in-charge and/or his/her authorized representative in the same under the dated initials signature, name and designation of the person seeking the change in two copies of such documents. All changes are to be finally authorized by the Engineer-in-Charge.

j) Thereafter one copy of the corrected Measurement sheets & Abstract shall be sent by the Engineer-in-charge to the contractor and the other copy shall be retained by the Engineer-in-charge in his office. If there is no correction, the same shall be recorded by the Engineer-in-charge and sent to the contractor.

k) The contractor shall then have to submit final Measurement sheets & abstract without any corrections, in triplicate through letter of transmittal signed by the authorized signatory of the contractor to the Engineer-in-Charge who shall get it cross checked from the already corrected Measurement sheets & Abstract.

l) During submission of final Measurement sheets & abstract, the contractor shall have to submit GST Complaint Invoice copies (5 Originals) in a prescribed format along with supporting documents such as

a) Two copies of Statutory compliance details such as
   I. Attendance register,
   II. Wage register,
   III. Bank statement as a proof for remitting wages to Labors/persons engaged,
   IV. ESI, PF & Bonus (both Employer and Employee contributions) amounts which are to be remitted for total wages to be paid and respective challans

   are to be produced along with invoices for all the respective Labors/persons engaged in the contract for the particular service period.

b) Details of bought out items by contractor
c) Quality documents as per Quality Assurance Plan

m) Once the Engineer-in-charge is satisfied that all measurements and abstract are free from any corrections, modifications, over-writings, and insertions etc., Final corrected measurements shall be entered in the E-Measurement Book, the same shall be printed & pasted in BHEL Measurement Book, signed and dated by both parties in such a manner that part of the signature appear on the computer generated statement and part on the Measurement Book sheet.

n) If the contractor fails to submit the measurements along with abstract of measurements for the work done continuously for two months, then the Engineer-In- charge shall get the executed work measured ex-parte after giving a notice of seven working days to the contractor in writing either through site order book or any other mode of correspondence. The ex-parte measurements so undertaken by the Engineer-in-Charge shall be final and binding on the Contractor outside the purview of Arbitration & reconciliation clause mentioned in the tender documents.

o) Resources deployed by the Engineer-in-charge for ex-parte measurements, subject to minimum of Rs 7500.00 per such two-monthly cycle of ex-parte measurement, shall be at the risk and cost of the contractor and shall be recovered from his bill. A copy of such ex-parte measurements shall be sent to the contractor for his record.

p) Upon the submission of the documents mentioned above and on completion of signing of BHEL Measurement Book by the authorized signatory of the contractor, the contractor's invoice will become eligible for payment processing.

q) Payment shall be made by BHEL after effecting the recoveries due from the contractor. All recoveries due from the contractor for the month/period shall be effected in full from the corresponding running bills unless specific approval from the competent authorities is obtained to the contrary.

r) The contractor shall, once every month, submit to the Engineer-in-charge with a copy to the Section-In charge/Department head details of his claims for the work done by him up to and including the previous month which are not covered by his Contract Agreement in any of the following respects;

a) Deviation from the items and Specifications provided in the contract documents.
b) Extra Items/New Items of work
c) Quantities in excess of those provided in the contract schedule.

d) Items in respect of which rates have not been settled. contractor should, in addition furnish a clear certificate to the effect that the claims submitted by him as aforesaid cover all his claim and that no further claims shall be raised by him in respect of the work done up to and including the period under report.

2.6.3 Except where any general or detailed description of the work in quantities expressly shows to the contrary, schedule of quantities shall be deemed to have been prepared and measurements shall be taken in accordance with the procedure set forth in the schedule of rates specification notwithstanding any provision in the relevant standard method of measurement or any general or local custom. In the case of items which are not covered by the schedule of rates / specification, measurements shall be taken in accordance with relevant standard method of measurement issued by the Indian Standard Institution or as per standard engineering practice.

2.6.4 All recoveries due from the contractor for the month/period shall be effected in full from the corresponding running bills unless specific approval from the competent authorities is obtained to the contrary.

2.6.5 The Contractor shall bear the expenditure involved if any, in making the measurements and testing of materials to be used/ used in the work. The contractor shall, without extra charges, provide all the assistance with appliances and other things necessary for measurement.

2.6.6 If at any time due to any reason whatsoever, it becomes necessary to re-measure the work done in full or in part, the expenses towards such re measurements shall be borne by the contractor unless such re measurements are warranted solely for reasons not attributable to contractor.

2.6.7Passing of bills covered by such measurements does not amount to acceptance of the completion of the work measured. Any left out work has to be completed, if pointed out at a later date by BHEL.

2.6.8 Final measurement bill shall be prepared in the final bill format prescribed for the purpose based on the certificate issued by BHEL Engineer that entire works as stipulated in tender specification has been completed in all respects to the entire satisfaction of BHEL. The Contractor shall submit the final bill in line with WAM 7 format as per tender documents with an additional recording of the dispute, if any and shall sign with the following declaration:

***I/ We hereby certify that I/We have performed the work as per the terms and conditions of Contract Agreement/Work Order No……dated……for which payment is claimed as above and that I/We have no further claim under this agreement/work order* except for the following (nature of claim with details & amount claimed, if any. NIL may be mentioned if there are no further claims). –***

***a)…….***
***b)……***
***c) ……..***

It is agreed that the authorized signatory of Contractor shall necessarily record his claims/ dispute in Form WAM 7 only and any claim(s)/ dispute in any other form/ letter shall not be taken cognizance of by BHEL and admissible before any forum. BHEL shall make the payment of undisputed amount within the stipulated time without any unreasonable delay.

All the tools and tackles loaned to him should be returned in satisfactory condition to BHEL. The abstract of final quantities and financial values shall also be entered in the Measurement Books and signed by both parties to the contract. The Final Bill shall be prepared and paid within a reasonable time after completion of work.

**2.7 RIGHTS OF BHEL**

BHEL reserves the following rights in respect of this contract during the original contract period or its extensions if any, as per the provisions of the contract, without entitling the contractor for any compensation.

**2.7.1** To withdraw any portion of work and/or to restrict/alter quantum of work as indicated in the contract during the progress of work and get it done through other agencies to fulfil BHEL's commitment to its customer or the date of completion is advanced due to other emergent reasons/ BHEL's obligation to its customer.

Where the contractor fails to deploy adequate manpower to meet the contractual target, BHEL reserves the right to deploy manpower to meet such shortfall, through any other agency for expediting activities in the interest of the project. Supplied manpower shall be put on job by the contractor. Fulfilling of all obligations towards payments and other statutory compliances related to such manpower shall be the contractor's responsibility. In case of contractor's failure to fulfill his obligations in respect of such manpower, BHEL shall be entitled to take action as provided herein.

**2.7.2 BREACH OF CONTRACT, REMEDIES AND TERMINATION**

**2.7.2.1** The following shall amount to breach of contract:

i. Non-supply of material/ non-completion of work by the Contractor within scheduled delivery/ completion period as per contract or as extended from time to time.
ii. The Contractorfails to perform as per the activity schedule and there are sufficient reasons even before expiry of the delivery/ completion period to justify that supplies shall be inordinately delayed beyond contractual delivery/ completion period.
iii. The Contractordelivers equipment/ material not of the contracted quality.
iv. The Contractorfails to replace the defective equipment/ material/ component as per maintenance clause.
v. Withdrawal from or abandonment of the work by the Contractorbefore completion as per contract.
vi. Assignment, transfer, subletting of Contract by the Contractorwithout BHEL's written permission resulting in termination of Contract or part thereof by BHEL.
vii. Non-compliance to any contractual condition or any other default attributable to Contractor
viii. Any other reason(s) attributable to Vendor towards failure of performance of contract. In case of breach of contract, BHEL shall have the right to terminate the Purchase Order/ Contract either in whole or in part thereof without any compensation to the Contractor.
ix. Any of the declarations furnished by the contractor at the time of bidding and/ or entering into the contract for supply are found untruthful and such declarations were of a nature that could have resulted in non-award of contract to the contractor or could expose BHEL and/ or Owner to adverse consequences, financial or otherwise.
x. Contractoris convicted of any offence involving corrupt business practices, antinational activities or any such offence that compromises the business ethics of BHEL, in violation of the Integrity Pact entered into with BHEL has the potential to harm the overall business of BHEL/ Owner.

**Note-Once BHEL considers that a breach of contract has occurred on the part of Contractor, BHEL shall notify the Contractorby way of notice in this regard. Contractor shall be given an opportunity to rectify the reasons causing the breach of contract within a period of 14 days.**

**In case the contractor fails to remedy the breach, as mentioned in the notice, to the satisfaction of BHEL, BHEL shall have the right to take recourse to any of the remedial actions available to it under the relevant provisions of contract.**

**2.7.2.2 LD against delay in executed work in case of Termination of Contract:**

LD against delay in executed work shall be calculated in line with LD clause no. 2.7.9 of GCC, for the delay attributable to contractor. For limiting the maximum value of LD, contract value shall be taken as Executed Value of work till termination of contract.
Method for calculation of "LD against delay in executed work in case of termination of contract" is given below.

i. Let the time period from scheduled date of start of work till termination of contract excluding the period of Hold (if any) not attributable to contractor = T1
ii. Let the value of executed work till the time of termination of contract= X
iii. Let the Total Executable Value of work for which inputs/fronts were made available to contractor and were planned for execution till termination of contract = Y
iv. Delay in executed work attributable to contractor i.e. T2=[1-(X/Y)] x T1
v. LD shall be calculated in line with LD clause (clause 2.7.9) of the Contract for the delay attributable to contractor taking "X" as Contract Value and "T2" as period of delay attributable to contractor.

**2.7.2.3 Remedies in case of Breach of Contract.**

i. Wherein the period as stipulated in the notice issued under clause 2.7.2 has expired and Contractor has failed to remedy the breach, BHEL will have the right to terminate the contract on the ground of "Breach of Contract" without any further notice to contractor.
ii. Upon termination of contract, BHEL shall be entitled to recover an amount equivalent to 10% of the Contract Value for the damages on account of breach of contract committed by the Contractor. This amount shall be recovered by way of encashing the security instruments like performance bank guarantee etc available with BHEL against the said contract. In case the value of the security instruments available is less than 10% of the contract value, the balance amount shall be recovered from other financial remedies (i.e. available bills of the contractor, retention amount, from the money due to the Contractor etc. with BHEL) or the other legal remedies shall be pursued.
iii. wherever the value of security instruments like performance bank guarantee available with BHEL against the said contract is 10% of the contract value or more, such security instruments to the extent of 10% contract value will be encashed. In case no security instruments are available or the value of the security instruments available is less than 10% of the contract value, the 10% of the contract value or the balance amount, as the case may be, will be recovered in all or any of the following manners:
iv. In case the amount recovered under sub clause (iii) above is not sufficient to fulfil the amount recoverable then; a demand notice to deposit the balance amount within 30 days shall be issued to Contractor.
v. If Contractor fails to deposit the balance amount within the period as prescribed in demand notice, following action shall be taken for recovery of the balance amount:
    a. from dues available in the form of Bills payable to defaulted Contractor against the same contract.
    b. If it is not possible to recover the dues available from the same contract or dues are insufficient to meet the recoverable amount, balance amount shall be recovered from any money(s) payable to Contractor under any contract with other Units of BHEL including recovery from security deposits or any other deposit available in the form of security instruments of any kind against Security deposit or EMD.
    c. In-case recoveries are not possible with any of the above available options, Legal action shall be initiated for recovery against defaulted Contractor.
vi. It is an agreed term of contract that this amount shall be a genuine pre-estimate of damages that BHEL would incur in completion of balance contractual obligation of the contract through any other agency and BHEL will not be required to furnish any other evidence to the Contractor for the purpose of estimation of damages.
vii. In addition to the above, imposition of liquidated damages, debarment, termination, de- scoping, short-closure, etc., shall be applied as per provisions of the contract.

Note:

1) The defaulting contractor shall not be eligible for participation in any of the future enquiries floated by BHEL to complete the balance work. The defaulting contractor shall mean and include:

(a) In case defaulted contractor is the Sole Proprietorship Firm, any Sole Proprietorship Firm owned by same Sole Proprietor.

(b) In case defaulted contractor is The Partnership Firm, any firm comprising of same partners/ some of the same partners (but not including any new partner); or sole proprietorship firm owned by any partner(s) as a sole proprietor.

2.7.4 In case Contractor fails to deploy the resources as per requirement informed by BHEL in writing to expedite the work, BHEL can deploy own/hired/otherwise arranged resources and recover the expenses incurred from the dues payable to contractor. Recoveries shall be actual expenses incurred plus 5% overheads or as defined in TCC.

2.7.5 To terminate the contract or to restrict the quantum of work and pay for the portion of work executed in case BHEL's contract with their customer are terminated for any reason, whatsoever.

2.7.6 Whenever any Claim or Claims for payment of any sum of money(s) arises under this or any other contract against the contractor, BHEL shall be entitled to withhold and also have a lien to retain such sum of money(s) in whole or in part from any money(s) payable to contractor and/or security deposits furnished or deducted in cash from the bills of contractor, (if any) under this contract. In the event of the securities or the amounts payable to Contractor, being insufficient to cover BHEL claims, then BHEL shall be entitled to withhold and have a lien to the extent of such claims from any sum or sums found payable or which at any time thereafter may become payable to the contractor under this or any other contract with BHEL.

a. Claim or Claims for payment of any sum of money(s) arising from the Contractor under this or any other contract against the contractor, shall mean, the sum of money(s) actually incurred by BHEL in fulfilling the contractual responsibilities of contractor under the contract, to which he has failed to fulfil plus applicable overheads (@ 5%) along with interest as applicable under the Contract on total amount (i.e. money actually incurred plus overheads)
b. It is an agreed term of the contract that, the sum or sums of money so withheld or retained under the lien by BHEL will be kept withheld or retained as such by BHEL till the claims arising out of this or any other contract are finally adjudicated wither through Arbitration or a Court of competent jurisdiction as the case may be in accordance with the terms of contract. Intimation given by the BHEL Engineer regarding withholding of such money(s) shall be considered as sufficient and relevant date for all purposes. No Interest shall be payable on such sum(s) of money which becomes due or as the case may be adjudged to be due from BHEL to Contractor, whether under contract or otherwise.
c. Where the contractor is a partnership firm, BHEL shall be entitled to withhold and also have a lien to retain towards such claims in whole or in part, from any other money(s) payable to any partner, whether in his individual capacity or otherwise.
d. If any money(s) shall, as a result of any claim or application made under the relevant provisions of any Labour Welfare Act and/ or Rules, including but not limited to Contract Labour Regulation & Abolition Act, Minimum Wages Act, Payment of Gratuity Act, Provident Fund Act, Employee State Insurance Act, be directed to be paid by the BHEL, such money shall be deemed to be moneys payable to the BHEL by the Contractor.
e. Where the Contractor fails to repay to BHEL such moneys along with applicable overheads (@ 5%) and interest, as aforesaid within seven days of being demanded, BHEL shall be entitled to recover the same from Contractor's bills/ Security Deposit or any other money(s) payable to Contractor under this Contract or any other Contract with BHEL.

2.7.7 While every endeavor will be made by BHEL to this end, yet BHEL cannot guarantee uninterrupted work due to conditions beyond its control. The Contractor will not be normally entitled for any compensation/extra payment on this account unless otherwise specified elsewhere in the contract.

2.7.8 BHEL may permit or direct contractor to demobilize and remobilize at a future date as intimated by BHEL in case of following situations for reasons other than Force majeure conditions and not attributable to contractor:

i) suspension of work(s) at a Project either by BHEL or Customer, or
ii) where work comes to a complete halt or reaches a stage wherein worthwhile works cannot be executed and there is no possibility of commencement of work for a period of not less than three months.

In such cases, charges towards demobilization and remobilization shall be as decided by BHEL after successful remobilization by contractor at site, and decision of BHEL shall be final and binding on the contractor. After remobilization, all conditions as per contract shall become applicable. In case Contractor does not remobilize with adequate resources or does not start the work within the period as intimated, then BHEL reserves the right to terminate the contract and effect remedies under Clause 2.7.2.2. In case of any conflict, BHEL decision in this regard shall be final and binding on the contractor.
2.7.9 In the unforeseen event of inordinate delay in receipt of materials, drawings, fronts etc. due to which inordinate discontinuity of work is anticipated, BHEL on its own or contractor's request at its discretion may consider to short close the contract in any of the following cases:

a. The balance works (including but not limited to Trial Operation, PG Test etc.) are minor vis a vis the scope of work envisaged as per the contract.
b. There has been no significant work in past 6 months OR no significant work is expected in next 6 months (example in Hydro projects or in projects where work has stopped due to reasons beyond the control of BHEL).
c. The balance works cannot be done within a reasonable period of time as they are dependent on unit shut down or on other facilities of customer or any other such reasons not attributable to the contractor.

At the point of requesting for short closure, contractor shall establish that he has completed all works possible of completion and he is not able to proceed with the balance works due to constraints beyond his control. In such a case, the estimated value of the unexecuted portion of work (or estimated value of services to be provided for carrying out milestone/stage payments like Trial Operation/PG Test etc.) as decided by BHEL, shall however be reduced from the final contract value.
**Note:** The Contractor shall not be eligible for any compensation on account of Quantity Variation arising out of short-closure of contract as per clause no. 2.79 (b) above.

### 2.7.9 LIQUIDATED DAMAGES –

Liquidated Damages, wherever referred under this Tender/Agreement, shall mean and refer to the damages, not in the nature of penalty, which the contractor agrees to pay in the event of delay in delivery of stores, installation, commissioning, breach of contract etc. as the case may be.

Liquidated Damages leviable upon the contractor is a sum which is agreed by the parties as a reasonable and genuine pre-estimate of damages which will be suffered by BHEL on account of delay/breach on the part of the contractor.

Liquidated Damages shall be calculated in the manner stipulated hereinafter: In case the work is not completed within the stipulated time period, BHEL at its discretion may grant provisional time extension to contractor for the sole purpose of completion of balance works keeping its right reserved under the contract and law.

Grant of any provisional time extension shall by no means be considered as waiver of BHEL rights under the contract or law.

After the completion of work, duly certified by Engineer Incharge, a comprehensive delay analysis shall be carried out to ascertain the attribution of delays in the provisional time extensions granted to contractor. The delay analysis shall record: a) Delays solely attributable to contractor b) Delays attributable to BHEL c) Delays on account of Force Majeure (as specified elsewhere in the contract)

The total period under the final time extension shall be equal to the period between the scheduled date of completion and the actual date of completion of contract. LD shall be imposed/ levied for the portion of time extensions solely attributable to contractor and recoverable from the dues payable to the contractor.

For the periods, wherein the delay as per the comprehensive delay analysis carried out is solely attributable to contractor, BHEL shall have the right to impose Liquidated Damage at the rate of 0.5% of the contract value, per week of delay or part thereof subject to a maximum of 10% of the contract value.

Contract Value for this purpose, shall be the final executed value exclusive of ORC, Extra Works executed on Man-day rate basis, Supplementary/ Additional Items and PVC. Before levying LD, the contractor shall be duly intimated the amount and reasons thereof for imposition of LD

**2.8 RESPONSIBILITIES OF THE CONTRACTOR IN RESPECT OF LOCAL LAWS, EMPLOYMENT OF WORKERS ETC.**

The following are the responsibilities of the contractor in respect of observance of local laws, employment of personnel, payment of taxes etc. The subcontractor shall fully indemnify BHEL against any claims of whatsoever nature arising due to the failure of the contractor in discharging any of his responsibilities hereunder:

2.8.1 As far as possible, Unskilled Workers shall be engaged from the local areas in which the work is being executed.

2.8.2 The contractor at all times during the continuance of this contract shall, in all his dealings with local labour for the time being employed on or in connection with the work, have due regard to all local festivals and religious and other customs.

2.8.3 The contractor shall comply with all applicable State and Central Laws, Statutory Rules, Regulations, Notifications etc. such as Payment of Wages Act, Minimum Wages Act, Workmen Compensation Act, Employer's Liability Act, Industrial Disputes Act, Employers Provident Fund and Miscellaneous Provisions Act, 1952, Employees State Insurance Scheme, Contract Labour (Regulation and Abolition) Act, 1970, Payment of Bonus & Gratuity Act, Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996, The Building and Other Construction Workers' Welfare Cess Act 1996 and other Acts, Rules, and Regulations for labour/workers as applicable and as may be enacted by the State Government and Central Govt. during the tenure of the Contract and having force or jurisdiction at Site. The Contractor shall also comply with provisions of and give all such notices to the local Governing Body, Police and other relevant Authorities as may be required by the Law. The Contractor shall without any fail maintain all the registers/records in proper formats as per all the Acts, Rules and Regulations mentioned in this clause 2.8.3.

2.8.4 The Contractor shall obtain independent License under the Contract Labour (Regulations and Abolition) Act, 1970 for engaging contract labour as required from the concerned Authorities based on the certificate (Form- V or as applicable) issued by the Principal Employer/Customer.

2.8.5 The contractor shall pay and bear all taxes, fees, license charges, Cess, duties, deposits, tolls, royalties, commission or other charges which may be leviable on account of his operations in executing the contract.

2.8.6 While BHEL would pay the inspection fees and Registration fees of Boiler/Electrical Inspectorate, all other arrangements for site visits periodically by the Inspectorate to site, Inspection certificate etc. will have to be made by contractor. However, BHEL will not make any payment to the Inspectorate in connection with contractor's Welders/Electricians qualification tests etc.

2.8.7 Contractor shall be responsible for provision of Health and Sanitary arrangements (more particularly described in Contract Labour Regulation & Abolition Act), Safety precautions etc. as may be required for safe and satisfactory execution of contract.

2.8.8 The contractor shall be responsible for proper accommodation including adequate medical facilities for personnel employed by him.

2.8.9 The contractor shall be responsible for the proper behavior and observance of all regulations by the staff employed by him.

2.8.10 The contractor shall ensure that no damage is caused to any person/property of other parties working at site/company" premises. If any such damage is caused, it is responsibility of the contractor to make good the losses or compensate for the same.

2.8.11 All the properties/equipments/components of BHEL/their Client/Customer loaned with or without deposit to the contractor in connection with the contract shall remain properties of BHEL/their Client/Customer.

2.8.12 The contractor shall use such properties for the purpose of execution of this contract. All such properties/equipments/components shall be deemed to be in good condition when received by the contractor unless he notifies within 48 hours to the contrary. The contractor shall return them in good condition as and when required by BHEL/their Client. In case of non-return, loss, damage, repairs etc. the cost thereof as may be fixed by BHEL Engineer will be recovered from the contractor.

2.8.13 In case the contractor is required to undertake any work outside the scope of this contract, the rates payable shall be those mutually agreed upon if the item rates are not mentioned in existing contract.

2.8.14 Any delay in completion of works/or non-achievement of periodical targets/or non-execution of contract due to the reasons attributable to the contractor, the same may have to be compensated by the contractor either by increasing manpower and resources or by working extra hours and/or by working more than one shift. All these are to be carried out by the contractor at no extra cost.

2.8.15 The contractor shall arrange, coordinate his work in such a manner as to cause no hindrance to other agencies working in the same premises.

2.8.16 All safety rules and codes applied by the Customer /BHEL at site shall be observed by the contractor without exception. The contractor shall be responsible for the safety of the equipment/material and works to be performed by him and shall maintain all light, fencing guards, slings etc. or other protection necessary for the purpose. Contractor shall also take such additional precautions as may be indicated from time to time by the Engineer with a view to prevent pilferage, accidents, fire hazards. Due precautions shall be taken against fire hazards and atmospheric conditions. Suitable number of Clerical staff, watch and ward, store keepers to take care of equipment/materials and construction tools and tackles shall be posted at site by the contractor till the completion of work under this contract.
The contractor shall arrange for such safety devices as are necessary for such type of work and carry out the requisite site tests of handling equipment, lifting tools, tackles etc. as per prescribed standards and practices.
Contractor has to ensure the implementation of Health, Safety and Environment (HSE) requirements as per directions given by BHEL/Customer. The contractor has to assist in HSE audit by BHEL/Customer and submit compliance Report. The contractor has to generate and submit record/reports as per HSE plan/activities as per instruction of BHEL/Customer.

2.8.17 The contractor shall be directly responsible for payment of wages to his workmen/labours before the expiry of seven days from the last day of wage period and to ensure disbursement of wages in the presence of the representative from BHEL A pay roll sheet giving all the payments given to the workers and duly signed by the contractor's representative should be furnished to BHEL site for the purpose of maintaining the records for compliance,

2.8.18 In case of any class of work for which there is no such specification as laid down in the contract, such work shall be carried out in accordance with the instructions and requirements of the Engineer.

2.8.19 Also, no idle charges will be admissible in the event of any stoppage caused in the work resulting in contractor's labour and Tools & Plants being rendered idle due to any reason at any time.

2.8.20 The contractor shall take all reasonable care to protect the materials and work till such time the plant/equipment has been taken over by BHEL or their Customer whichever is earlier.

2.8.21 The contractor shall not stop the work or abandon the site for whatsoever reason of dispute, excepting force majeure conditions. All such problems/disputes shall be separately discussed and settled without affecting the progress of work. Such stoppage or abandonment shall be treated as breach of contract and dealt with accordingly.

2.8.22 The contractor shall keep the area of work clean and shall remove the debris etc. while executing day-to-day work. Upon completion of work, the contractor shall remove from the vicinity of work, all scrap, packing materials, rubbish, unused and other materials and deposit them in places specified by the Engineer. The contractor will also demolish all the hutments, sheds, offices etc. constructed and used by him and shall clean the debris. In the event of his failure to do so, the same will be arranged to be done by the Engineer and the expenses recovered from the contractor.

2.8.23 The contractor shall execute the work in the most substantial and workman like manner in the stipulated time. Accuracy of work and timely execution shall be the essence of this contract. The contractor shall be responsible to ensure that the quality, assembly and workmanship conform to the dimensions and clearance given in the drawings and/ or as per the instructions of the Engineer.

2.8.24 The Contractor to note that some of BHEL's T&Ps/MMDs may not be insured. The Contractor will take necessary precautions and due care to protect the same while in his custody from any damage/ loss till the same is handed over back to BHEL. In case the damage / loss is caused due to carelessness/ negligence on the part of the contractor, the Contractor is liable to get them repair/ replaced immediately and in case of his failure to do so within a reasonable time, BHEL shall lto recover the loss from the contractor.

2.8.25 For all works having contract value of Rs. 5,00,000/- or above, BHEL shall recover the amount of compensation paid to victim(s) by BHEL towards loss of life/ permanent disability due to an accident which is attributable to the negligence of contractor, agency or firm or any of its employees as detailed below.

a) Victim: Any person who suffers permanent disablement or dies in an accident as defined below.

b) Accident: Any death or permanent disability resulting solely and directly from any unintended and unforeseen injurious occurrence caused during the manufacturing/ operation and works incidental thereto at BHEL factories/ offices and precincts thereof, project execution, erection and commissioning, services, repairs and maintenance, trouble shooting, serving, overhaul, renovation and retrofitting, trial operation, performance guarantee testing undertaken by the company or during any works/ during working at BHEL Units/ Offices/ townships and premises/ Project Sites.

c) Compensation in respect of each of the victims:

i) In the event of death or permanent disability resulting from Loss of both limbs: Rs. 10,00,000/- (Rs. Ten Lakh).

ii) In the event of other permanent disability: Rs.7,00,000/- (Rs. Seven Lakh)

d) Permanent Disablement: A disablement that is classified as a permanent total disablement under the proviso to section 2 (I) of the Employee's Compensation Act, 1923.

2.8.26 Contractor shall be fully responsible for the safety of their T&Ps and other material mobilized at site. In any case, BHEL shall not be liable for any damage/loss/misuse of any item(s) belong to the contractor.

2.8.27 Contractor will ensure that the work/job is executed through his/her employees on and under no circumstances, the contractor shall subcontract the job without prior written permission from BHEL.

2.8.28 The liability for any compensation on account of injury sustained by an employee of the contractor will be exclusively that of the contractor.

**2.9 EXECUTION PLAN, PROGRESS MONITORING, MONTHLY REVIEW AND PERFORMANCE EVALUATION**

2.9.1 A tentative plan/ programme for completion of the contractual scope of work as per the time schedule given in the contract shall be made jointly by BHEL and Contractor, before commencement of work. The above programme shall be supported by month wise deployment of resources viz Manpower, T&P, Consumables, etc. Progress will be reviewed periodically (Daily/Weekly/Monthly) vis-à-vis this jointly agreed programme.
Subsequently, every month, quarterly rolling plan will be made by BHEL based on budgeted targets.

Monthly plan in F-14 format shall be drawn from this Quarterly plan. Monthly plan shall necessarily include activities required for achieving targets/ milestones unless inputs/ fronts are not available. While planning and arriving on asking rate all available inputs shall be taken into consideration.
Vendor will be required to execute the monthly plan in that month in addition to make full efforts to minimize the cumulative shortfall attributable to him up to the month.
BHEL may require monthly work plan up to one and half times of average monthly value and demand matching manpower.

Where, Average Monthly Value = Total Contract Value (as per latest revision) / Period of Contract (in months)
Provided, this requirement is reflected in the rolling quarterly plan two months in advance. If the Contractor refuses to sign the F-14 format, those F-14 formats requiring Contractor's signature shall be deemed to have been signed and accepted by the Contractor, if communicated to the Contractor through email or any other mode as stated in clause 2.3.1.

The Contractor shall submit periodical progress reports (Daily/Weekly/Monthly) and other reports/ information including manpower, consumables, T&P mobilization etc. as desired by BHEL.

***2.9.2 Monthly progress review between BHEL and Contractor shall be based on the agreed programme as above, availability of inputs/fronts etc., and constraints if any, as per prescribed formats (i.e. Form F-14). Manpower, T&P and consumable reports as per prescribed formats shall be submitted by contractor every month. Release of RA Bills shall be contingent upon certification by BHEL Site Engineer of the availability of the above prescribed formats duly filled in and signed.***

2.9.3 The burden of proof that the causes leading to any shortfall is not due to any reasons attributable to the contractor is on the contractor himself. The monthly progress review shall record shortfalls attributable to (i) Contractor, (ii) Force Majeure Conditions, and (iii) BHEL

2.9.4 Performance of the Contractor shall be assessed as per prescribed formats and shall form the basis for 'Assessment of Capacity of Bidder ' for Tenders where the Contractor is a Bidder . BHEL reserves the right to revise the evaluation formats during the course of execution of the works.

**2.10 TIME OF COMPLETION**

2.10.1 Time is the essence of the contract and is specified in the tender document or in each individual Work Order. As soon as possible after the contract is let or any substantial Work Order is placed and before work under is to begin, the Engineer-in-charge and the Contractor shall agree to a Time and Progress Chart. The Chart shall be prepared in direct relation to the time stated in the Tender Documents or the Work Order for the completion of the individual items thereof and/the contract or order as a whole. It shall indicate the forecast of the dates for the commencement of the various trade processes or sequences of the work, and shall be amended as may be required by agreement between the Engineer-in-charge and the Contractor within the limitation of the time imposed in the Tender Documents or Order

2.10.2 In the absence of any specific Time and Progress chart to be agreed to between the Contractor and the Engineer–in–charge, the contractor shall ensure and maintain uninterrupted progress of the work such that the entire work shall be completed within the time imposed in the Tender Documents or Order and that the proportion of work completed upto any time in relation to the entire work to be under the Contractor Order shall not be less than the proportion that the time elapsed bears to the total time of completion provided in the Tender Documents or Order.

2.10.3 The contractor shall suspend the execution of the work, or any part or parts thereof whenever called upon in writing by the Engineer–in–charge to do so, and shall not resume work thereon until so directed in writing by the Engineer –in–charge. The Contractor will be allowed an extension of time for completion not less than the period of suspension. However, no other claim in this respect for compensation or otherwise however will be admitted. Provided the cause for suspension is not attributable to any default on the contractor's part to proceed with or fulfill the contractual obligations. This may also be extended to allow for alteration of work made by the deviation order

2.10.4 The works shall be completed to the entire satisfaction of the Engineer-in-charge and in accordance with the Contractor's forecast of Time and Progress where operative, and all unused stores and materials, tools, plants, equipments, temporary buildings and things shall be removed and the site and work cleared of rubbish and all waste materials and delivered up clean and tidy to the satisfaction of the Engineer-in-charge at the Contractor's expense and/or before the Scheduled date of completion.

2.10.5 The B.H.E.L shall have power to take over from the Contractor from time to time each sections of the work as have been completed to the satisfaction of the Engineer-in-charge.

2.10.6 In case the Contractor fails to remove any of his properties, assets or fails to clear the rubbish and waste materials within 30 days of the completion of the contract, it is lawful for the contractee, that is BHEL to take such action as it deems fit to clear dispose of such properties, assets or such waste materials and charge the contractor any expenses incurred thereon.

2.10.7 The Engineer-in-charge shall certify to the Contractor the date on which the work is completed and the state thereof.

2.10.8 The Engineer-in-charge shall also certify to the Contractor the state of the work at the end of maintenance period (Defects Liability Period), where applicable.

## 2.11 EXTENSION OF TIME FOR COMPLETION

2.11.1 *The Scheduled Completion Date will not be extended due to inclement weather conditions which are normal to the general locality of the work site as evidenced by the 10-year average climatic data recorded by the local or national weather bureau or stations. Time for performance of this Agreement includes an allowance for calendar days which, according to historical data, may not be suitable for construction work. It is the Contractor's responsibility to protect the work site from inclement weather to avoid delays, rework, or inefficient Work.*

If the completion of work as detailed in the scope of work gets delayed beyond the contract period, the contractor shall request for an extension of the contract and BHEL at its discretion may extend the Contract.

If the completion of work gets delayed for reasons **<u>not attributable to the contractor</u>**, the contract period may be suitably extended at the sole discretion of BHEL only under the following circumstances.

i) by reason of abnormally bad weather (abnormally bad weather means conditions that exceed the 10-year average minimum or maximum condition in temperature, rain, snow, hail, sleet, wind, etc., as established by the Weather Bureau for the area where the project is located

**OR**

ii) by reason of serious loss or damage by fire, **OR**

iii) by reason of Civil commotion, local combination of workmen strikes or lockout, affecting any of the trades employed on the work **OR.**

iv) by delay on the part of the agency or tradesman engaged by BHEL in executing work **not forming part of this contract**, **OR**

v) by reason of any other cause which in the absolute discretion of the Engineer–in–charge is (when he is the Accepting Officer of the Contract) beyond the Contractor's reasonable control, then in such case the Accepting Officer on the recommendation of the Engineer-in-charge (or higher authority) may make fair and reasonable extension in the completion dates of the individual items of work or the contract as a whole. Such extension which will be communicated to the Contractor by the Engineer–in–charge in writing shall be final and binding on the Contractor. No other claim in this respect for compensation or other–wise howsoever is admissible. Upon the happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the Engineer-in-charge but shall nevertheless use constantly his best endeavour to prevent or make good the delay and shall do all that may reasonably be required to the satisfaction of the Engineer–in–charge to proceed with the work.

2.11.2 Based on the F-14 formats, the works balance at the end of original contract period less the backlog attributable to the contractor shall be quantified, and the number of months of 'Time extension' required for completion of the same shall be jointly worked out. Within this period of 'Time extension', the contractor is bound to complete the portion of backlog attributable to the contractor. Any further 'Time extension' or 'Time extensions' at the end of the previous extension shall be worked out similarly.

2.11.3 However, if any 'Time extension' is granted to the contractor to facilitate continuation of work and completion of contract, due to backlog attributable to the contractor alone, then it shall be without prejudice to the rights of BHEL to impose penalty/LD for the delays attributable to the contractor, in addition to any other actions BHEL may wish to take under Clause 2.7.2 of GCC i.e. Breach of Contract, Remedies and Termination.

2.11.4 Planning, progress monitoring, monthly review and performance monitoring shall be carried out as per clause 2.9 of GCC.

## 2.12 INSURANCE

2.12.1 BHEL/their customer shall arrange for insuring the materials/properties of BHEL/customer covering the risks during transit, storage, erection and commissioning.

2.12.2 It is the sole responsibility of the contractor to insure his materials, equipment, workmen etc. against accidents and injury while at work and to pay compensation, if any, to workmen as per Workmen's compensation Act. The work will be carried out in a protected area and all the rules and regulations of the client /BHEL in the area of project which are in force from time to time will have to be followed by the contractor.

2.12.3 If due to negligence and or non-observation of safety and other precautions by the contractors, any accident/injury occurs to the property / manpower belong to third party, the contractor shall have to pay necessary compensation and other expense, if so decided by the appropriate authorities.

2.12.4 The contractor will take necessary precautions and due care to protect the material, while in his custody from any damage/ loss due to theft or otherwise till the same is taken over by BHEL or customer. For lodging / processing of insurance claim, the contractor will submit necessary documents. BHEL will recover the loss including the deductible franchise from the contractor, in case the damage / loss is due to carelessness / negligence on the part of the contractor. In case of any theft of material under contractor's

custody, matter shall be reported to Police by the contractor immediately and copy of FIR and subsequently police investigation report shall be submitted to BHEL for taking up with insurance. However, this will not relieve the contractor of his contractual obligation for the material in his custody.

**2.13 STRIKES & LOCKOUT**

2.13.1 The contractor will be fully responsible for all disputes and other issues connected with his labour. In the event of the contractor's labour resorting to strike or the Contractor resorting to lockout and if the strike or lockout declared is not settled within a period of one month, it may be considered as 'Breach of Contract' under Clause 2.7 and the remedies under Clause 2.7.2.2 may be executed, at the discretion of BHEL.

2.13.2 For all purposes whatsoever, the employees of the contractor shall not be deemed to be in the employment of BHEL.

**2.14 FORCE MAJEURE**

2.14.1 "Force Majeure" shall mean circumstance which is:

a. beyond control of either of the parties to contract,
b. either of the parties could not reasonably have provided against the event before entering into the contract,
c. having arisen, either of the parties could not reasonably have avoided or overcome, and d) is not substantially attributable to either of the parties
   And
   Prevents the performance of the contract,

Such circumstances include but shall not be limited to:

i) War, hostilities, invasion, act of foreign enemies.
ii) Rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war.
iii) Riot, commotion or disorder by persons other than the contractor's personnel and other employees of the contractor and sub-contractors.
iv) Strike or lockout not solely involving the contractor's personnel and other employees of the contractor and sub-contractors.
v) Encountering munitions of war, explosive materials, ionizing radiation or contamination by radio-activity, except as may be attributable to the contractor's use of such munitions, explosives, radiation or radio- activity.
vi) Natural catastrophes such as earthquake, tsunami, volcanic activity, hurricane or typhoon, flood, fire, cyclones etc.
vii) Epidemic, pandemic etc.

2.14.2 The following events are explicitly excluded from Force Majeure and are solely the responsibilities of the non-performing party: a) any strike, work-to-rule action, go-slow or similar labour difficulty (b) late delivery of equipment or material (unless caused by Force Majeure event) and (c) economic hardship.
2.14.3 If either party is prevented, hindered or delayed from or in performing any of its obligations under the Contract by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances thereof within 15 (fifteen) days after the occurrence of such event.
2.14.4 The party who has given such notice shall be excused from the performance or punctual performance of its obligations under the Contract for so long as the relevant event of Force Majeure continues and to the extent that such party's performance is prevented, hindered or delayed. The Time for Completion shall be extended by a period of time equal to period of delay caused due to such Force Majeure event.
2.14.5 Delay or non-performance by either party hereto caused by the occurrence of any event of Force Majeure shall not

a. Constitute a default or breach of the Contract.

b. Give rise to any claim for damages or additional cost expense occasioned thereby, if and to the extent that such delay or non-performance is caused by the occurrence of an event of Force Majeure.

2.14.6 BHEL at its discretion may consider short closure of contract after 1 year of imposition of Force Majeure in line with extant guidelines. In any case, Contractorcannot consider deemed short-closure after 1 year of imposition of Force Majeure

**2.15 Settlement of Dispute**

If any dispute or difference of any kind whatsoever shall arise between BHEL and the Contractor, arising out of the contract for the performance of the work whether during the progress of contract termination, abandonment or breach of the contract, it shall in the first place referred to Designated Engineer for amicable resolution by the parties. Designated Engineer (to be nominated by BHEL for settlement of disputes arising out of the contract) who within 60 days after being requested shall give written notice of his decision to the contractor. Save as hereinafter provided, such decision in respect of every matter so referred shall forthwith be given effect to by the Contractorwho shall proceed with the work with all due diligence, whether he or BHEL desires to resolve the dispute as hereinafter provided or not.

If after the Designated Engineer has given written notice of this decision to the party and no intention to pursue the dispute has been communicated to him by the affected party within 30 days from the receipt of such notice, the said decision shall become final and binding on the parties. In the event the Contractorbeing dissatisfied with any such decision or if amicable settlement cannot be reached then all such disputed issues shall be resolved through conciliation in terms of the BHEL Conciliation Scheme 2018 as per Clause 2.15.1

**2.15.1 Conciliation:**

Any dispute, difference or controversy of whatever nature howsoever arising under or out of or in relation to this Agreement (including its interpretation) between the Parties, and so notified in writing by either Party to the other Party (the "Dispute") shall, in the first instance, be attempted to be resolved amicably in accordance with the conciliation procedure as per BHEL Conciliation Scheme 2018. The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided in - "Procedure for conduct of conciliation proceedings" (as available in www.bhel.com)).

**Note:** Ministry of Finance has issued OM reference No. 1/2/24 dated 03.06.2024 regarding "Guidelines for Arbitration and Mediation in Contracts of Domestic Public Procurement. In the said OM it has been recommended that Government departments/ Entities/agencies are to encourage mediation under the Mediation Act. 2023 . The said Act has not yet been notified by the Government. Therefore, the clause "Settlement of Disputes" shall be modified accordingly as and when the Mediation Act 2023 gets notified.

**2.15.2 ARBITRATION**

2.15.2.1 Except as provided elsewhere in this Contract, in case Parties are unable to reach amicable settlement (whether by Conciliation to be conducted as provided in Clause 14.1 herein above or otherwise) in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the Parties; or, in relation to interpretation of any provision of the Contract; or. in any manner touching upon the Contract (hereinafter referred to as the 'Dispute'), then, either Party may, refer the disputes to Madras High Court, Arbitration Centre (MHCAC)and such dispute to be adjudicated by Sole Arbitrator appointed in accordance with the Rules of said Arbitral Institution.

2.15.2.2 A party willing to commence arbitration proceeding shall invoke Arbitration Clause by giving notice to the other party in terms of section 21 of the Arbitration & Conciliation Act, 1996 (hereinafter referred to as the 'Notice') before referring the matter to arbitral institution. The Notice shall be addressed to the Head of the Unit, BHEL, executing the Contract and shall contain the particulars of all claims to be referred to arbitration with sufficient detail and shall also indicate the monetary amount of such claim including interest, if any.

2.15.2..3 After expiry of 30 days from the date of receipt of aforesaid notice, the party invoking the Arbitration shall submit that dispute to the Arbitral Institution- Madras High Court, Arbitration

Centre (MHCAC)- and that dispute shall be adjudicated in accordance with their respective Arbitration Rules. The matter shall be adjudicated by a Sole Arbitrator who shall necessarily be a Retd Judge having considerable experience in commercial matters to be appointed/nominated by the respective institution. The cost/expenses pertaining to the said Arbitration shall also be governed in accordance with the Rules of the respective Arbitral Institution. The decision of the party invoking the Arbitration for reference of dispute to Madras High Court, Arbitration Centre (MHCAC)- for adjudication of that dispute shall be final and binding on both the parties and shall not be subject to any change thereafter. The institution once selected at the time of invocation of dispute shall remain unchanged.

2.15.2.4 The fee and expenses shall be borne by the parties as per the Arbitral Institutional rules.
2.15.2.5 The Arbitration proceedings shall be in English language and the seat of Arbitration shall be Trichy.

2.15.2 .6 Subject to the above, the provisions of Arbitration & Conciliation Act 1996 and any amendment thereof shall be applicable. All matters relating to this Contract and arising out of invocation of Arbitration clause are subject to the exclusive jurisdiction of the Court(s) situated at Trichy.

2.15.2.7 Notwithstanding any reference to the Designated Engineer or Conciliation or Arbitration herein, a. the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree. Settlement of Dispute clause cannot be invoked by the Contractor, if the Contract has been mutually closed or 'No Demand Certificate' has been furnished by the Contractor or any Settlement Agreement has been signed between the Employer and the Contractor.

2.15.2..8 It is agreed that Mechanism of resolution of disputes through arbitration shall be available only in the cases where the value of the dispute is less than Rs. 10 Crores.

2.15.2.9 In case the disputed amount Claim, Counter claim including interest is Rs. 10 crores and above, the parties shall be within their rights to take recourse to remedies other than Arbitration, as may be available to them under the applicable laws after prior intimation to the other party. Subject to the aforesaid conditions, provisions of the Arbitration and Conciliation Act, 1996 and any statutory modifications or re-enactment thereof as amended from time to time, shall apply to the arbitration proceedings under this clause.

2.15.2.10 In case, multiple arbitrations are invoked (whether sub-judice or arbitral award passed) by any party to under this contract, then the cumulative value of claims (including interest claimed or awarded) in all such arbitrations shall be taken in account while arriving at the total claim in dispute for the subject contract for the purpose of clause 14.2.9. Disputes having cumulative value of less than 10 crores shall be resolved through arbitration and any additional dispute shall be adjudicated by the court of competent jurisdiction.

2.15.3 **In case of Contract with Public Sector Enterprise (PSE) or a Government Department, the following shall be applicable:**

In the event of any dispute or difference relating to the interpretation and application of the provisions of commercial contract(s) between Central Public Sector Enterprises (CPSEs)/ Port Trusts inter se and also between CPSEs and Government Departments/Organizations (excluding disputes concerning Railways, Income Tax, Customs & Excise Departments), such dispute or difference shall be taken up by either party for resolution through AMRCD (Administrative Mechanism for Resolution

**2.15.4 NO INTEREST PAYABLE TO CONTRACTOR**

Notwithstanding anything to the contrary contained in any other document comprising in the Contract, no interest shall be payable by BHEL to Contractor on any moneys or balances including but not limited to the Security Deposit, EMD, Retention Money, RA Bills or the Final Bill, or any amount withheld and/or

appropriated by BHEL. etc., which becomes or as the case may be, is adjudged to be due from BHEL to Contractor whether under the Contract or otherwise.

**2.16 RETENTION AMOUNT**

2.16.1 Retention Amount shall be 5% of contract value and shall be furnished before the first RA Bill becomes due for payment. In case of increase in contract value, additional 5% of differential amount shall be submitted by Contractor before payment of next RA Bill due.
The Retention amount of 5% of the contract value may be accepted in the following forms: -

1. Cash (as permissible under the extant Income Tax Act).
2. Local cheques of Scheduled Banks (subject to realization)/ Pay Order/ Demand Draft/ Electronic Fund Transfer in favour of BHEL.
3. Securities available from Indian Post offices such as National Savings Certificates, Kisan Vikas Patras etc. (held in the name of Contractor furnishing the security and duly endorsed/ hypothecated / pledged, as applicable, in favour of BHEL).
4. Bank Guarantee from Scheduled Banks/ Public Financial Institutions as defined in the Companies Act and in line with clause 1.12 of GCC. The Bank Guarantee format for Retention Amount shall be in the prescribed formats. The validity of BG shall be initially for the contract period & shall be extended up to acceptance of final bill if the final bill is not settled during the contract period.
5. Insurance Surety Bonds

Alternatively, on successful Bidder 's request, the Retention Amount can also be recovered at the rate of 10% of the gross amount, progressively, from each of the running bills of the contractor till the total amount of the required retention amount is collected. In case, contractor opts cash deduction from RA bills in the beginning & subsequently submit 5% of the Contract Value as Retention amount in any form as mentioned above, then refund of deducted retention amount may be permitted to contractor.

Note: BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith.

**2.16.2 Refund of Retention Amount shall be as follows**:
100% of Retention Amount/ BG shall be released along with Final Bill after deduction all expenses/ other amounts due to BHEL under the contract/ other contracts entered into with them (contractor) by BHEL provided that.

**2.16.3 In case of short closure of contract**
a) due to the premature termination of BHEL contract with customer for any reason whatsoever;
b) upon the request of contractor for any reason, prior to completion and acceptance of Trial Run by the end customer
The retention money equivalent to the 5% of contract value executed by the contractor shall not be refundable and the contractor shall be discharged of his liabilities as provided in the clause 2.16.1

**2.17 PAYMENTS**
Payments to Contractors are made in any one of the following forms: -
2.17.1 Running Account Bills (RA Bills)

1.8 These are for interim payments when the contracts are in progress. The bills for such interim payments are to be prepared by Contractor in prescribed formats (RA Bill forms).
1.9 Payments shall be made according to the extent of work done as per measurements taken up to the end of the calendar month and in line with the terms of payments described in the Tender documents.
1.10 Recoveries on account of electricity, water, statutory deductions etc. are made as per terms of contract.

1.11 Full rates for the work done shall be allowed only if the quantum of work has been done as per the specifications stipulated in the contract. If the work is not executed as per the stipulated specifications, BHEL may ask the contractor to redo the work according to the required specifications, without any extra cost. However, where this is not considered necessary 'OR' where the part work is done due to factors like non-availability of material to be supplied by BHEL 'OR' non availability of fronts 'OR' non availability of drawings, fraction payment against full rate, as is considered reasonable, may be allowed with due regard for the work remaining to be done. BHEL decision in this regard will be final and binding on the contractor.

1.12 In order to facilitate part payment, BHEL at its discretion may further split the contracted rates/percentages to suit site conditions, cash flow requirements according to the progress of work, subject to following:

a) Provided no 'part' payment is recommended till 25% of work in the item rate is executed.

b) Payment of item rate to be made in not more than three instalments, last stage payment to be not lower than 20% of the item rate.

**2.17.2 Final Bill**

Final Bill' is used for final payment on closing of Running Account for works or for single payment after completion of works. 'Final Bill' shall be submitted as per prescribed format after completion of works as per scope and upon material reconciliation, along with the following:

Clearance certificates **where ever applicable** viz. various Statutory Authorities like Labour department, PF Authorities, Commercial Tax Department etc.

BHEL shall settle the final bills after deducting all liabilities of Contractor to BHEL

**2.18 PERFORMANCE GUARANTEE FOR WORKMANSHIP**

2.18. Even though the work will be carried out under the supervision of BHEL Engineers the Contractor will be responsible for the quality of the workmanship and shall guarantee the work done for a period of 6 months from the date of actual completion of work for good workmanship and shall rectify free of cost all defects due to faulty erection detected during this maintenance period (Defects Liability Period). In the event of the Contractor failing to repair the defective works within the time specified by the Engineer, BHEL may proceed to undertake the repairs of such defective works by itself, without prejudice to any other rights and recover the cost incurred for the same along with 5% overheads from the Security Deposit

**2.19 CLOSING OF CONTRACTS**

The Contract shall be considered completed and closed upon completion of contractual obligations and settlement of Final Bill or completion of Guarantee period whichever is later. Upon closing of Contract, BHEL shall issue a performance/ experience certificate as per standard format, based on specific request of Contractor as per extant BHEL guidelines through the online portal available at https://siddhi.bhel.in only.

**2.20 SUSPENSION OF BUSINESS DEALINGS**

BHEL reserves the right to take action against Contractors who either fail to perform or Bidder /Contractor who indulge in malpractices, by suspending business dealings with them in line with BHEL guidelines issued from time to time.

The offers of the Bidder s who are under suspension as also the offers of the Bidder s, who engage the services of the banned firms / principal / agents, shall be rejected. The list of banned firms is available on BHEL web site www.bhel.com.

If any Bidder / supplier / contractor during pre-tendering / tendering / post tendering / award / execution / post-execution stage indulges in any act, including but not limited to, mal-practices, cheating, bribery, fraud or and other misconduct or formation of cartel so as to influence the bidding process or influence the price or tampers the tendering process or acts or omits in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1860 or any other law in force in India, or does anything which is actionable under the Guidelines for Suspension of Business dealings, action may be taken against such Bidder / supplier / contractor as per extant guidelines of the company available on www.bhel.com and / or under applicable legal provisions. Guidelines for suspension of business dealings is available in the webpage: http://www.bhel.com/vender_registration/vender.php

**2.21 LIMITATION ON LIABILITY:**

Notwithstanding anything to the contrary in this Contract or LOA or Work Order or any other mutually agreed document between the parties, the maximum liability, for damages, of the contractor, its servants or agents, shall under no circumstances exceed an amount equal to the Price of the Contract or the Work Order. The Contractor shall not in any case be liable for loss of profit or special, punitive, exemplary, indirect or consequential losses whatsoever. This shall not be applicable on the recoveries made by Customer from BHEL on account of Contractor, any other type of recoveries for workmanship, material, T&P etc. due from the contractor.

**2.22 Cartel Formation**

The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder (s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process. In case, the Bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/ guidelines

**2.23 Fraud Prevention Policy**

Bidder along with its associate /collaborators /sub-contractors /sub-vendors / consultants/ service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website http://www.bhel.com and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.

**2.24 Order of Precedence**

In the event of any ambiguity or conflict between the contract Documents, the order of precedence shall be in the order below:

a. Contract agreement with its Amendments/Clarifications/Corrigenda/Errata etc. issued in respect of the tender documents by BHEL
b. Notice Inviting Tender (NIT)
c. Price Bid
d. Technical Conditions of Contract (TCC)
e. Special Conditions of Contract (SCC)
f. General Conditions of Contract (GCC)
g. Forms and Procedures

**2.25 OTHER ISSUES**

2.25.1 Value of Non judicial Stamp Paper for Bank Guarantees and for Contract Agreement shall be not less than Rs 100/- unless otherwise required under relevant statutes.

2.25.2 In case of any conflict between the General Conditions of Contract and Special Conditions of Contract, provisions contained in the Special Conditions of Contract shall prevail.

2.25.3 Unless otherwise specified in NIT, offers from consortium/ JVs shall not be considered.

**FORMAT F-14 (Rev 00 ) MONTHLY PLAN & REVIEW WITH CONTRACTOR**

| | | | |
|---|---|---|---|
| Name of the Project | | Contract No | |
| Name of the Work | | Name of the Contractor | |
| Part - A - PLAN / REVIEW OF WORKFOR THE MONTH OF ---------- | | Date of Plan / Review | |

| Sl No | Description of Work | UOM | Rate / Unit | Planned | | Cumulative Shortfall Attributable to Contractor upto Last Month | | Achieved | | Shortfall Attributable to BHEL wrt to Plan | | Cumulative Shortfall Attributable to Contractor upto & including this Month | | Remarks (Reasons for Shortfall Attributable to Contractor Supporting Documents to be kept as record) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Qty Planned for the Month as per Part C of Last Month | | | | | | | | | | |
| (a) | (b) | (c) | (d) | A | | B | | C | | D | | E = A+B-C-D | | |
| | | | | Phy | Financial | Phy | Financial | Phy | Financial | Phy | Financial | Phy | Financial | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | Value of Other Items not mentioned above but planned to be executed in this Month | | | | | | | | | | | | | |
| | Total | | | | ∑ A | | ∑ B | | ∑ C | | ∑ D | | ∑ E | |

BHEL

(Signature with Seal & Date )

Contractor

(Signature with Seal & Date)

**PART- A: Contd…….**

Note 1: **In addition to the work planned as per Col. 'A', Contractor shall also make full efforts to minimize the 'Cumulative shortfall attributable to contractor upto the month' as mentioned in Col. 'B' by enhancing its resources, so as to achieve the completion of activities as per agreed schedule. In case contractor is not able to execute the entire shortfall, then BHEL 'Engineer in-charge', shall decide the priority of work to be executed and it shall be binding on the contractor.**

Note 2: Percentage Shortfall attributable to contractor w.r.t. "Plan - Shortfall attributable to BHEL" for the month = $[(\Sigma E-\Sigma B)/(\Sigma A-\Sigma D)]x100$
In case, $(\Sigma E-\Sigma B)$ is negative, then it shall be treated as zero percent."

Note 3: Form 14 should include all items being planned in the current month, and all items against which shortfall was attributable to contractor till previous month. However, for practical reason, if it is not possible to mention some of the items in Form-14 being planned to be executed in this month, then also value of such items shall necessarily be included in calculation of Total Value.

Note 4: In case reason for shortfall attributable to contractor is w.r.t. T&P and Manpower, it should be in conformity with Part B1 and B2.

BHEL

(Signature with Seal & Date )

Contractor

(Signature with Seal & Date)

| FORMAT F-14 (Rev 00 ) MONTHLY PLAN & REVIEW WITH CONTRACTOR | | | |
|---|---|---|---|
| Name of the Project | | Contract No | |
| Name of the Work | | Name of the Contractor | |
| Part – B1 - PLAN / REVIEW OF DEPLOYMENT OF MAJOR T&P FOR THE MONTH OF ------- ---------- | | Date of Plan / Review | |
| CONTRACTOR'S SCOPE | | | |

| SN. | PLAN | | | | DEPLOYMENT STATUS | | | |
|---|---|---|---|---|---|---|---|---|
| | Major T&P to be deployed as per work planned for the month | QTY | Deployment Period (in days) | Weightage assigned to planned T&P (in fraction such that ΣC =1) | Actual Deployed Quantity | Actual Deployment Period (in days) | Weighted T&P Deployed | REMARKS (Works affected due to non-deployment of T&Ps) |
| | | A | B | C | D | E | F=(C x D x E) / (A x B) | |
| | | | | | | | | |

Note: In case, E>B, it shall be considered as E=B. Similarly, in case D>A, it shall be considered as D=A.
Percentage of T&P Deployed = ΣF x 100

**BHEL SCOPE: -**

| SN. | PLAN | | | DEPLOYMENT STATUS | | |
|---|---|---|---|---|---|---|
| | Major T&P to be deployed as per work planned for the month | QTY | Deployment Period (in days) | Actual Deployed Quantity | Actual Deployment Period (in days) | REMARKS (Works affected due to non-deployment of T&Ps) |
| | | | | | | |

BHEL

(Signature with Seal & Date )

Contractor

(Signature with Seal & Date)

| FORMAT F-14 (Rev 00 ) MONTHLY PLAN & REVIEW WITH CONTRACTOR | | | |
|---|---|---|---|
| Name of the Project | | Contract No | |
| Name of the Work | | Name of the Contractor | |
| Part – B2 - PLAN / REVIEW OF DEPLOYMENT OF MANPOWER FOR THE MONTH OF | | Date of Plan / Review | |

**CONTRACTOR'S SCOPE: -**

| SN. | Area of Work | Category of Labour | No. of Labour required as per category | Deployment Period (in days) | No. of Labour actually deployed | Actual Deployment Period (in days) | REMARKS (Works affected due to non-availability of labour) |
|---|---|---|---|---|---|---|---|
| | | | A | B | C | D | |
| | | | | | | | |

Percentage of Manpower Deployed=100 x Σ(CxD)/Σ(AxB)

BHEL

(Signature with Seal & Date )

Contractor

(Signature with Seal & Date)

| FORMAT F-14 (Rev 00 ) MONTHLY PLAN & REVIEW WITH CONTRACTOR | | | |
|---|---|---|---|
| Name of the Project | | Contract No | |
| Name of the Work | | Name of the Contractor | |
| Part – C PLAN (PHYSICAL) FOR THE NEXT MONTH OF ---------- | | Date of Plan / Review | |

| SN. | Description of work | Original Planned Quantity | Planned Quantity (excluding shortfalls attributable to contractor till date) | Unit of Measu-rement | T&Ps Required | | | | Manpower Required | | REMARKS (Reasons for difference in Original Planned Quantity w.r.t. Planned quantity to be given) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Contractor Scope | | BHEL Scope | | Category of Labour | No. of Labour required as per Category | |
| | | | | | Major T&P to be deployed as per work planned for the month | Quantity | Major T&P to be deployed as per work planned for the month | Quantity | | | |
| | | | | | | | | | | | |

Note 1: Planned quantity should be based on available/ expected fronts/ inputs in the next month

Note 2: "Original Planned Quantity" shall be as per latest jointly agreed programme between BHEL and Contractor before commencement of work or at the time of latest Time Extension as the case may be.

BHEL

(Signature with Seal & Date)

Contractor

(Signature with Seal & Date)

| FORMAT F-14 (Rev 00 ) MONTHLY PLAN & REVIEW WITH CONTRACTOR | | | |
|---|---|---|---|
| Name of the Project | | Contract No | |
| Name of the Work | | Name of the Contractor | |
| Part – C PLAN (PHYSICAL) FOR THE NEXT MONTH OF ---------- | | Date of Plan / Review | |

**PART – D: REASONS FOR SHORTFALL ATTRIBUTABLE TO BHEL IN RESPECT OF PLAN FOR THE MONTH.....**

| SN. | Description of Work (from Part-A) | Quantities Affected | | Reasons for Shortfall attributable to BHEL | Agency responsible for reasons for Shortfall | Remarks (Supporting Documents in respect of agency responsible) |
|---|---|---|---|---|---|---|
| | | (Physical Quantity) | Unit of Measu-rement | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | | | | | | |

Note1: Reasons for shortfall shall include non-availability of fronts/ drawings/ materials/ T&P (BHEL Scope)/ clearances etc. and other hindrances for which contractor is not responsible.

Note2: Agency responsible may be BHEL Site/ MUs/ Design Centre/ BHEL Customer/ other Contractors etc.

BHEL

(Signature with Seal & Date)

Contractor

(Signature with Seal & Date)

**PART - II _ PRICE BID (PB)**

**SCHEDULE 'A'**

**LIST OF WORKS AND PRICES**

DETAILS & QUANTITIES of each item of work shown in the BILL OF QUANTITIES are only approximate. They are given as a guide for the purpose of tendering only and are liable to variation and alteration of the Competent Authority. The work under each item as executed shall be measured and priced at the corresponding rate quoted by the contractor in the BILL OF QUANTITIES

**BILL OF QUANTITIES**

| Sl. No. | Appx. Qty. | Description of work | TNBP No. | Rate (Both in Unit fig & Words | Amount Rs. Ps. |
|---|---|---|---|---|---|
| **AS PER SEPARATE SHEETS ATTACHED SHEETS IN PRICE BID** | | | | | |

**'SCHEDULE B'**

1. The following materials will be issued FREE of cost to contractor at BHEL Stores / Stock yard if specified in the BOQ and specifications.

| Sl. No. | DESCRIPTION | PLACE OF ISSUE |
|---|---|---|
| 1 | Cement | BHEL Stores or Stock yard |
| 2 | M.S Rounds, C.T.D Bars & Structural Steel, rails and all railway materials, roof and side steel sheets | BHEL Stores or Stock yard |

2. It will be the responsibility of the Contractor to submit his demands for the above stores in writing atleast **seven days** in advance of the actual requirement.
3. Issue of Stores is subject of the availability at the place of issue cited above, items of stores to be issued by BHEL which are not available at the time of indenting by the contractor may be supplied by BHEL after necessary procurement. The contractor shall not be entitled to any claim of compensation for delay in the supply of stores by BHEL under any circumstances.
4. The materials will be issued only during the working hours of the BHEL Stores Department (8.00 a.m. to 4.30 p.m. ). **Contractor shall have to transport them to the site of work at his own cost as soon as they are issued to him**.
5. The steel materials if issued will be in random lengths and sizes as stocked by the BHEL and the cost of all cutting, conversion, substitution and fabrication as well as wastage shall have to be borne by the Contractor.
6. The contractor shall from time to time render proper account of all materials issued to him by BHEL. If he fails to do so, no further issue of materials will be made to him and he will be held responsible for any delay in the execution of the work which may occur on this account.
7. Where Roof & side Sheets and accessories, Doors, Windows, Sanitary fittings, Special glasses or other items are issued free of cost to the contractor, the contractor will have to make good at his own cost any loss or damage to any part or whole of the items issued to him as above. All wastage within the premises limits as fixed by BHEL will be charged for at the prescribed issued rates of BHEL. Excess wastage will be charged for at punitive rates which will be 100% higher than the issue rates.

8. All surplus materials in good condition which are not returned to the BHEL Stores and quantities of materials consumed in excess of the max. permissible limit as fixed by BHEL shall be charged for at punitive rates.
The decision of the Engineer-in-charge as to the extent to which materials have been rendered surplus or consumed in excess of the actual requirements shall be final and conclusive and binding on the contractor.

**SCHEDULE 'C'**

**ISSUE OF TOOLS AND PLANTS TO CONTRACTORS**

| Sl. No. | Qty. | Particulars | Details of BHEL Crew Supplied | Hire Charges Per unit Per Day | Place of Issue | Remarks |
|---|---|---|---|---|---|---|
| …….Nil……. | | | | | | |

a. Machineries shall not be operated over time without the written permission of the Engineer-in-charge.

b. All Coolies, Watermen etc., required shall be arranged by the contractor at his own expense.

**SCHEDULE 'D'**

NOTE: All Drawings are to be signed by the Contractor as well as the officer entering into contract.

| SL. No. | DRAWING NUMBER | DESCRIPTION |
|---|---|---|
| 1 | NIL | NIL |

**SCHEDULE 'E'**

**LEAD STATEMENT**

| Sl. No. | Name of Material | Name of Source | Lead Particulars for Township |
|---|---|---|---|
| 1 | NIL | | |

**BILL OF QUANTITIES**

**(No rate shall be written here. Quote based on this BOQ should be given online in xl-format, only in eProcurement portal)**

**Name of Work : Annual Maintenance contract for maintenance of Township Quarters, Public Buildings, Construction of Civil and Structural Steel works, interior decorations, water supply, road patch works, drains,sewers, horticulture etc., in BHEL,Township, Trichy-14**

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 1 | 101A | Earthwork excavation (TRENCHES) in soils given below by mechanical means (Hydraulic excavator)/manual means and depositing the excavated earth at suitable places within the initial lead of 50 meter and initial lift of 1.5 meter for foundation in building works, roads, narrow drains, sewers, bridges, pipe lines etc., sectioning the subgrade to proper level and grade, watering and consolidating the subgrade to receive concrete bed, all as per standard specifications and instructions of Engineer-in-charge. All kinds of soil except rock | M3 | 132.91 |
| 2 | 101B | Earthwork excavation (TRENCHES) in soils given below by mechanical means (Hydraulic excavator)/manual means and depositing the excavated earth at suitable places within the initial lead of 50 meter and initial lift of 1.5 meter for foundation in building works, roads, narrow drains, sewers, bridges, pipe lines etc., sectioning the subgrade to proper level and grade, watering and consolidating the subgrade to receive concrete bed, all as per standard specifications and instructions of Engineer-in-charge. Ordinary rock | M3 | 213.1 |
| 3 | 101C | Earthwork excavation (TRENCHES) in soils given below by mechanical means (Hydraulic excavator)/manual means and depositing the excavated earth at suitable places within the initial lead of 50 meter and initial lift of 1.5 meter for foundation in building works, roads, narrow drains, sewers, bridges, pipe lines etc., sectioning the subgrade to proper level and grade, watering and consolidating the subgrade to receive concrete bed, all as per standard specifications and instructions of Engineer-in-charge. Hard rock (requiring blasting) | M3 | 384.09 |
| 4 | 101D | Earthwork excavation (TRENCHES) in soils given below by mechanical means (Hydraulic excavator)/manual means and depositing the excavated earth at suitable places within the initial lead of 50 meter and initial lift of 1.5 meter for foundation in building works, roads, narrow drains, sewers, bridges, pipe lines etc., sectioning the subgrade to proper level and grade, watering and consolidating the subgrade to receive concrete bed, all as per standard specifications and instructions of Engineer-in-charge. Hard rock (blasting prohibited) | M3 | 433.97 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 5 | 102A | Earthwork excavation (TRENCHES) in soils given below by mechanical means (Hydraulic excavator)/manual means and depositing the excavated earth at suitable places within the initial lead of 50 meter and initial lift of 1.5 meter for foundation in building works, roads, narrow drains, sewers, bridges, pipe lines etc., sectioning the subgrade to proper level and grade, watering and consolidating the subgrade to receive concrete bed, all as per standard specifications and instructions of Engineer-in-charge. Rate also includes bailing or pumping out water during excavation due to subsoil water, rain etc. All kinds of soil except rock. | M3 | 146.22 |
| 6 | 102B | Earthwork excavation (TRENCHES) in soils given below by mechanical means (Hydraulic excavator)/manual means and depositing the excavated earth at suitable places within the initial lead of 50 meter and initial lift of 1.5 meter for foundation in building works, roads, narrow drains, sewers, bridges, pipe lines etc., sectioning the subgrade to proper level and grade, watering and consolidating the subgrade to receive concrete bed, all as per standard specifications and instructions of Engineer-in-charge. Rate also includes bailing or pumping out water during excavation due to subsoil water, rain etc. Ordinary rock. | M3 | 234.37 |
| 7 | 102C | Earthwork excavation (TRENCHES) in soils given below by mechanical means (Hydraulic excavator)/manual means and depositing the excavated earth at suitable places within the initial lead of 50 meter and initial lift of 1.5 meter for foundation in building works, roads, narrow drains, sewers, bridges, pipe lines etc., sectioning the subgrade to proper level and grade, watering and consolidating the subgrade to receive concrete bed, all as per standard specifications and instructions of Engineer-in-charge. Rate also includes bailing or pumping out water during excavation due to subsoil water, rain etc. Hard rock (requiring blasting). | M3 | 422.48 |
| 8 | 102D | Earthwork excavation (TRENCHES) in soils given below by mechanical means (Hydraulic excavator)/manual means and depositing the excavated earth at suitable places within the initial lead of 50 meter and initial lift of 1.5 meter for foundation in building works, roads, narrow drains, sewers, bridges, pipe lines etc., sectioning the subgrade to proper level and grade, watering and consolidating the subgrade to receive concrete bed, all as per standard specifications and instructions of Engineer-in-charge. Rate also includes bailing or pumping out water during excavation due to subsoil water, rain etc. Hard rock (blasting prohibited) | M3 | 477.33 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 9 | 103A | Earth work for Open excavation ( exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) in soils given below by mechanical means (Hydraulic excavator)/manual means including disposal of earth at suitable places within a lead upto 50 metres and lift upto 1.5 metre, sectioning the subgrade to proper level and grade. Disposed soil are to be leveled and neatly dressed. All kinds of soil except rock | M3 | 188.17 |
| 10 | 103B | Earth work for Open excavation ( exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) in soils given below by mechanical means (Hydraulic excavator)/manual means including disposal of earth at suitable places within a lead upto 50 metres and lift upto 1.5 metre, sectioning the subgrade to proper level and grade. Disposed soil are to be leveled and neatly dressed. Ordinary rock | M3 | 199.21 |
| 11 | 103C | Earth work for Open excavation ( exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) in soils given below by mechanical means (Hydraulic excavator)/manual means including disposal of earth at suitable places within a lead upto 50 metres and lift upto 1.5 metre, sectioning the subgrade to proper level and grade. Disposed soil are to be leveled and neatly dressed. Hard rock (requiring blasting) | M3 | 353.19 |
| 12 | 103D | Earth work for Open excavation ( exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) in soils given below by mechanical means (Hydraulic excavator)/manual means including disposal of earth at suitable places within a lead upto 50 metres and lift upto 1.5 metre, sectioning the subgrade to proper level and grade. Disposed soil are to be leveled and neatly dressed. Hard rock (blasting prohibited) | M3 | 423.54 |
| 13 | 104 | Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.5 m in width as well as 10 sqm on plan including disposal of excavated earth upto 50 m and lift upto 1.5 m, disposed soil to be levelled and neatly dressed All kinds of soil | M2 | 37.39 |
| 14 | 105 | Surface dressing of the ground in all kinds of soil (excluding rock) including removing vegetation and inequalities not exceeding 15cm deep and disposal of rubbish, lead upto 50 m and lift upto 1.5 m. | M2 | 9.19 |
| 15 | 106A | Open timbering in trenches including strutting and shoring complete. (Measurements to be taken of the face area timbered) Depth not exceeding 1.5 metre | M2 | 55.2 |
| 16 | 106B | Open timbering in trenches including strutting and shoring complete. (Measurements to be taken of the face area timbered) Depth exceeding 1.5 metre but not exceeding 3 metre | M2 | 58.32 |
| 17 | 106C | Open timbering in trenches including strutting and shoring complete. (Measurements to be taken of the face area timbered) Depth exceeding 3 metre but not exceeding 4.5 metre | M2 | 63.51 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 18 | 107A1 | Extra for Earthwork excavation (TRENCHES) in soils given below by mechanical means (Hydraulic excavator)/manual means and depositing the excavated earth at suitable places within the initial lead of 50 meter and initial lift of 1.5 meter for foundation in building works, roads, narrow drains, sewers, bridges, pipe lines etc., sectioning the subgrade to proper level and grade, watering and consolidating the subgrade to receive concrete bed, all as per standard specifications and instructions of Engineer-in-charge. All kinds of soil except rock in or under water and/ or liquid mud, including pumping out water as required | M3 | 26.56 |
| 19 | 107A2 | Extra for Earthwork excavation (TRENCHES) in soils given below by mechanical means (Hydraulic excavator)/manual means and depositing the excavated earth at suitable places within the initial lead of 50 meter and initial lift of 1.5 meter for foundation in building works, roads, narrow drains, sewers, bridges, pipe lines etc., sectioning the subgrade to proper level and grade, watering and consolidating the subgrade to receive concrete bed, all as per standard specifications and instructions of Engineer-in-charge. Ordinary rock in or under water and/ or liquid mud, including pumping out water as required | M3 | 42.65 |
| 20 | 107A3 | Extra for Earthwork excavation (TRENCHES) in soils given below by mechanical means (Hydraulic excavator)/manual means and depositing the excavated earth at suitable places within the initial lead of 50 meter and initial lift of 1.5 meter for foundation in building works, roads, narrow drains, sewers, bridges, pipe lines etc., sectioning the subgrade to proper level and grade, watering and consolidating the subgrade to receive concrete bed, all as per standard specifications and instructions of Engineer-in-charge. Hard rock (requiring blasting) in or under water and/ or liquid mud, including pumping out water as required | M3 | 76.81 |
| 21 | 107A4 | Extra for Earthwork excavation (TRENCHES) in soils given below by mechanical means (Hydraulic excavator)/manual means and depositing the excavated earth at suitable places within the initial lead of 50 meter and initial lift of 1.5 meter for foundation in building works, roads, narrow drains, sewers, bridges, pipe lines etc., sectioning the subgrade to proper level and grade, watering and consolidating the subgrade to receive concrete bed, all as per standard specifications and instructions of Engineer-in-charge. Hard rock (blasting prohibited) in or under water and/ or liquid mud, including pumping out water as required | M3 | 86.78 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 22 | 107A5 | Extra for Earth work for Open excavation ( exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) in soils given below by mechanical means (Hydraulic excavator)/manual means including disposal of earth at suitable places within a lead upto 50 metres and lift upto 1.5 metre, sectioning the subgrade to proper level and grade. Disposed soil are to be leveled and neatly dressed. All kinds of soil except rock in or under water and/ or liquid mud, including pumping out water as required | M3 | 37.61 |
| 23 | 107A6 | Extra for Earth work for Open excavation ( exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) in soils given below by mechanical means (Hydraulic excavator)/manual means including disposal of earth at suitable places within a lead upto 50 metres and lift upto 1.5 metre, sectioning the subgrade to proper level and grade. Disposed soil are to be leveled and neatly dressed. Ordinary rock in or under water and/ or liquid mud, including pumping out water as required | M3 | 39.84 |
| 24 | 107A7 | Extra for Earth work for Open excavation ( exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) in soils given below by mechanical means (Hydraulic excavator)/manual means including disposal of earth at suitable places within a lead upto 50 metres and lift upto 1.5 metre, sectioning the subgrade to proper level and grade. Disposed soil are to be leveled and neatly dressed. Hard rock (requiring blasting) in or under water and/ or liquid mud, including pumping out water as required | M3 | 70.63 |
| 25 | 107A8 | Extra for Earth work for Open excavation ( exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) in soils given below by mechanical means (Hydraulic excavator)/manual means including disposal of earth at suitable places within a lead upto 50 metres and lift upto 1.5 metre, sectioning the subgrade to proper level and grade. Disposed soil are to be leveled and neatly dressed. Hard rock (blasting prohibited) in or under water and/ or liquid mud, including pumping out water as required | M3 | 84.73 |
| 26 | 107A9 | Extra for Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.5 m in width as well as 10 sqm on plan including disposal of excavated earth upto 50 m and lift upto 1.5 m, disposed soil to be levelled and neatly dressed All kinds of soil in or under water and/ or liquid mud, including pumping out water as required | M2 | 7.49 |
| 27 | 107A10 | Extra for Surface dressing of the ground in all kinds of soil (excluding rock) including removing vegetation and inequalities not exceeding 15cm deep and disposal of rubbish, lead upto 50 m and lift upto 1.5 m in or under water and/ or liquid mud, including pumping out water as required. | M2 | 1.86 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 28 | 107B1 | Extra for Earthwork excavation (TRENCHES) in soils given below by mechanical means (Hydraulic excavator)/manual means and depositing the excavated earth at suitable places within the initial lead of 50 meter and initial lift of 1.5 meter for foundation in building works, roads, narrow drains, sewers, bridges, pipe lines etc., sectioning the subgrade to proper level and grade, watering and consolidating the subgrade to receive concrete bed, all as per standard specifications and instructions of Engineer-in-charge. All kinds of soil except rock in or under foul position, including pumping out water as required. | M3 | 33.23 |
| 29 | 107B2 | Extra for Earthwork excavation (TRENCHES) in soils given below by mechanical means (Hydraulic excavator)/manual means and depositing the excavated earth at suitable places within the initial lead of 50 meter and initial lift of 1.5 meter for foundation in building works, roads, narrow drains, sewers, bridges, pipe lines etc., sectioning the subgrade to proper level and grade, watering and consolidating the subgrade to receive concrete bed, all as per standard specifications and instructions of Engineer-in-charge. Ordinary rock in or under foul position, including pumping out water as required. | M3 | 53.29 |
| 30 | 107B3 | Extra for Earthwork excavation (TRENCHES) in soils given below by mechanical means (Hydraulic excavator)/manual means and depositing the excavated earth at suitable places within the initial lead of 50 meter and initial lift of 1.5 meter for foundation in building works, roads, narrow drains, sewers, bridges, pipe lines etc., sectioning the subgrade to proper level and grade, watering and consolidating the subgrade to receive concrete bed, all as per standard specifications and instructions of Engineer-in-charge. Hard rock (requiring blasting) in or under foul position, including pumping out water as required. | M3 | 96.04 |
| 31 | 107B4 | Extra for Earthwork excavation (TRENCHES) in soils given below by mechanical means (Hydraulic excavator)/manual means and depositing the excavated earth at suitable places within the initial lead of 50 meter and initial lift of 1.5 meter for foundation in building works, roads, narrow drains, sewers, bridges, pipe lines etc., sectioning the subgrade to proper level and grade, watering and consolidating the subgrade to receive concrete bed, all as per standard specifications and instructions of Engineer-in-charge. Hard rock (blasting prohibited) in or under foul position, including pumping out water as required. | M3 | 108.5 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 32 | 107B5 | Extra for Earth work for Open excavation ( exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) in soils given below by mechanical means (Hydraulic excavator)/manual means including disposal of earth at suitable places within a lead upto 50 metres and lift upto 1.5 metre, sectioning the subgrade to proper level and grade. Disposed soil are to be leveled and neatly dressed. All kinds of soil except rock in or under foul position, including pumping out water as required. | M3 | 47.07 |
| 33 | 107B6 | Extra for Earth work for Open excavation ( exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) in soils given below by mechanical means (Hydraulic excavator)/manual means including disposal of earth at suitable places within a lead upto 50 metres and lift upto 1.5 metre, sectioning the subgrade to proper level and grade. Disposed soil are to be leveled and neatly dressed. Ordinary rock in or under foul position, including pumping out water as required. | M3 | 49.83 |
| 34 | 107B7 | Extra for Earth work for Open excavation ( exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) in soils given below by mechanical means (Hydraulic excavator)/manual means including disposal of earth at suitable places within a lead upto 50 metres and lift upto 1.5 metre, sectioning the subgrade to proper level and grade. Disposed soil are to be leveled and neatly dressed. Hard rock (requiring blasting) in or under foul position, including pumping out water as required. | M3 | 88.33 |
| 35 | 107B8 | Extra for Earth work for Open excavation ( exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) in soils given below by mechanical means (Hydraulic excavator)/manual means including disposal of earth at suitable places within a lead upto 50 metres and lift upto 1.5 metre, sectioning the subgrade to proper level and grade. Disposed soil are to be leveled and neatly dressed. Hard rock (blasting prohibited) in or under foul position, including pumping out water as required. | M3 | 105.91 |
| 36 | 107B9 | Extra for Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.5 m in width as well as 10 sqm on plan including disposal of excavated earth upto 50 m and lift upto 1.5 m, disposed soil to be levelled and neatly dressed All kinds of soil in or under foul position, including pumping out water as required. | M2 | 9.36 |
| 37 | 107B10 | Extra for Surface dressing of the ground in all kinds of soil (excluding rock) including removing vegetation and inequalities not exceeding 15cm deep and disposal of rubbish, lead upto 50 m and lift upto 1.5 m in or under foul position, including pumping out water as required. . | M2 | 2.34 |
| 38 | 108A | Extra for every additional lift of 1.5 metre or part thereof in : All kinds of soil excluding rock. | M3 | 34.29 |
| 39 | 108B | Extra for every additional lift of 1.5 metre or part thereof in : Ordinary or hard rock | M3 | 61.49 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 40 | 110 | Supply and filling with river sand in foundation, plinth, under floor etc. including watering, ramming, consolidating and dressing complete. | M3 | 531.37 |
| 41 | 111 | Supply and spreading/filling with stone dust complying with standard specifications. | M3 | 264.55 |
| 42 | 112 | Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundation etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead upto 50 m and lift up to 1.5 m etc. complete. | M3 | 83.38 |
| 43 | 113 | Labour charges for mixing the earth, red earth, sand, manure, coconut waste etc. thoroughly to the required proportion and carrying the same and filling it in the excavated pits/areas at various locations with all leads and lifts. Rate excludes cost of materials. | M3 | 90.74 |
| 44 | 114 | Ploughing the existing ground in all kinds of soil to a depth of 15 to 25 cm and watering the same. | M2 | 9.36 |
| 45 | 115 | Labour charges for breaking clods, consolidating, sectioning etc. | M3 | 3.07 |
| 46 | 116 | Forming turfing in slopes with initial watering, all as per instructions of Engineer-in-charge. | M2 | 17.06 |
| 47 | 117A | Extra rate for consolidation of bunds etc. by means of the following, including watering. Hand roller | M3 | 10.2 |
| 48 | 117B | Extra rate for consolidation of bunds etc. by means of the following, including watering. Power roller including hire charges. | M3 | 17.06 |
| 49 | 118 | Benching hard rock upto an aveage 10 cm depth | M2 | 333.52 |
| 50 | 119A | Drilling holes in hard granite/RCC structure: 45 mm dia | RM | 130.69 |
| 51 | 119B | Drilling holes in hard granite/RCC structure: 50 mm dia | RM | 155.68 |
| 52 | 119C | Drilling holes in hard granite/RCC structure: 75mm dia | RM | 176.79 |
| 53 | 120 | Bailing or pumping out water from trenches, foundations etc., at all depths wherever necessary as per standard specifications. | Hp/Hr | 68.74 |
| 54 | 121 | Clearing grass and removal of rubbish upto a distance of 50 metre. | M2 | 2.41 |
| 55 | 122 | Clearing jungle including uprooting of rank vegetation, grass, brushwood, trees and saplings of girth upto 30 cm measured at a height of 1 metre above ground level and removal of rubbish upto a distance of 50 metre. | M2 | 4.75 |
| 56 | 123A | Felling trees of girth (measured at a height of 1 metre above ground level) including cutting of trunks and branches, removing the roots from the soil and then filling the pit and depression, stacking of serviceable materials and disposal of unserviceable materials. Beyond 30 cm girth upto and including 60 cm girth | EA | 147.07 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 57 | 123B | Felling trees of girth (measured at a height of 1 metre above ground level) including cutting of trunks and branches, removing the roots from the soil and then filling the pit and depression, stacking of serviceable materials and disposal of unserviceable materials. Beyond 60 cm girth upto and including 120 cm girth | EA | 648.33 |
| 58 | 123C | Felling trees of girth (measured at a height of 1 metre above ground level) including cutting of trunks and branches, removing the roots from the soil and then filling the pit and depression, stacking of serviceable materials and disposal of unserviceable materials. Beyond 120 cm girth upto and including 240 cm girth | EA | 2991.13 |
| 59 | 123D | Felling trees of girth (measured at a height of 1 metre above ground level) including cutting of trunks and branches, removing the roots from the soil and then filling the pit and depression, stacking of serviceable materials and disposal of unserviceable materials. Above 240 cm girth | EA | 6003.67 |
| 60 | 124 | Supplying Chlorpyriphos / Lindane emulsifiable concentrate of 20 % (chemical emulsion) in sealed containers at site of work. | L | 186.06 |
| 61 | 125 | Labour charges for pre-constructional anti-termite treatment by diluting and injecting chemical emulsion which will be supplied by BHEL at free of cost and creating a continuous chemical barrier under and alround the column pits, wall trenches, basement excavation, top surface of plinth filling, junction of wall and floor, along the external perimeter of building, expansion joints, over the top surface of consolidated earth, surrounding of pipes and conduits etc. complete , all as per standard specification. (Plinth area of building at ground floor only shall be measured for payment) | M2 | 150.7 |
| 62 | 126 | Diluting and injecting pre-constructional anti-termite treatment by chemical emulsion and creating a continuous chemical barrier under and alround the column pits, wall trenches, basement excavation, top surface of plinth filling, junction of wall and floor, along the external perimeter of building, expansion joints, over the top surface of consolidated earth, surrounding of pipes and conduits etc. complete , all as per standard specification. (Plinth area of building at ground floor only shall be measured for payment). Rate includes cost of Chemical emulsion, labour charges and all other incidentals etc as per instuctions of Engineer in charge. | M2 | 504.23 |
| 63 | 127A | Labour charges for post-constructional anti-termite treatment by diluting and injecting chemical emulsion (will be supplied by BHEL at free of cost), all as per standard specification. Along external wall where the apron is not provided using chemical emulsion @ 7.5 litres / sqm of the vertical surface of the substructure to a depth of 300 mm including excavation channel along the wall and rodding etc. complete. | M | 12 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 64 | 127B | Labour charges for post-constructional anti-termite treatment by diluting and injecting chemical emulsion (will be supplied by BHEL at free of cost), all as per standard specification. Along the external wall below concrete or masonry apron using chemical emulsion @ 2.25 litres per linear metre including drilling and plugging holes etc. | M | 18.38 |
| 65 | 127C | Labour charges for post-constructional anti-termite treatment by diluting and injecting chemical emulsion (will be supplied by BHEL at free of cost), all as per standard specification. Treatment of soil under existing floors, using chemical emulsion @ one litre per hole, 300 mm apart including drilling 12 mm dia holes and plugging with cement mortar 1:2 (1 cement : 2 coarse sand) to match the existing floor. (Requirement of chemical emulsion - Chlorpyriphos/Lindane E.C 20 % with 1 % concentration - 5 litre / 9 SQM) | M2 | 95.72 |
| 66 | 127D | Labour charges for post-constructional anti-termite treatment by diluting and injecting chemical emulsion (will be supplied by BHEL at free of cost), all as per standard specification. Treatment of existing masonry using chemical emulsion @ one litre per hole at 300 mm interval including drilling holes at 45 degree and plugging them with cement mortar 1:2 (1 cement : 2 coarse sand) to the full depth of the hole. (Requirement of chemical emulsion - Chlorpyriphos/Lindane E.C 20 % with 1 % concentration - 1.70 litre / 10 RM) | M | 14.25 |
| 67 | 127E | Labour charges for post-constructional anti-termite treatment by diluting and injecting chemical emulsion (will be supplied by BHEL at free of cost), all as per standard specification. Treatment at points of contact of wood work by chemical emulsion Chlorpyriphos/Lindane (in oil or kerosene based solution) @ 0.50 litre per hole by drilling 6 mm dia holes at downward angle of 45 degree at 150 mm centre to centre and sealing the same. Rate includes cost of kerosene but excludes chemical. (Requirement of chemical emulsion - Chlorpyriphos/Lindane E.C 20 % with 1 % concentration - 1.70 litre / 10 RM) | M | 130.8 |
| 68 | 128A | Diluting and injecting chemical emulsion (BIFLEX T.C 2.5 EC in 20 L/Equivalent) for post-constructional anti-termite treatment, all as per standard specification. Rate includes cost of Chemical emulsion, labour charges and all other incidentals etc as per instuctions of Engineer in charge. Along external wall where the apron is not provided using chemical emulsion @ 7.5 litres / sqm of the vertical surface of the substructure to a depth of 300 mm including excavation channel along the wall and rodding etc. complete. | RM | 70.06 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 69 | 128B | Diluting and injecting chemical emulsion (BIFLEX T.C 2.5 EC in 20 L/Equivalent) for post-constructional anti-termite treatment, all as per standard specification. Rate includes cost of Chemical emulsion, labour charges and all other incidentals etc as per instuctions of Engineer in charge. Along the external wall below concrete or masonry apron using chemical emulsion @ 2.25 litres per linear metre including drilling and plugging holes etc. | RM | 76.44 |
| 70 | 128C | Diluting and injecting chemical emulsion (BIFLEX T.C 2.5 EC in 20 L/Equivalent) for post-constructional anti-termite treatment, all as per standard specification. Rate includes cost of Chemical emulsion, labour charges and all other incidentals etc as per instuctions of Engineer in charge. Treatment of soil under existing floors, using chemical emulsion @ one litre per hole, 300 mm apart including drilling 12 mm dia holes and plugging with cement mortar 1:2 (1 cement : 2 coarse sand) to match the existing floor. | M2 | 382.4 |
| 71 | 128D | Diluting and injecting chemical emulsion (BIFLEX T.C 2.5 EC in 20 L/Equivalent) for post-constructional anti-termite treatment, all as per standard specification. Rate includes cost of Chemical emulsion, labour charges and all other incidentals etc as per instuctions of Engineer in charge. Treatment of existing masonry using chemical emulsion @ one litre per hole at 300 mm interval including drilling holes at 45 degree and plugging them with cement mortar 1:2 (1 cement : 2 coarse sand) to the full depth of the hole. | RM | 102 |
| 72 | 128E | Diluting and injecting chemical emulsion (BIFLEX T.C 2.5 EC in 20 L/Equivalent) for post-constructional anti-termite treatment, all as per standard specification. Rate includes cost of Chemical emulsion, labour charges and all other incidentals etc as per instuctions of Engineer in charge. Treatment at points of contact of wood work by chemical emulsion (in oil or kerosene based solution) @ 0.50 litre per hole by drilling 6 mm dia holes at downward angle of 45 degree at 150 mm centre to centre and sealing the same. Rate includes cost of kerosene, chemical emulsion. | RM | 218.49 |
| 73 | 129 | Hire charges for engaging earth moving machinery (Hydraulic Excavator) to attend to channeling works at river bed, pipe line burst works, cleaning the areas including uprooting thorny plants/heavy jungles/trees etc.of all heights and leveling the areas thereafter including all debris etc., all as per instructions of Engineer-in-charge. Rate includes hire, fuel, operation charges, to and fro charges for machinery, all labour and all other incidentals etc., complete. | HR | 1162.14 |
| 74 | 201A | Providing and laying in position plain cement concrete of specified grade including consolidation, curing etc. complete, all as per standard specifications. All works upto plinth level. Rate excludes cost of centring and shuttering. 1:1:2 with graded stone aggregate 20 mm nominal size. | M3 | 2134.04 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 75 | 201B | Providing and laying in position plain cement concrete of specified grade including consolidation, curing etc. complete, all as per standard specifications. All works upto plinth level. Rate excludes cost of centring and shuttering. 1:1.5:3 with graded stone aggregate 20 mm nominal size. | M3 | 2084.13 |
| 76 | 201C | Providing and laying in position plain cement concrete of specified grade including consolidation, curing etc. complete, all as per standard specifications. All works upto plinth level. Rate excludes cost of centring and shuttering. 1:2:4 with graded stone aggregate 20 mm nominal size. | M3 | 1965.53 |
| 77 | 201D | Providing and laying in position plain cement concrete of specified grade including consolidation, curing etc. complete, all as per standard specifications. All works upto plinth level. Rate excludes cost of centring and shuttering. 1:2:4 with graded stone aggregate 40 mm nominal size. | M3 | 1971.61 |
| 78 | 201E | Providing and laying in position plain cement concrete of specified grade including consolidation, curing etc. complete, all as per standard specifications. All works upto plinth level. Rate excludes cost of centring and shuttering. 1:3:6 with graded stone aggregate 40 mm nominal size. | M3 | 2021.82 |
| 79 | 201F | Providing and laying in position plain cement concrete of specified grade including consolidation, curing etc. complete, all as per standard specifications. All works upto plinth level. Rate excludes cost of centring and shuttering. 1:4:8 with graded stone aggregate 40 mm nominal size. | M3 | 2016.34 |
| 80 | 201G | Providing and laying in position plain cement concrete of specified grade including consolidation, curing etc. complete, all as per standard specifications. All works upto plinth level. Rate excludes cost of centring and shuttering. 1:5:10 with graded stone aggregate 40 mm nominal size. | M3 | 2011.97 |
| 81 | 201H | Providing and laying in position plain cement concrete of specified grade including consolidation, curing etc. complete, all as per standard specifications. All works upto plinth level. Rate excludes cost of centring and shuttering. 1:4:8 with graded stone aggregate 20 mm nominal size. | M3 | 2236.94 |
| 82 | 202A | Providing and laying in position specified grade of reinforced cement concrete including vibration charges, curing etc. complete but excluding cost of centring, shuttering, finishing and reinforcement. 1:1:2 with graded stone aggregate 20 mm nominal size - All works upto plinth level. | M3 | 2336.58 |
| 83 | 202B | Providing and laying in position specified grade of reinforced cement concrete including vibration charges, curing etc. complete but excluding cost of centring, shuttering, finishing and reinforcement.1:1.5:3 with graded stone aggregate 20 mm nominal size - All works upto plinth level. | M3 | 2286.66 |
| 84 | 202C | Providing and laying in position specified grade of reinforced cement concrete including vibration charges, curing etc. complete but excluding cost of centring, shuttering, finishing and reinforcement. 1:2:4 with graded stone aggregate 20 mm nominal size - All works upto plinth level. | M3 | 2361.76 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 85 | 202D | Providing and laying in position specified grade of reinforced cement concrete including vibration charges, curing etc. complete but excluding cost of centring, shuttering, finishing and reinforcement. 1:1:2 with graded stone aggregate 20 mm nominal size - Above plinth to floor five level. | M3 | 2981.84 |
| 86 | 202E | Providing and laying in position specified grade of reinforced cement concrete including vibration charges, curing etc. complete but excluding cost of centring, shuttering, finishing and reinforcement.1:1.5:3 with graded stone aggregate 20 mm nominal size - Above plinth to floor five level. | M3 | 2931.94 |
| 87 | 202F | Providing and laying in position specified grade of reinforced cement concrete including vibration charges, curing etc. complete but excluding cost of centring, shuttering, finishing and reinforcement.1:2:4 with graded stone aggregate 20 mm nominal size - Above plinth to floor five level. | M3 | 3007.05 |
| 88 | 203 | Straightening, cutting, bending, placing in position of MS/CTD bars and binding with MS binding wires of 18/20 gauge etc. for reinforcement of RCC works. Rate includes cover blocks, cost of binding wire , conveyance of MS/ CTD bars from BHEL stores to site of work, labour etc. complete. MS/CTD bars will be supplied by BHEL at Stores at free of cost. | MT | 7859.81 |
| 89 | 204A | Centring and shuttering including strutting, propping, assembling etc. and removal of form work. Upto a maximum height of 4.50 metre of each floor and also upto floor five level. Foundations, footings, bases of columns, equipment foundations, precast slabs, kerbs etc. for mass concrete. | M2 | 176.75 |
| 90 | 204B | Centring and shuttering including strutting, propping, assembling etc. and removal of form work. Upto a maximum height of 4.50 metre of each floor and also upto floor five level. Walls (any thickness) including attached pilasters, plinth, stairs, chimney, shafts and string courses etc. | M2 | 308.12 |
| 91 | 204C | Centring and shuttering including strutting, propping, assembling etc. and removal of form work. Upto a maximum height of 4.50 metre of each floor and also upto floor five level. Suspended floors, roofs, landings, balconies, access platform and sunshades. | M2 | 341.94 |
| 92 | 204D | Centring and shuttering including strutting, propping, assembling etc. and removal of form work. Upto a maximum height of 4.50 metre of each floor and also upto floor five level. Lintels, beams, plinth beams, girders, bressumers and cantilevers | M2 | 267.82 |
| 93 | 204E | Centring and shuttering including strutting, propping, assembling etc. and removal of form work. Upto a maximum height of 4.50 metre of each floor and also upto floor five level. Columns, pillars, piers, abutments, posts and struts. | M2 | 392.7 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 94 | 204F | Centring and shuttering including strutting, propping, assembling etc. and removal of form work. Upto a maximum height of 4.50 metre of each floor and also upto floor five level. Arches, domes, vaults upto 6 m span | M2 | 828.09 |
| 95 | 204G | Centring and shuttering including strutting, propping, assembling etc. and removal of form work. Upto a maximum height of 4.50 metre of each floor and also upto floor five level. Well steining | M2 | 482.31 |
| 96 | 204H1 | Extra for Centring and shuttering including strutting, propping, assembling etc. and removal of form work. Upto a maximum height of 4.50 metre of each floor and also upto floor five level. Foundations, footings, bases of columns, equipment foundations, precast slabs, kerbs etc. for mass concrete in circular work. | M2 | 35.33 |
| 97 | 204H2 | Extra for Centring and shuttering including strutting, propping, assembling etc. and removal of form work. Upto a maximum height of 4.50 metre of each floor and also upto floor five level. Lintels, beams, plinth beams, girders, bressumers and cantilevers in circular work. | M2 | 53.57 |
| 98 | 204H3 | Extra for Centring and shuttering including strutting, propping, assembling etc. and removal of form work. Upto a maximum height of 4.50 metre of each floor and also upto floor five level. Columns, pillars, piers, abutments, posts and struts in circular work. | M2 | 78.56 |
| 99 | 204I | Centring and shuttering including strutting, propping, assembling etc. and removal of form work. Upto a maximum height of 4.50 metre of each floor and also upto floor five level. Pockets or holes in foundations for holding down bolts. | M2 | 717.63 |
| 100 | 205 | Extra for additional height in centring, shuttering wherever required with adequate bracing, propping etc. including cost of de-shuttering and de-centring at all levels, over a height of 4.5 metre for every additional height of 1 metre or part there of. For suspended floors, roofs, landing, beams and balconies (Plan area to be measured) | M2 | 174.59 |
| 101 | 206 | Providing and laying in position machine batched, machine mixed and machine vibrated design mix of reinforcd cement concrete of specified grade for structrural elements using 10 to 20 mm hard broken granite stone jelly, excluding cost of centring, shuttering, finishing and reinforcement but including admixtures in recommended proportions (as per IS:9103) to accelerate, retard setting of concrete, improve workability without impairing strength and durability, all as per directions of Engineer-in-charge. M-20 Grade reinforced cement concrete. All work in foundation, basement and upto Floor V level. | M3 | 2882.78 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 102 | 207A | Providing and laying in position machine batched, machine mixed and machine vibrated design mix of reinforcd cement concrete of specified grade for structrural elements using 10 to 20 mm hard broken granite stone jelly, excluding cost of centring, shuttering, finishing and reinforcement but including admixtures in recommended proportions (as per IS:9103) to accelerate, retard setting of concrete, improve workability without impairing strength and durability, all as per directions of Engineer-in-charge. M-25 Grade reinforced cement concrete. All work in foundation, basement and upto Floor V level. | M3 | 2891.72 |
| 103 | 207B | Providing and laying in position machine batched, machine mixed and machine vibrated design mix of reinforcd cement concrete of specified grade for structrural elements using 10 to 20 mm hard broken granite stone jelly, excluding cost of centring, shuttering, finishing and reinforcement but including admixtures in recommended proportions (as per IS:9103) to accelerate, retard setting of concrete, improve workability without impairing strength and durability, all as per directions of Engineer-in-charge. M-30 Grade reinforced cement concrete. All work in foundation, basement and upto Floor V level. | M3 | 2895 |
| 104 | 207C | Providing and laying in position machine batched, machine mixed and machine vibrated design mix of reinforcd cement concrete of specified grade for structrural elements using 10 to 20 mm hard broken granite stone jelly, excluding cost of centring, shuttering, finishing and reinforcement but including admixtures in recommended proportions (as per IS:9103) to accelerate, retard setting of concrete, improve workability without impairing strength and durability, all as per directions of Engineer-in-charge. M-35 Grade reinforced cement concrete. All work in foundation, basement and upto Floor V level. | M3 | 2897.69 |
| 105 | 208 | Extra for laying plain / reinforced concrete in or under foul conditions. | M3 | 132.27 |
| 106 | 209A | Providing vertical drops, fins, facias etc., for the following thickness with 1:2:4 cement concrete using 6 mm granite stone chips for inner core applied on chickenmesh and neatly plastered with cement mortar 1:4, 12mm thick on both faces, finishing, curing etc., complete. Rate includes cost of all materials and labour but excluding fabrication charges for reinforcement. 75mm thick | M2 | 890.21 |
| 107 | 209B | Providing vertical drops, fins, facias etc., for the following thickness with 1:2:4 cement concrete using 6 mm granite stone chips for inner core applied on chickenmesh and neatly plastered with cement mortar 1:4, 12mm thick on both faces, finishing, curing etc., complete. Rate includes cost of all materials and labour but excluding fabrication charges for reinforcement. 60 mm thick | M2 | 877.48 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 108 | 210 | Providing, hoisting and fixing upto floor five level precast reinforced cement concrete elements like slabs etc. of 25 to 150 mm thick in required sizes with mix 1:2:4 using 10 to 20 mm size hard broken granite stone jelly for cupboards, shelves etc. including setting in cement mortar 1:3, cost of centring, shuttering and finishing with neat cement punning on exposed surfaces but excluding the cost of reinforcement and fabrication charges. | M3 | 6690.52 |
| 109 | 211 | Providing, hoisting and fixing upto floor V level plain cement concrete elements like slabs etc. of 25 to 150 mm thick of required sizes in mix 1:2:4 using 10 to 20 mm size hard broken granite stone jelly. Rate includes centring, shuttering and finishing with neat cement punning on exposed surfaces but excluding pointing. | M3 | 5524.01 |
| 110 | 212 | Carrying from departmental stores / stack yard and fixing in position of 25 to 150 mm thick Plain / R C C precast elements like slabs etc. to the correct line, level, plumb and alignment, all as per standard specifications. Rate excludes cost of precast slabs and pointing. | M3 | 535.22 |
| 111 | 213A | Providing precast cement concrete Jali 1:2:4 using graded stone aggregate 6 mm nominal size with suitable reinforcement including centring and shuttering, roughening, cleaning, fixing and finishing in cement mortar 1:3 etc.complete. Rate excludes reinforcement steel and fabrication charges. 50 mm thick | M2 | 569.19 |
| 112 | 213B | Providing precast cement concrete Jali 1:2:4 using graded stone aggregate 6 mm nominal size with suitable reinforcement including centring and shuttering, roughening, cleaning, fixing and finishing in cement mortar 1:3 etc.complete. Rate excludes reinforcement steel and fabrication charges. 40 mm thick | M2 | 487.79 |
| 113 | 214A | Providing and fixing RCC precast perforated lawn drain cover slabs of following thickness in mix 1:2:4 using graded stone aggregate 10 mm nominal size including moulding, shuttering, finishing, carrying and fixing in position etc., complete. Rate excludes reinforcement steel and fabrication charges. 75 mm thick | M2 | 279.92 |
| 114 | 214B | Providing and fixing RCC precast perforated lawn drain cover slabs of following thickness in mix 1:2:4 using graded stone aggregate 10 mm nominal size including moulding, shuttering, finishing, carrying and fixing in position etc., complete. Rate excludes reinforcement steel and fabrication charges. 50 mm thick | M2 | 170.73 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 115 | 215 | Precasting, carrying and fixing in position of RCC louvers including 60 mm thick side posts, 60 mm thick intermittent lintel and 100 mm thick top lintel, 40 mm thick louver slabs lintels etc. (all precast) in cement concrete 1:2:4 using graded stone aggregate 10 mm nominal size with specified reinforcement, all as per standard drawing and instructions of Engineer-in-charge. Rate includes supply and fixing of holdfasts, moulding, scaffolding for fixing at specified levels, finishing and also filling the gap between precast lintels with insitu cement concrete of mix 1:2:4 using 10 mm and down graded hard broken granite stone jelly and filling the gap recesses of side walls with C.M 1:5, cutting and forming chases in brick masonry, finishing jambs wherever necessary and making good all damages to suit the existing work but excluding cost of fabrication charges for reinforcement steel. | M2 | 816.47 |
| 116 | 216A | Precasting and fixing in position of RCC cable trench cover slabs of following thickness in mix 1:2:4 using graded stone aggregate 12 mm nominal size with top 15 mm thick finished with hardening compound of proportion one part of ironite or equivalent, four parts of cement and eight parts of 6 mm gauge hard granite stone chips (the proportion being by weight) including welding reinforcement rods to the frame work, all as per drawing, specifications and instructions of Engineer-in-charge but excluding cost of M.S frame work which will be paid separately. Reinforcement rods and M.S frames will be supplied by BHEL at stores at free of cost. 69mm thick slab | M2 | 574.38 |
| 117 | 216B | Precasting and fixing in position of RCC cable trench cover slabs of following thickness in mix 1:2:4 using graded stone aggregate 12 mm nominal size with top 15 mm thick finished with hardening compound of proportion one part of ironite or equivalent, four parts of cement and eight parts of 6 mm gauge hard granite stone chips (the proportion being by weight) including welding reinforcement rods to the frame work, all as per drawing, specifications and instructions of Engineer-in-charge but excluding cost of M.S frame work which will be paid separately. Reinforcement rods and M.S frames will be supplied by BHEL at stores at free of cost. 150mm thick slab | M2 | 778.39 |
| 118 | 217 | Encasing rolled steel sections in beams and columns in cement concrete 1:2:4 using graded stone aggregate 12.50 mm nominal size including centering, shuttering etc. complete but excluding cost of reinforcement and fabrication charges. | M3 | 4308.98 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 119 | 218 | Providing balustrade for an overall thickness of 100 mm with cement concrete 1:2:4 using 12 to 20 mm size hard broken granite stone jelly for 75 mm thick inner core applied on chickenmesh and neatly plastered with cement mortar 1:4 on both faces and hand rail plastered in CM 1:4 with an admixture of red oxide including finishing, polishing curing etc., complete. Rate includes cost of all materials and labour but excluding cost of reinforcement and fabrication charges. | M2 | 1050.91 |
| 120 | 219 | Extra for providing and fixing expanded metal mesh of size 20 x 60 mm and strands 3.25 mm wide 1.6 mm thick weighing 3.64 kg. per sqm for encasing of rolled steel sections in beams, columns and grillage excluding cost of hangers. | M2 | 375.95 |
| 121 | 220 | Providing and fixing in position of copper plate as per design for expansion joints. | KG | 294.34 |
| 122 | 221 | Providing and filling in position of blown bitumen in expansion joints. | M3 | 48086.52 |
| 123 | 222 | Providing and filling in position of bitumen mix filler of proportion 80 Kg of hot bitumen, 1 Kg of cement and 0.25 cubicmetre of coarse sand for expansion joints. | M3 | 14906.84 |
| 124 | 223 | Providing and fixing in position of 12 mm thick bitumen impregnated fibre board conforming to IS:1838 including cost of primer, sealing compound in expansion joints. | M2 | 394.31 |
| 125 | 224 | Extra for providing and mixing water proofing material 'Impermo' or equivalent in cement concrete work at 1 Kg per 50 Kg of cement. | KG | 40.41 |
| 126 | 226 | Providing and placing in position PVC water stops serrated with central bulb, 225 mm wide and 8-11 mm thick for construction / expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete. | RM | 488.15 |
| 127 | 301A | Random rubble masonry in foundation and basement in the mix given below including simultaneous flush pointing, all as per standard specifications. Cement mortar 1:5 | M3 | 1875.9 |
| 128 | 301B | Random rubble masonry in foundation and basement in the mix given below including simultaneous flush pointing, all as per standard specifications. In cement mortar 1:6 | M3 | 1873.68 |
| 129 | 302 | Coursed rubble masonry (second sort) with hard stone in foundation and plinth with Cement mortar 1:6. | M3 | 2187.35 |
| 130 | 303 | Extra for random rubble masonry with hard stone curved on plan for a mean radius not exceeding 6 metre. | M3 | 318.85 |
| 131 | 304 | Extra for random rubble and coursed rubble masonry with hard stone in superstructure above plinth level and upto floor five level. | M3 | 681.99 |
| 132 | 305 | Extra for laying stone work in or under foul position. | M3 | 132.27 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 133 | 306 | Labour charges for providing random rubble masonry in foundation and basement in the mixes specified including simultaneous flush pointing, all as per standard specifications. Rough stones and bond stones will be supplied by BHEL at free of cost, at site of work. | M3 | 575.59 |
| 134 | 307 | Providing rough stone dry packing for aprons and revetments including filling interstices with spalls, wedging, consolidating and preparing the surface, all as per standard specifications. | M3 | 1359.73 |
| 135 | 308 | Labour charges for providing rough stone dry packing for aprons and revetments including filling interstices with spalls, wedging, consolidating and preparing the surface, all as per standard specifications. Rough stones will be supplied by BHEL at site at free of cost. | M3 | 934.38 |
| 136 | 309 | Providing hollow block masonry in cement mortar 1:5 using hollow block of sizes 400 x 200 x 200 mm / 400 x 150 x 200 mm / 400 x 100 x 200 mm or thereabouts of approved good quality including simultaneous flush pointing, all as per standard specification. Rate includes cost of hollow blocks, conveying, leading, loading, unloading, labour, incidentals etc., complete. Upto 4.50 m height from plinth level. | M3 | 3286.96 |
| 137 | 310A | Brick work with F.P.S bricks ( second class ground moulded chamber bricks ) of class designation 50/75 in foundation and plinth in: Cement mortar 1:3 | M3 | 3935.8 |
| 138 | 310B | Brick work with F.P.S bricks ( second class ground moulded chamber bricks ) of class designation 50/75 in foundation and plinth in: Cement mortar 1:4 | M3 | 3932.23 |
| 139 | 310C | Brick work with F.P.S bricks ( second class ground moulded chamber bricks ) of class designation 50/75 in foundation and plinth in: Cement mortar 1:5 | M3 | 3577.74 |
| 140 | 310D | Brick work with F.P.S bricks ( second class ground moulded chamber bricks ) of class designation 50/75 in foundation and plinth in: Cement mortar 1:6 | M3 | 3928.63 |
| 141 | 311A | Brick work with modular bricks ( second class table moulded chamber bricks ) of class designation 50/75 in foundation and plinth in: Cement mortar 1:3 | M3 | 4119.32 |
| 142 | 311B | Brick work with modular bricks ( second class table moulded chamber bricks ) of class designation 50/75 in foundation and plinth in: Cement mortar 1:4 | M3 | 4116.22 |
| 143 | 311C | Brick work with modular bricks ( second class table moulded chamber bricks ) of class designation 50/75 in foundation and plinth in: Cement mortar 1:5 | M3 | 4114.52 |
| 144 | 311D | Brick work with modular bricks ( second class table moulded chamber bricks ) of class designation 50/75 in foundation and plinth in: Cement mortar 1:6 | M3 | 4113.06 |
| 145 | 312 | Extra for Brick work in superstructure above plinth upto floor three level in all shapes and sizes. | M3 | 260.87 |
| 146 | 313 | Extra for brick work with bricks curved on plan upto a mean radius not exceeding 6 metre. | M3 | 500.69 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 147 | 314 | Extra charges for providing half brick masonry, brick on edge walls, fins, balustrade etc.over and above the brick work rates of 0310 and 0311. | M3 | 314.42 |
| 148 | 315 | Honey-comb brick work 10 / 11.40 cm thick with FPS bricks of class designation 50 in cement mortar 1:4. | M2 | 331.9 |
| 149 | 316 | Extra for laying brick work in or under foul position. | M3 | 132.27 |
| 150 | 317 | Providing and filling with 20 mm brick jelly including filling the voids (max.of 10%) with river sand and compacted well with wooden hammer etc. complete. | M3 | 726.36 |
| 151 | 318 | Rectifying the wall cracks by chipping off the existing plastered surfaces to the required width, depth and applying cement slurry in the cracks to the required depth, making good all damages and finishing to match with the existing one by plastering with C.M 1:5, 12/15mm thick and a coat of white wash / snowcem / distemper etc. as the case may be. | M2 | 89.74 |
| 152 | 319 | Rectifying the wall cracks by chipping off the existing plastered surfaces to the required width, depth and applying cement slurry in the cracks to the required depth, making good all damages, providing chickenmesh and finishing to match with the existing one by plastering with C.M 1:5, 12/15mm thick and a coat of white wash / snowcem / distemper etc. as the case may be. | M2 | 128.58 |
| 153 | 320 | Brick work with mechanized autoclaved fly ash lime bricks made up of fly ash, lime, gypsum and coarse sand / stone dust to size 230 mm x 110 mm x 70 mm or thereabouts confirming to IS 12894 of class desigination 50 (min) in foundation, plinth and superstructure above plinth up to floor V level as per standard specifications and instructions of Engineer in charge In cement mortar 1:5 | M3 | 4564.86 |
| 154 | 321 | Brick work with non modular fly ash lime bricks (FALG Bricks) conforming to IS:12894, class designation 10 average compressive strength in foundation, plinth and superstructure above plinth up to floor V level as per standard specifications and instructions of Engineer in charge In cement mortar 1:5 | M3 | 4395.08 |
| 155 | 401A | Providing best wooden frames for doors, windows, ventilators and other frames, wrought framed and fixed in position. All as per standard specifications and drawings. Rate includes cost of wood, holdfasts, other materials, labour etc. complete. In Teak wood | M3 | 149382.79 |
| 156 | 401B | Providing best wooden frames for doors, windows, ventilators and other frames, wrought framed and fixed in position. All as per standard specifications and drawings. Rate includes cost of wood, holdfasts, other materials, labour etc. complete. In Country wood | M3 | 63142.34 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 157 | 402A | Providing best wooden frames for false ceiling, partitions etc. sawn and put up in position. All as per standard specifications and drawings. Rate includes cost of wood, M.S suspenders, screws, nails, other materials involved, labour, etc. complete. In Teak wood | M3 | 155363.44 |
| 158 | 402B | Providing best wooden frames for false ceiling, partitions etc. sawn and put up in position. All as per standard specifications and drawings. Rate includes cost of wood, M.S suspenders, screws, nails, other materials involved, labour, etc. complete. In Country wood | M3 | 53231.54 |
| 159 | 403 | Labour charges for wrought and put up in postion for all kinds of frames including fixing of holdfasts etc. complete. Rate excludes cost of wood and holdfasts. | M3 | 13379.83 |
| 160 | 404A | Manufacture, supply and fixing best wooden door with frames and shutters comprising of fully panelled shutter of 35 mm thick and frame of size 95 x 70 mm including cost of holdfasts but excluding cost of furniture fittings and fitting charges. In Teak wood | M2 | 6587.18 |
| 161 | 404B | Manufacture, supply and fixing best wooden door with frames and shutters comprising of fully panelled shutter of 35 mm thick and frame of size 95 x 70 mm including cost of holdfasts but excluding cost of furniture fittings and fitting charges. In Country wood | M2 | 3093.58 |
| 162 | 405A | Manufacture, supply and fixing in position of 35 mm thick fully panelled best wooden door shutters. All as per standard specifications and drawings. (Excluding door frame) Rate excludes furniture fittings. In Teak wood (single leaved shutter) | M2 | 4625.39 |
| 163 | 405B | Manufacture, supply and fixing in position of 35 mm thick fully panelled best wooden door shutters. All as per standard specifications and drawings. (Excluding door frame) Rate excludes furniture fittings. In Teak wood (double leaved shutter) | M2 | 4495.28 |
| 164 | 405C | Manufacture, supply and fixing in position of 35 mm thick fully panelled best wooden door shutters. All as per standard specifications and drawings. (Excluding door frame) Rate excludes furniture fittings. In Country wood (single leaved shutter) | M2 | 2169.1 |
| 165 | 405D | Manufacture, supply and fixing in position of 35 mm thick fully panelled best wooden door shutters. All as per standard specifications and drawings. (Excluding door frame) Rate excludes furniture fittings. In Country wood (double leaved shutter) | M2 | 2126.69 |
| 166 | 406A | Supply and fixing in position of 38/40mm thick best quality flush shutters solid core type of approved quality with formaldehyde bonded teak ply (both faces) and with teak wood internal lippings etc., complete all as per drawings and standard specifications but excluding cost of frame and furniture fittings. (Area of shutter only to be measured) Single leaved shutter | M2 | 4226.53 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
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| 167 | 406B | Supply and fixing in position of 38/40mm thick best quality flush shutters solid core type of approved quality with formaldehyde bonded teak ply (both faces) and with teak wood internal lippings etc., complete all as per drawings and standard specifications but excluding cost of frame and furniture fittings. (Area of shutter only to be measured) Double leaved shutter | M2 | 4444.8 |
| 168 | 407 | Manufacture, supply and fixing in position of G.I sheet single leaved door with best country wood frame alround using 75 x 35 mm scantlings, including horizontal member of 75 x 35 mm at 600 mm c/c with 1.20 to 1.25 mm thick GI plain sheet on one side including sizing, fixing, cost of oxi. iron hinges, alu. tower bolts, alu. handles etc., all as per standard specifications and drawings. | M2 | 1774.03 |
| 169 | 408A | Manufacture, supply and fixing double leaved wooden window with best wood and type of shutters given below with wooden frames of size 95 x 70 mm including sizing and fixing of 12/16 mm dia M.S rods and holdfasts but excluding cost of M.S rods, furniture fittings etc. complete. In Teak wood. 35 mm thick shutter with 4 mm plain glass panes. | M2 | 8412.45 |
| 170 | 408B | Manufacture, supply and fixing double leaved wooden window with best wood and type of shutters given below with wooden frames of size 95 x 70 mm including sizing and fixing of 12/16 mm dia M.S rods and holdfasts but excluding cost of M.S rods, furniture fittings etc. complete. In Teak wood. 35 mm thick shutter with 4 mm pin headed glass panes. | M2 | 8361.07 |
| 171 | 408C | Manufacture, supply and fixing double leaved wooden window with best wood and type of shutters given below with wooden frames of size 95 x 70 mm including sizing and fixing of 12/16 mm dia M.S rods and holdfasts but excluding cost of M.S rods, furniture fittings etc. complete. In Teak wood. 35 mm thick shutter with 3 mm pin headed glass panes. | M2 | 8376.28 |
| 172 | 408D | Manufacture, supply and fixing double leaved wooden window with best wood and type of shutters given below with wooden frames of size 95 x 70 mm including sizing and fixing of 12/16 mm dia M.S rods and holdfasts but excluding cost of M.S rods, furniture fittings etc. complete. In Teak wood. 35 mm thick shutter with 16 mm teak panels. | M2 | 9139.57 |
| 173 | 408E | Manufacture, supply and fixing double leaved wooden window with best wood and type of shutters given below with wooden frames of size 95 x 70 mm including sizing and fixing of 12/16 mm dia M.S rods and holdfasts but excluding cost of M.S rods, furniture fittings etc. complete. In Teak wood. 35 mm thick shutter with partly panelled and partly glazed. (16 mm panels and 4 mm plain glass panes) | M2 | 8820.53 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 174 | 408F | Manufacture, supply and fixing double leaved wooden window with best wood and type of shutters given below with wooden frames of size 95 x 70 mm including sizing and fixing of 12/16 mm dia M.S rods and holdfasts but excluding cost of M.S rods, furniture fittings etc. complete. In Country wood. 35 mm thick shutter with 4 mm plain glass panes. | M2 | 4157.07 |
| 175 | 408G | Manufacture, supply and fixing double leaved wooden window with best wood and type of shutters given below with wooden frames of size 95 x 70 mm including sizing and fixing of 12/16 mm dia M.S rods and holdfasts but excluding cost of M.S rods, furniture fittings etc. complete. In Country wood. 35 mm thick shutter with 4 mm pin headed glass panes. | M2 | 4105.7 |
| 176 | 408H | Manufacture, supply and fixing double leaved wooden window with best wood and type of shutters given below with wooden frames of size 95 x 70 mm including sizing and fixing of 12/16 mm dia M.S rods and holdfasts but excluding cost of M.S rods, furniture fittings etc. complete. In Country wood. 35 mm thick shutter with 3 mm pin headed glass panes. | M2 | 4120.91 |
| 177 | 408I | Manufacture, supply and fixing double leaved wooden window with best wood and type of shutters given below with wooden frames of size 95 x 70 mm including sizing and fixing of 12/16 mm dia M.S rods and holdfasts but excluding cost of M.S rods, furniture fittings etc. complete. In Country wood. 35 mm thick shutter with 16 mm country wood panels. | M2 | 4338.76 |
| 178 | 408J | Manufacture, supply and fixing double leaved wooden window with best wood and type of shutters given below with wooden frames of size 95 x 70 mm including sizing and fixing of 12/16 mm dia M.S rods and holdfasts but excluding cost of M.S rods, furniture fittings etc. complete. In Country wood. 35 mm thick shutter with partly panelled and partly glazed. (16 mm country wood panels and 4 mm plain glass panes) | M2 | 4253.46 |
| 179 | 409A | Manufacture, supply and fixing in position of double leaved best wooden window shutters using 70 x 35 mm styles and rails, all as given below. All as per standard specifications and drawings. (Excluding window frame) Rate excludes window frame and furniture fittings. In Teak wood. 35 mm thick shutter with 4 mm plain glass panes. | M2 | 4197.7 |
| 180 | 409B | Manufacture, supply and fixing in position of double leaved best wooden window shutters using 70 x 35 mm styles and rails, all as given below. All as per standard specifications and drawings. (Excluding window frame) Rate excludes window frame and furniture fittings. In Teak wood. 35 mm thick shutter with 4 mm pin headed glass panes. | M2 | 4127.76 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
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| 181 | 409C | Manufacture, supply and fixing in position of double leaved best wooden window shutters using 70 x 35 mm styles and rails, all as given below. All as per standard specifications and drawings. (Excluding window frame) Rate excludes window frame and furniture fittings. In Teak wood. 35 mm thick shutter with 3 mm pin headed glass panes. | M2 | 4148.43 |
| 182 | 409D | Manufacture, supply and fixing in position of double leaved best wooden window shutters using 70 x 35 mm styles and rails, all as given below. All as per standard specifications and drawings. (Excluding window frame) Rate excludes window frame and furniture fittings. In Teak wood. 35 mm thick shutter with 16 mm teak panels. | M2 | 5187.96 |
| 183 | 409E | Manufacture, supply and fixing in position of double leaved best wooden window shutters using 70 x 35 mm styles and rails, all as given below. All as per standard specifications and drawings. (Excluding window frame) Rate excludes window frame and furniture fittings. In Teak wood. 35 mm thick shutter with partly panelled and partly glazed. (16 mm teak wood panels and 4 mm plain glass panes) | M2 | 4753.49 |
| 184 | 409F | Manufacture, supply and fixing in position of double leaved best wooden window shutters using 70 x 35 mm styles and rails, all as given below. All as per standard specifications and drawings. (Excluding window frame) Rate excludes window frame and furniture fittings. In Country wood. 35 mm thick shutter with 4 mm plain glass panes. | M2 | 2499.71 |
| 185 | 409G | Manufacture, supply and fixing in position of double leaved best wooden window shutters using 70 x 35 mm styles and rails, all as given below. All as per standard specifications and drawings. (Excluding window frame) Rate excludes window frame and furniture fittings. In Country wood. 35 mm thick shutter with 4 mm pin headed glass panes. | M2 | 2429.77 |
| 186 | 409H | Manufacture, supply and fixing in position of double leaved best wooden window shutters using 70 x 35 mm styles and rails, all as given below. All as per standard specifications and drawings. (Excluding window frame) Rate excludes window frame and furniture fittings. In Country wood. 35 mm thick shutter with 3 mm pin headed glass panes. | M2 | 2450.46 |
| 187 | 409I | Manufacture, supply and fixing in position of double leaved best wooden window shutters using 70 x 35 mm styles and rails, all as given below. All as per standard specifications and drawings. (Excluding window frame) Rate excludes window frame and furniture fittings. In Country wood. 35 mm thick shutter with 16 mm country wood panels. | M2 | 2747.09 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 188 | 409J | Manufacture, supply and fixing in position of double leaved best wooden window shutters using 70 x 35 mm styles and rails, all as given below. All as per standard specifications and drawings. (Excluding window frame) Rate excludes window frame and furniture fittings. In Country wood. 35 mm thick shutter with partly panelled and partly glazed. (16 mm country wood panels and 4 mm plain glass panes) | M2 | 2630.98 |
| 189 | 410A | Manufacture, supply and fixing fully glazed swing type ventilator using best wooden frame of size 95 x 70 mm, wooden shutter of thickness 35 mm with glass panes including sizing and fixing 16mm dia. M.S. rods but excluding cost of M.S. rods, holdfasts and furniture fittings. (Excluding bottom frame for fixing over doors and windows.) In Teak wood with 4 mm plain glass panes for shutter. | M2 | 6714.46 |
| 190 | 410B | Manufacture, supply and fixing fully glazed swing type ventilator using best wooden frame of size 95 x 70 mm, wooden shutter of thickness 35 mm with glass panes including sizing and fixing 16mm dia. M.S. rods but excluding cost of M.S. rods, holdfasts and furniture fittings. (Excluding bottom frame for fixing over doors and windows.) In Teak wood with 3 mm pin headed glass panes for shutter. | M2 | 6670.06 |
| 191 | 410C | Manufacture, supply and fixing fully glazed swing type ventilator using best wooden frame of size 95 x 70 mm, wooden shutter of thickness 35 mm with glass panes including sizing and fixing 16mm dia. M.S. rods but excluding cost of M.S. rods, holdfasts and furniture fittings. (Excluding bottom frame for fixing over doors and windows.) In Country wood with 4 mm plain glass panes for shutter. | M2 | 3314.46 |
| 192 | 410D | Manufacture, supply and fixing fully glazed swing type ventilator using best wooden frame of size 95 x 70 mm, wooden shutter of thickness 35 mm with glass panes including sizing and fixing 16mm dia. M.S. rods but excluding cost of M.S. rods, holdfasts and furniture fittings. (Excluding bottom frame for fixing over doors and windows.) In Country wood with 3 mm pin headed glass panes for shutter. | M2 | 3270.06 |
| 193 | 411A | Manufacture, supply and fixing fully glazed swing type ventilator using best wooden frame of size 95 x 70 mm, wooden shutter of thickness 35 mm with glass panes including sizing and fixing 16mm dia. M.S. rods but excluding cost of M.S. rods, holdfasts and furniture fittings. In Teak wood with 4 mm plain glass panes for shutter. | M2 | 7651.41 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 194 | 411B | Manufacture, supply and fixing fully glazed swing type ventilator using best wooden frame of size 95 x 70 mm, wooden shutter of thickness 35 mm with glass panes including sizing and fixing 16mm dia. M.S. rods but excluding cost of M.S. rods, holdfasts and furniture fittings. In Teak wood with 3 mm pin headed glass panes for shutter. | M2 | 7612.37 |
| 195 | 411C | Manufacture, supply and fixing fully glazed swing type ventilator using best wooden frame of size 95 x 70 mm, wooden shutter of thickness 35 mm with glass panes including sizing and fixing 16mm dia. M.S. rods but excluding cost of M.S. rods, holdfasts and furniture fittings. In Country wood with 4 mm plain glass panes for shutter. | M2 | 3627.46 |
| 196 | 411D | Manufacture, supply and fixing fully glazed swing type ventilator using best wooden frame of size 95 x 70 mm, wooden shutter of thickness 35 mm with glass panes including sizing and fixing 16mm dia. M.S. rods but excluding cost of M.S. rods, holdfasts and furniture fittings. In Country wood with 3 mm pin headed glass panes for shutter. | M2 | 3588.42 |
| 197 | 412A | Manufacture, supply and fixing in position of fully glazed fixed type louvered ventilator using best wooden frame of size 75 x 50 mm and using 4 mm thick plain glass panes for louvers, all as per drawings and standard specifications.Rate includes supply and fixing of MS holdfasts. In Teak wood | M2 | 5864.85 |
| 198 | 412B | Manufacture, supply and fixing in position of fully glazed fixed type louvered ventilator using best wooden frame of size 75 x 50 mm and using 4 mm thick plain glass panes for louvers, all as per drawings and standard specifications.Rate includes supply and fixing of MS holdfasts. In Country wood | M2 | 2828.2 |
| 199 | 413A | Manufacture, supply and fixing in position of fully glazed shutter in best wooden frame of 35 mm thick for ventilator. Rate excludes ventilator frame and furniture fittings. In Teak wood with 4 mm plain glass panes for shutter. | M2 | 3137.78 |
| 200 | 413B | Manufacture, supply and fixing in position of fully glazed shutter in best wooden frame of 35 mm thick for ventilator. Rate excludes ventilator frame and furniture fittings. In Teak wood with 3 mm pin headed glass panes for shutter. | M2 | 3077.36 |
| 201 | 413C | Manufacture, supply and fixing in position of fully glazed shutter in best wooden frame of 35 mm thick for ventilator. Rate excludes ventilator frame and furniture fittings.In Country wood with 4 mm plain glass panes for shutter. | M2 | 1976.26 |
| 202 | 413D | Manufacture, supply and fixing in position of fully glazed shutter in best wooden frame of 35 mm thick for ventilator. Rate excludes ventilator frame and furniture fittings.In Country wood with 3 mm pin headed glass panes for shutter. | M2 | 1915.91 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 203 | 414A | Labour charges for manufacturing the following wood work items either in teak or country wood and fixing in proper position at site of work. All as per standard specifications and drawings. Rate excludes cost of wood, furniture fittings and its fitting charges. Fully panelled door shutter / window shutter (excluding door / window frame) | M2 | 794.68 |
| 204 | 414B | Labour charges for manufacturing the following wood work items either in teak or country wood and fixing in proper position at site of work. All as per standard specifications and drawings. Rate excludes cost of wood, furniture fittings and its fitting charges. Partly glazed and partly panelled door shutter / window shutter/ fully glazed window shutter (excluding door / window frame) | M2 | 733.97 |
| 205 | 414C | Labour charges for manufacturing the following wood work items either in teak or country wood and fixing in proper position at site of work. All as per standard specifications and drawings. Rate excludes cost of wood, furniture fittings and its fitting charges. Fully glazed shutter/shutter with frame for ventilator | M2 | 675.93 |
| 206 | 415 | Labour charges for fixing doors, windows and ventilators including frames and shutters in position etc. complete.(wood or steel) | M2 | 162.92 |
| 207 | 416A | Labour charges for fixing the following in proper position. Shutter only for doors, windows, ventilators etc. | M2 | 32.62 |
| 208 | 416B | Labour charges for fixing the following in proper position. Frame only for doors, windows, ventilators etc. | EA | 234.64 |
| 209 | 417 | Cutting to size and fixing M.S rods/bars in window and ventilator frames and other petty works. (labour only) | KG | 16.85 |
| 210 | 418 | Supply and fixing M.S grills for windows, ventilators and also wherever necessary including a priming coat. All according to our design and specification. | KG | 79.75 |
| 211 | 419 | Supply of MS round or square bars at site of work for windows, ventilators, other petty works etc. | KG | 67.82 |
| 212 | 420 | Manufacture, supply and fixing in position of cupboard shutters with best teakwood frame of size 100 x 35 mm and 25 mm thick best quality prelaminated particle board (exterior grade) as flush shutters etc., complete, all as per standard specifications and drawings. Rate includes holdfasts but excludes furniture fittings. | M2 | 3033.43 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 213 | 421 | Manufacture, supply and fixing in position of fly proof shutters with best teakwood frame of size 75 x 25 mm and 20 mm thick shutters using 50 x 20 mm teakwood styles and rails including supply and fixing of best quality galvanised wire mesh of average width of aperture 1.4 mm and nominal dia of wire 0.63 mm including cost of holdfasts, oxidised iron butt hinges and other fittings of anodised aluminium including providing locking arrangements etc., complete, all as per standard specifications. | M2 | 3080.92 |
| 214 | 422 | Providing and fixing best teak wood of 12 mm thick and 150 mm wide for pelmet of doors and windows with necessary provision for fixing curtain rod. Rate excludes curtain rod. (Only horizontal length between supports will be measured and paid) | RM | 611.21 |
| 215 | 423 | Providing and fixing prelaminated particle board (exterior grade) of approved brand and quality 12 mm thick and 150 mm wide for pelmet of doors and windows with necessary provision for fixing curtain rod. Rate excludes curtain rod.(Only horizontal distance between supports will be measured and paid) | RM | 414.27 |
| 216 | 424A | Providing and fixing curtain rods of the following. Rate includes cost of rods, cutting to required lengths, fixing in position etc. complete. MS pipe nickel plated 20 mm dia (HD) with nickel plated brackets. | RM | 135.91 |
| 217 | 424B | Providing and fixing curtain rods of the following. Rate includes cost of rods, cutting to required lengths, fixing in position etc. complete. Anodised aluminium tube of 20 mm dia with suitable brackets. | RM | 86.66 |
| 218 | 425 | Providing and fixing best teakwood beading of size 50 x 25 mm on walls including supply and fixing of hooks at required intervals etc., complete. | RM | 116.12 |
| 219 | 426 | Supply and fixing mild steel balustrade of overall height 90 cm fabricated with 40 x 5 mm M.S. flats and 15 mm M.S. square bars painted with one coat of red oxide primer, including supply and fixing of best teak wood hand rail of size 75 x 75 mm at top finished smooth. All as per standard specifications and drawings. | RM | 2160.88 |
| 220 | 427A | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. Hydraulic door closer - universal type (Medium duty) | EA | 1953.04 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
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| 221 | 427B | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. Hydraulic door closer - universal type ( Heavy duty) | EA | 2064.77 |
| 222 | 427C | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. Brass Mortice lock 100 mm, 6 levers and a pair of brass lever handles | EA | 674.65 |
| 223 | 427D | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. D type Anodised Aluminium handle - 75 mm | EA | 28.63 |
| 224 | 427E | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. D type Anodised Aluminium handle - 100 mm | EA | 43.71 |
| 225 | 427F | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. D type Anodised Aluminium handle - 125 mm | EA | 48.98 |
| 226 | 427G | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. 250 x 12 mm Aluminium aldrop | EA | 192.99 |
| 227 | 427H | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. 250 x 16 mm Anodised Aluminium aldrop | EA | 233.61 |
| 228 | 427I | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. 300 x 16 mm Anodised Aluminium aldrop | EA | 283.34 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
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| 229 | 427J | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. 50 x 11/12 mm Anodized Aluminium tower bolt | EA | 45.08 |
| 230 | 427K | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. 75 x 11/12 mm Anodized Aluminium tower bolt | EA | 52.75 |
| 231 | 427L | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. 100 x 11/12 mm Anodized Aluminium tower bolt | EA | 64.8 |
| 232 | 427M | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. 150 x 11/12 mm Anodized Aluminium tower bolt | EA | 88.91 |
| 233 | 427N | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. 200 x 11/12 mm Anodized Aluminium tower bolt | EA | 135.66 |
| 234 | 427O | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. 250 x 11/12 mm Anodized Aluminium tower bolt | EA | 195.93 |
| 235 | 427P | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. 300 x 11/12 mm Anodized Aluminium tower bolt | EA | 241.14 |
| 236 | 427Q | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. 50 mm oxidised iron butt hinges (Heavy duty) | EA | 14.32 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
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| 237 | 427R | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. 125 mm oxidised iron butt hinges (Heavy duty) | EA | 30.9 |
| 238 | 427S | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. 150 mm oxidised iron butt hinges (Heavy duty) | EA | 59.54 |
| 239 | 427T | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. 125 mm oxidised iron parlimentary hinges (Heavy duty) | EA | 58.03 |
| 240 | 427U | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. 150 x100 mm oxidised iron parlimentary hinges (Heavy duty) | EA | 61.79 |
| 241 | 427V | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. 50 mm oxidised iron tower bolt (Heavy duty) | EA | 28.63 |
| 242 | 427W | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. 100 mm oxidised iron tower bolt (Heavy duty) | EA | 42.21 |
| 243 | 427X | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. 150 mm oxidised iron tower bolt (Heavy duty) | EA | 58.77 |
| 244 | 427Y | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. 250 mm oxidised iron tower bolt (Heavy duty) | EA | 82.9 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
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| 245 | 427Z | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. 300 mm oxidised iron tower bolt (Heavy duty) | EA | 105.5 |
| 246 | 427A1 | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. 250 x 16 mm oxidised iron Aldrop (Heavy duty) | EA | 173.33 |
| 247 | 427B1 | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. 300 x 16 mm oxidised iron Aldrop (Heavy duty) | EA | 177.84 |
| 248 | 427C1 | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. 200 mm brass iron hook and eye | EA | 99.47 |
| 249 | 427D1 | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. 250 mm brass iron hook and eye | EA | 107.76 |
| 250 | 427E1 | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. Anodised aluminium Hanging type door stopper | EA | 43.71 |
| 251 | 427F1 | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. PTMT handle 125x34x24 mm | EA | 52.75 |
| 252 | 427G1 | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. PTMT handle 150x34x24 mm | EA | 58.77 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
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| 253 | 427H1 | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. PTMT butt hinges 75x60x10 mm | EA | 78.38 |
| 254 | 427I1 | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. PTMT butt hinges 100x75x10 mm | EA | 99.47 |
| 255 | 427J1 | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. PTMT Tower bolt 152x42x18 mm | EA | 113.04 |
| 256 | 427K1 | Supply and fixing the following furniture fittings of approved brand and quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications and instructions of Engineer in charge. PTMT Tower bolt 202x42x18 mm | EA | 135.66 |
| 257 | 428 | Providing and fixing cupboard shutter 25 mm thick, melamine faced prelaminated with flat pressed three layer particle board conforming to IS:12823 exterior grade (Grade I Type II) having one side decorative lamination of approved shade and other side balancing lamination including II class teak wood lipping of 25 mm wide and 12 mm thick with necessary screws, nickle plated bright finished M.S piano hinges etc. complete. | M2 | 2015.91 |
| 258 | 429 | Providing and fixing cupboard shutter 25 mm thick particle board with teak veneering on one side and commercial veneering on the other side conforming to IS:3087 exterior grade (Grade I ) of approved make including II class teak wood lipping of 25 mm wide and 12 mm thick with necessary screws, nickle plated bright finished M.S piano hinges, etc. complete. | M2 | 1850.13 |
| 259 | 430 | Providing and fixing factory made flush door shutter 30 mm thick made of prelaminated flat pressed three layer particle board conforming to IS:12823 exterior grade (Grade I Type II) having one side decorative lamination of approved shade and other side balancing lamination including II class teak wood lipping of 30 mm wide and 12mm thick with necessary screws, black enamelled M.S butt hinges, etc. complete. | M2 | 2023.94 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 260 | 431A | Providing and fixing factory made uPVC door frame made of uPVC extruded sections having an overall dimension as below (tolerance ±1mm), with wall thickness 2.0 mm (± 0.2 mm), corners of the door frame to be Jointed with galvanized brackets and stainless steel screws, joints mitred and Plastic welded. The hinge side vertical of the frames reinforced by galvanized M.S. tube of size 19 X 19 mm and 1mm (± 0.1 mm) wall thickness and 3 nos. stainless steel hinges fixed to the frame complete as per manufacturer's specification and direction of Engineerin- charge. Extruded section profile size 48x40 mm | RM | 257.72 |
| 261 | 431B | Providing and fixing factory made uPVC door frame made of uPVC extruded sections having an overall dimension as below (tolerance ±1mm), with wall thickness 2.0 mm (± 0.2 mm), corners of the door frame to be Jointed with galvanized brackets and stainless steel screws, joints mitred and Plastic welded. The hinge side vertical of the frames reinforced by galvanized M.S. tube of size 19 X 19 mm and 1mm (± 0.1 mm) wall thickness and 3 nos. stainless steel hinges fixed to the frame complete as per manufacturer's specification and direction of Engineerin- charge. Extruded section profile size 42x50 mm. | RM | 242.65 |
| 262 | 432 | Providing and fixing to existing door frames, 24 mm thick factory made PVC door shutters made of styles and rails of a uPVC hollow section of size 59x24 mm and wall thickness 2 mm (± 0.2 mm) with inbuilt edging on both sides. The styles and rails mitred and joint at the corners by means of M.S. galvanised/plastic brackets of size 75x220 mm having wall thickness 1.0 mm and stainless steel screws. The styles of the shutter reinforced by inserting galvanised M.S. tube of size 20x20 mm and 1 mm (± 0.1 mm) wall thickness. The lock rail made up of 'H' section, a uPVC hollow section of size 100x24 mm and 2 mm (± 0.2 mm) wall thickness, fixed to the shutter styles by means of plastic/galvanised M.S. 'U' cleats. The shutter frame filled with a uPVC multichambered single panel of size not less than 620 mm, having over all thickness of 20 mm and 1 mm (± 0.1 mm) wall thickness. The panels filled vertically and tie bar at two places by inserting horizontally 6 mm galvanised M.S. rod and fastened with nuts and washers, complete as per manufacturer's specification and direction of Engineer-in-charge. (For W.C. and bathroom door shutter). | M2 | 3426.11 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 263 | 433 | Providing and fixing to existing door frames, 30 mm thick factory made Polyvinyl Chloride (PVC) door shutter made of styles and rails of a uPVC hollow section of size 60x30 mm and wall thickness 2 mm (± 0.2 mm), with inbuilt decorative moulding edging on one side. The styles and rails mitred and joint at the corners by means of M.S. galvanised/plastic brackets of size 75x220 mm having wall thickness 1.0 mm and stainless steel screws. The styles of the shutter reinforced by inserting galvanised M.S. tube of size 25x20 mm and 1 mm (± 0.1 mm) wall thickness. The lock rail made up of 'H' section, a uPVC hollow section of size 100x30 mm and 2 mm (± 0.2 mm) wall thickness fixed to the shutter styles by means of plastic/ galvanised M.S. 'U' cleats. The shutter frame filled with a uPVC multi-chambered single panel of size not less than 620 mm, having over all thickness of 20 mm and 1 mm (± 0.1 mm) wall thickness . The panels filled vertically and tie bar at two places by inserting horizontally 6 mm galvanised M.S. rod and fastened with nuts and washers, complete as per manufacturer's specification and direction of Engineer -in-charge. | M2 | 3576.77 |
| 264 | 434 | Providing and fixing to existing door frames, 25 mm thick PVC flush door shutters made out of a one piece Multi chamber extruded PVC section of the size of 762mm X 25 mm or less as per requirement with an average wall thickness of 1 mm (± 0.3 mm). PVC foam end cap of size 23x10 mm are provided on both vertical edges to ensure the overall thickness of 25 mm. An M.S. tube having dimensions 19 mm x 19 mm and 1.0 mm (± 0.1 mm) is inserted along the hinge side of the door. Core of the door shutter should be filled with High Density Polyurethane foam. The Top and Bottom edges of the shutter are covered with an end-cap of the size 25 mm X 11 mm. Door shutter shall be reinforced with special polymeric reinforcements as per manufacturer's specification and direction of Engineer-in-charge to take up necessary hardware and fixtures. Stickers indicating the locations of hardware will be pasted at appropriate places. | M2 | 3426.04 |
| 265 | 435 | Providing and fixing factory made P.V.C. door frame of size 50x47 mm with a wall thickness of 5 mm, made out of extruded 5 mm rigid PVC foam sheet, mitred at corners and joined with 2 Nos. of 150 mm long brackets of 15x15 mm M.S. square tube, the vertical door frame profiles to be reinforced with 19x19 mm M.S. square tube of 19 gauge, EPDM rubber gasket weather seal to be provided through out the frame. The door frame to be fixed to the wall using M.S. screws of 65/100 mm size, complete as per manufacturer's specification and direction of Engineer-in-Charge. | RM | 560.73 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 266 | 436A | Providing and fixing factory made 30 mm thick door shutter made of solid PVC foam profile. The styles and rails shall be of size 75 mm x 30 mm having wall thickness 5 mm. The styles, top and bottom rails shall have one side wall thickness of 15 mm integrally extruded on the hinge side of the profile for better screw holding power.The styles and rails shall be reinforced with M.S. tubes of size 33 mm x 17 mmx 1 mm, painted with primer, all four corners of reinforcement to be welded or sealed. Solid PVC extruded bidding (push fit type) will be set inside the styles and the rails with a cavity, to receive single piece extruded 5 mm PVC sheet as panel. The styles and rails will be mitred cut and joint with the help of PVC solvent cement and self driven self tapping screws. Single piece extruded solid PVC lock rail of size 100 mm x 30 mm with wall thickness 5 mm and 15 mm integrally extruded in the middle of the lock rail and fixed with styles with the help of PVC solvent cement and self driven self tapping screws of size 100 mm x 8 mm complete as per manufacturer's specifications and direction of Engineer-in-charge. Non decorative finish. | M2 | 3401.04 |
| 267 | 436B | Providing and fixing factory made 30 mm thick door shutter made of solid PVC foam profile. The styles and rails shall be of size 75 mm x 30 mm having wall thickness 5 mm. The styles, top and bottom rails shall have one side wall thickness of 15 mm integrally extruded on the hinge side of the profile for better screw holding power.The styles and rails shall be reinforced with M.S. tubes of size 33 mm x 17 mmx 1 mm, painted with primer, all four corners of reinforcement to be welded or sealed. Solid PVC extruded bidding (push fit type) will be set inside the styles and the rails with a cavity, to receive single piece extruded 5 mm PVC sheet as panel. The styles and rails will be mitred cut and joint with the help of PVC solvent cement and self driven self tapping screws. Single piece extruded solid PVC lock rail of size 100 mm x 30 mm with wall thickness 5 mm and 15 mm integrally extruded in the middle of the lock rail and fixed with styles with the help of PVC solvent cement and self driven self tapping screws of size 100 mm x 8 mm complete as per manufacturer's specifications and direction of Engineer-in-charge. Decorative finish (both side wood grained finish). | M2 | 4217.91 |
| 268 | 437 | Removing the damaged door shutter from door frame in buildings, conveying the same to site of work, dismantling the damaged bottom rail and other required portions, supply and replacing with suitable bottom rail of best country wood of maximum size 200x35 mm and length 775 mm and covered with supply and fixing of 28 gauge G.I sheet at the bottom on both sides of shutter to a width and height of 775 mm and 900 mm respectively including cutting, sizing, finishing, conveying and refixing the finished door shutter in proper position in buildings, all as per instructions of Engineer in charge. Rate also includes cost of all accessories such as nails, screws, fevicol etc. | EA | 979.59 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 269 | 438A | Removing the existing partition with door carefully from its position without damaging any portion of the partition, handing over the reusable items to the departmental stores / stacking at site. All as per the instructions of Engineer-in-charge. Teakwood partition partly panelled and partly glazed | M2 | 168.81 |
| 270 | 438B | Removing the existing partition with door carefully from its position without damaging any portion of the partition, handing over the reusable items to the departmental stores / stacking at site. All as per the instructions of Engineer-in-charge. Teakwood / Aluminium partition panelled or glazed | M2 | 202.91 |
| 271 | 439A | Conveying partition along with doors from departmental stores / stacks and fixing the same in position without damaging the frame work and glass. Rate includes cost of additional rubber gaskets, aluminium frame work and beading if required for fixing the glasses for panels rigidly in position, cost of all materials, labour, scaffolding, tools and plants and other incidentals etc. complete. All as per the instructions of Engineer-in-charge. Teakwood partly panelled and partly glazed. | M2 | 892.56 |
| 272 | 439B | Conveying partition along with doors from departmental stores / stacks and fixing the same in position without damaging the frame work and glass. Rate includes cost of additional rubber gaskets, aluminium frame work and beading if required for fixing the glasses for panels rigidly in position, cost of all materials, labour, scaffolding, tools and plants and other incidentals etc. complete. All as per the instructions of Engineer-in-charge. Teakwood / Aluminium partition Panelled / Glazed | M2 | 400.56 |
| 273 | 501 | Collection from BHEL stores and transporting the raw structural steel sections to the contractor's site fabrication shop, fabrication of steel work including all materials going into the process of fabrication and forming an integral part of the steel work together with all shop welding including using low hydrogen electrode wherever necessary, all as per drawings and standard specifications. Rate includes delivery of fabricated steel work at erection site ready for erection, including preparation and supply of drawing office despatch list for BHEL's approval, all charges for packing (wherever called for) handling, conveying, stacking and all other incidental charges both for raw materials and fabricated steel works. Rate excludes raw structural steel sections which will be supplied by BHEL at stores at free of cost. | MT | 13070.87 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 274 | 502 | Collection from BHEL stores and transporting the raw structural steel sections to the contractor's site fabrication shop, fabrication of steel work including all materials going into the process of fabrication and forming an integral part of the steel work together with all shop welding including using low hydrogen electrode wherever necessary, all as per drawings and standard specifications. Rate includes delivery of fabricated steel work at erection site ready for erection, including preparation and supply of drawing office despatch list for BHEL's approval, all charges for packing (wherever called for) handling, conveying, stacking and all other incidental charges both for raw materials and fabricated steel works. Rate excludes raw structural steel sections and all consumables which will be supplied by BHEL at stores at free of cost. | MT | 10042.91 |
| 275 | 503 | Collection from BHEL stores and transporting ERW/seamless steel tubes with necessary plates to the contractor's site fabrication shop, fabrication of ERW/seamless steel tubes with necessary plates etc. instead of structural steel sections for columns, trusses, purlins, tie runners etc. (all tubular) including all materials going into the process of fabrication and forming an integral part of the steel work together with all shop welding including using low hydrogen electrode wherever necessary, all as per drawings and standard specifications. Rate includes delivery of fabricated steel work at erection site ready for erection, including preparation and supply of drawing office despatch list for BHEL's approval, all charges for packing (wherever called for) handling, conveying, stacking and all other incidental charges both for raw materials and fabricated steel works. Rate excludes ERW/seamless steel tubes, plates etc. which will be supplied by BHEL at stores at free of cost. | MT | 14377.95 |
| 276 | 504 | Collection from BHEL stores and transporting ERW/seamless steel tubes with necessary plates to the contractor's site fabrication shop, fabrication of ERW/seamless steel tubes with necessary plates etc. instead of structural steel sections for columns, trusses, purlins, tie runners etc. (all tubular) including all materials going into the process of fabrication and forming an integral part of the steel work together with all shop welding including using low hydrogen electrode wherever necessary, all as per drawings and standard specifications. Rate includes delivery of fabricated steel work at erection site ready for erection, including preparation and supply of drawing office despatch list for BHEL's approval, all charges for packing (wherever called for) handling, conveying, stacking and all other incidental charges both for raw materials and fabricated steel works. Rate excludes ERW/seamless steel tubes, plates etc. and all consumables which will be supplied by BHEL at stores at free of cost. | MT | 11047.19 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 277 | 505 | Carrying from stacks at erection site to erection positions and erection of fabricated steel work including all handling, conveying, assembling, hoisting, erecting in position and site welding and or bolting, alignment of structures, all as per drawings and standard specifications. Rate includes bolts and nuts, hire for welding tools and plants, labour etc., but excluding cost of fabricated components. If required, power will be given free of cost by BHEL. Weight of fasteners will not be accounted for payment. | MT | 7044.69 |
| 278 | 506 | Carrying from stacks at erection site to erection positions and erection of fabricated steel work including all handling, conveying, assembling, hoisting, erecting in position and site welding and or bolting, alignment of structures, all as per drawings and standard specifications. Rate includes hire for welding tools and plants, labour etc., but excluding all consumables such as electrodes, bolts, nuts, washers etc. which will be supplied by BHEL at Stores at free of cost and cost of fabricated components. If required, power will be given free of cost by BHEL. Weight of fasteners will not be accounted for payment. | MT | 6723.76 |
| 279 | 507 | Fabrication and fixing in position of M.S frames for cable trench cover slabs in required sizes using M.S angles, plates, flats etc., which will be supplied by BHEL at Stores at free of cost, all as per drawings and instructions of Engineer-in-charge. Rate includes conveyance of raw materials from BHEL stores to contractors fabrication shop, fabrication charges including cutting, welding, preparing and supplying DODL's for BHEL's approval, supply of fabricated frames at site of work, fixing in proper position etc., complete. | MT | 7976.91 |
| 280 | 508 | Fabrication and fixing in position of M.S frames for cable trench cover slabs in required sizes using M.S angles, plates, flats etc., which will be supplied by BHEL at Stores at free of cost, all as per drawings and instructions of Engineer-in-charge. Rate includes conveyance of raw materials from BHEL stores to contractors fabrication shop, fabrication charges including cutting, welding, preparing and supplying DODL's for BHEL's approval, supply of fabricated frames at site of work, fixing in proper position etc., complete but excludes all consumables such as electrodes which will be supplied by BHEL at Stores at free of cost. | MT | 7300.8 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 281 | 509 | Conveying from BHEL stores to site of work cutting to size and fixing in position of 75 x 75 x 6 mm or other size M.S angles in required lengths for forming the rebates in cable trench (for fixing the cable trench cover slabs) including welding in position of dowel bars to the angles and embedding the angle iron frame in the flooring concrete in proper line and level, all as per drawings and instructions of Engineer-in-charge. Rate includes loading, unloading, handling, welding and other incidental charges, preparing and supplying of DODL's for approval etc. complete, but excluding cost of M.S angles and dowel bars which will be supplied by BHEL at Stores at free of cost. | MT | 8495.96 |
| 282 | 510 | Conveying from BHEL stores to site of work cutting to size and fixing in position of 75 x 75 x 6 mm or other size M.S angles in required lengths for forming the rebates in cable trench (for fixing the cable trench cover slabs) including welding in position of dowel bars to the angles and embedding the angle iron frame in the flooring concrete in proper line and level, all as per drawings and instructions of Engineer-in-charge. Rate includes loading, unloading, handling, welding and other incidental charges, preparing and supplying of DODL's for approval etc. complete, but excluding cost of M.S angles, dowel bars and all consumables which will be supplied by BHEL at Stores at free of cost. | MT | 7815.27 |
| 283 | 511 | Fabrication and fixing in position of M.S inserts out of M.S plates, flats, rounds, angles etc., including necessary lugs made of rounds or flats, sizing and cutting to required lengths, threading, bolting and welding as required and placing the same in position in both plain and reinforced cement concrete members, including adjusting the shuttering if necessary, tying and holding to correct level and line. Rate includes cost of all materials, labour etc., complete but excluding raw steel sections which will be supplied by BHEL at Stores at free of cost. | KG | 29.81 |
| 284 | 512 | Fabrication and fixing in position of M.S inserts out of M.S plates, flats, rounds, angles etc., including necessary lugs made of rounds or flats, sizing and cutting to required lengths, threading, bolting and welding as required and placing the same in position in both plain and reinforced cement concrete members, including adjusting the shuttering if necessary, tying and holding to correct level and line. Rate includes cost of all materials, labour etc., complete but excluding raw steel sections and all consumables which will be supplied by BHEL at Stores at free of cost. | KG | 28.31 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 285 | 513 | Fabrication of various sizes steel partitions (not exceeding 4.00 x 2.40 m) using M.S angles for outer frame work and flats for vertical and horizontal stiffeners etc. Bottom panels are to be welded with M.S sheets for a height of one metre (approx.) and top panels with BRC fabric (75 x 25 mm) All as per drawings and as directed by the Engineer-in-charge. Rate includes providing necessary holes for inter connections and also base plates for fixing on the floor, all labour, electrodes, conveyance of raw materials from stores to fabrication site, etc. complete, but excluding cost of steel sections and BRC fabrics which will be supplied by BHEL at Stores at free of cost. | M2 | 261.95 |
| 286 | 514 | Fabrication of various sizes steel partitions (not exceeding 4.00 x 2.40 m) using M.S angles for outer frame work and flats for vertical and horizontal stiffeners etc. Bottom panels are to be welded with M.S sheets for a height of one metre (approx.) and top panels with BRC fabric (75 x 25 mm) All as per drawings and as directed by the Engineer-in-charge. Rate includes providing necessary holes for inter connections and also base plates for fixing on the floor, all labour, electrodes, conveyance of raw materials from stores to fabrication site, etc. complete, but excluding cost of steel sections, BRC fabrics and all consumables which will be supplied by BHEL at Stores at free of cost. | M2 | 228.89 |
| 287 | 515 | Erection of fabricated steel partitions including handling, leading, assembling, erecting in position, site bolting, revetting, site welding etc., wherever required including cost of drilling holes in concrete floor and grouting bolts for fixing the base plates of steel partitions wherever necessary, all as per instructions of Engineer in charge. Rate includes all labour, incidentals etc., complete. | M2 | 139.05 |
| 288 | 516 | Erection of fabricated steel partitions including handling, leading, assembling, erecting in position, site bolting, revetting, site welding etc., wherever required including cost of drilling holes in concrete floor and grouting bolts for fixing the base plates of steel partitions wherever necessary, all as per instructions of Engineer in charge. Rate includes all labour, incidentals etc., complete but excluding all consumables which will be supplied by BHEL at Stores at free of cost. | M2 | 131.59 |
| 289 | 517 | Fabrication of S.S tubes / ERW tubes to the design specified for railing. Rate includes conveyance of raw materials and fabricated railings, fabrication charges, preparation of DODLs, incidentals etc., complete. Tubes and other steel materials required for the work will be supplied by BHEL at Stores at free of cost. | MT | 13070.87 |
| 290 | 518 | Carrying from stacks to site of work and fixing in position in line, level and alignment of fabricated railings at places as directed by the Engineer-in-charge. Excavation for pits and concrete bed will be paid separately under relevant items. | MT | 5132 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 291 | 519A | Providing holding down bolts of required sizes with nuts, washers etc. and fixing in proper level, line, alignment etc., all as per drawings and instructions of Engineer-in-charge. Rate includes cost of steel materials, bolts, nuts, washers, fabrication and machining charges, fixing, all labour etc. complete. In M.S rounds including washer plates. | KG | 69.53 |
| 292 | 519B | Providing holding down bolts of required sizes with nuts, washers etc. and fixing in proper level, line, alignment etc., all as per drawings and instructions of Engineer-in-charge. Rate includes cost of steel materials, bolts, nuts, washers, fabrication and machining charges, fixing, all labour etc. complete.Bolts including nuts and washers etc.complete in all sizes and lengths. | KG | 89.96 |
| 293 | 520 | Conveying all types and sizes of holding down bolts, nuts, washers etc. from BHEL Stores to site of work and fixing in proper level, line, alignment etc., all as per drawings and instructions of Engineer-in-charge. Rate excludes cost of bolts, nuts, washers etc. | KG | 24.88 |
| 294 | 521 | Providing and fixing in position of M.S rivets of required sizes at site of work. | KG | 123.12 |
| 295 | 522 | Welding by gas plant or electric plant including transportation of plant to site of work, cost of consumables, labour charges etc. complete. | CM | 2.81 |
| 296 | 523 | Tightening of loosened bolts and nuts of all connections of steel structures such as columns, truss girders, trusses, crane girders, bracings, purlins etc. of buildings at all heights. Rate includes drilling holes wherever required, providing/replacement of bolts and nuts, (excluding cost of bolts and nuts), labour etc. Payment will be made based on the corresponding floor area of the buildings. | M2 | 13.31 |
| 297 | 524 | Labour charges for making and fixing M.S fan hook of standard shape using M.S bar bent to shape with hooked ends in RCC slabs during laying including painting the exposed portion etc. complete. M.S bar will be supplied by BHEL at Stores at free of cost. | EA | 28.1 |
| 298 | 525 | Labour charges for making and fixing M.S fan hook of standard shape using M.S bar bent to shape with hooked ends in existing RCC slabs including cutting chase and making good to match with the existing one and painting the exposed portion of the hook etc. complete. M.S bar will be supplied by BHEL at Stores at free of cost. | EA | 182.45 |
| 299 | 526 | Removing cobwebs from the structures of buildings at all heights including cleaning of roof walls, undersurface of A.C sheets etc, complete. Rate includes providing working platforms, ladder, safety nets, labour etc, complete. Payment will be made based on the floor area of the buildings. | M2 | 5.48 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 300 | 527 | Supply and fixing rolling shutters of approved make, made of 80 x1.25 mm M.S laths with 1.25 mm thick top cover interlocked together through their entire length and joined together at end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation etc.complete including cost of providing and fixing necessary 27.5 cm long wire springs grade No.2 and M.S top cover of required thickness for rolling shutter. | M2 | 2020.73 |
| 301 | 528 | Providing and fixing ball bearing for rolling shutters. | EA | 436.65 |
| 302 | 529A | Extra for providing mechanical device chain and crank operation for operating rolling shutters. Exceeding 10.00 SQM and upto 16.80 SQM in area. | M2 | 665.87 |
| 303 | 529B | Extra for providing mechanical device chain and crank operation for operating rolling shutters. Exceeding 16.80 SQM in area. | M2 | 700.72 |
| 304 | 530 | Conveying from BHEL stores to site of work and fixing rolling shutters in proper position, all as directed by the Engineer-in-charge. Rate includes loading, leading, unloading and fixing of roller shutter inclding side brackets, gear box, lubricating the bearings etc., complete and making it fit for operation. Labour charges only. | M2 | 292.23 |
| 305 | 531 | Providing and fixing in position of collapsible steel shutters with vertical channels 20 x 10 x 2 mm and braced with flat iron diagonals 20 x 5 mm size with top and bottom rail of T-iron 40 x 40 x 6 mm with 40 mm dia steel pulleys complete with bolts, nuts, locking arrangements, stoppers, handles, including applying a priming coat of approved steel primer. | M2 | 4589.48 |
| 306 | 532 | Providing and fixing factory made ISI marked steel glazed doors, windows and ventilators, side / top / centre hung, with beading and all members such as F7D, F4B, K11 B and K12 B etc. complete of standard rolled steel sections, joints mitred and flash butt welded and sash bars tenoned and riveted, including providing and fixing of hinges, pivots, including priming coat of approved steel primer , but excluding the cost of other fittings, complete all as per approved design.<br>Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size). | M2 | 1219.94 |
| 307 | 533 | Fixing standard steel glazed doors, windows and ventilators in walls with 15 x 3 mm lugs 10 cm long embedded in cement concrete blocks 15 x10 x10 cm of 1:3:6 or with wooden plugs and screws or rawl plugs and screws or with fixing clips or with bolts and nuts as required, including fixing of glass panes with glazing clips and special metal-sash putty or metal beading with screws. (Only steel doors, windows and ventilators with lugs, glass panes cut to size and glazing clips or metal beading with screws shall be supplied by BHEL at Stores at free of cost) | M2 | 286.59 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 308 | 534A | Supply and fixing of glass panes with putty, glazing clips etc. for steel doors, windows, ventilators etc. Rate includes removal of broken glasses and old putty. 3 mm pin headed glass panes. | M2 | 634.71 |
| 309 | 534B | Supply and fixing of glass panes with putty, glazing clips etc. for steel doors, windows, ventilators etc. Rate includes removal of broken glasses and old putty. 4 mm plain glass panes. | M2 | 703.44 |
| 310 | 535 | Providing putty for glass panes. Rate includes removal of old putty, supply and applying new putty in a proper manner and required quantity at site of work, all as per instructions of Engineer in charge. | RM | 20.39 |
| 311 | 536 | Providing and fixing in proper position of fan hook using 10 mm FSICHER SLM-N heavy duty ANCHOR fastener with clamp and bolts in the existing RCC roof slab. Rate includes cost of fan hook (fastener), drilling with power drilling machine to the required dia and depth in the RCC roof slab, inserting and fixing the fan hook in proper position, all labour and all other incidentals etc. complete. | EA | 412.56 |
| 312 | 537A | Providing and fixing oxidised M.S handle with necessary screws etc.complete. 100 mm size | EA | 23.71 |
| 313 | 537B | Providing and fixing oxidised M.S handle with necessary screws etc.complete. 125 mm size | EA | 27.41 |
| 314 | 538A | Providing polyester sun control film of approved brand (GARWARE or equivalent) and shade to glazed panels in doors / windows / ventilators / partitions etc.with proper adhesive, all after removing the existing damaged film if available etc. complete. All as per instructions of Engineer in charge. Rate includes cost of all materials, scaffolding charges, labour, all other incidentals etc., complete. Non reflective Type - Regular grade | M2 | 443.88 |
| 315 | 538B | Providing polyester sun control film of approved brand (GARWARE or equivalent) and shade to glazed panels in doors / windows / ventilators / partitions etc.with proper adhesive, all after removing the existing damaged film if available etc. complete. All as per instructions of Engineer in charge. Rate includes cost of all materials, scaffolding charges, labour, all other incidentals etc., complete. Non reflective Type - Premium Grade with Scratch Resisting Coating | M2 | 1069.15 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 316 | 539 | Supply of Mild Steel sections such as channels, angles, T sections, flats, sheets, square bars, rods, tubes etc.at site of work and fabrication of steel work for gates, Y angles, purlins, trusses, any other small structures etc., all as per required design and drawing and erecting/fixing the same in proper alignment/position, level including site welding and or bolting/rivetting with necessary accessories such as keelmulai, keelpattai, hinges, tower bolts, aldrops etc.complete. Rate also includes providing two coats of synthetic enamel paint over one coat of red oxide primer. Payment will be made for the entire finished item of work. | MT | 76420.04 |
| 317 | 540 | Providing and fixing factory made ISI marked steel Paneled doors, windows and ventilators, side / top / centre hung, with beading and all members such as F7D, F4B, K11 B and K12 B etc. complete of standard rolled steel sections, joints mitred and flash butt welded and sash bars tenoned and riveted, including providing and fixing of hinges, pivots, including priming coat of approved steel primer , but excluding the cost of other fittings, complete all as per approved design.,and providing and fixing 18 gauge MS sheets for panes, handles, peg stays, friction throw hinges etc., complete including a priming coat of approved steel primer. Rate includes dismantling the masonry and making good all damages etc., complete. | M2 | 2260.86 |
| 318 | 543 | Supply, drilling and driving 10/12 mm dia anchor fasteners of length not exceeding 125 mm at 500 mm both sides of crane rail having tensile and shear capacity of minimum 1.50 MT into the RCC crane girder as indicated in the drawing to secure cover plate rigidly with the crane girder. Rate includes cost of fasteners, labour for drilling holes, etc., complete, all as per the instructions of Engineer-in-charge. Rate also includes provision for wastage of fasteners or repeat work in driving of fasteners due to infringement of reinforcement if any and also filling up the unwanted holes drilled on concrete girder due to repeat work with suitable high strength non-shrink cement. | SET | 197.47 |
| 319 | 548 | Supplying and laying rubberized and coloured (for 5mm thick layer) inter locking paver block of 50mm thickness M25 grade in flooring / pavement to take care of vehicular movements with proper line, level, alignment etc., all as per standard specification and instruction of Engineer-in-charge. The rate included cost of material, transportation, loading, unloading at site, labour for spreading and laying of paver block etc., complete over the sand bed of required thickness which will be paid under separate item. | M2 | 944.94 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 320 | 550 | Renewing the bottom rail and/or top rubber of collapsible gate including making good all damages and applying priming coat of zinc chromate yellow primer of approved brand and manufacturer. Rate includes removing the collapsible gate from its position including the frames, replacing the wornout portions wherever necessary with suitable new M.S Tee sections etc. and refixing the collapsible gate and making good the damages in floor, wall etc.with cement concrete etc.complete. Payment will be made only on weight basis for the replaced new M.S sections. | KG | 162.38 |
| 321 | 551A | Renewing wrought iron or M.S wheel or roller of steel door or gate and fitting and fixing the same with necessary clamps, nuts and bolts/welding and erection etc.complete. Wheel 50 mm dia and below | EA | 120.07 |
| 322 | 551B | Renewing wrought iron or M.S wheel or roller of steel door or gate and fitting and fixing the same with necessary clamps, nuts and bolts/welding and erection etc.complete. Wheel above 50 mm dia | EA | 181.29 |
| 323 | 601 | Finishing the top of all floors with 20 mm thick cement concrete (without using sand) in the proportion of one part of cement and three parts of 3 to 10 mm gauge hard broken granite stone chips and finishing the top surface smooth, rounding of corners, curing etc., complete, all as per standard specifications. (Ellis pattern I sort) | M2 | 183.39 |
| 324 | 602 | Finishing the top of all floors with 20 mm thick cement concrete (without using sand) in the proportion of one part of cement and three parts of 3 to 10 mm gauge hard broken granite stone chips including mixed well with red oxide powder of approved quality of weight equal to one tenth of the weight of cement used. and finishing the top surface smooth, rounding of corners, curing etc., complete, all as per standard specifications. (Ellis pattern I sort). | M2 | 405.44 |
| 325 | 603 | Finishing the top of all floors with 25 mm thick cement concrete (without using sand) in the proportion of one part of cement and three parts of 3 to10 mm gauge hard broken granite stone chips, finishing the surfaces smooth, rounding of corners, curing, providing borders etc., complete, all as per standard specifications. (Ellispattern flooring) | M2 | 248.38 |
| 326 | 604 | Finishing the top of all floors with 25 mm thick cement concrete (without using sand) in the proportion of one part of cement and three parts of 3 to10 mm gauge hard broken granite stone chips including mixed well with red oxide powder of approved quality of weight equal to one tenth of the weight of cement used. , finishing the surfaces smooth, rounding of corners, curing, providing borders etc., complete, all as per standard specifications. (Ellispattern flooring). | M2 | 502.9 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 327 | 605 | Providing red oxide skirting for walls, etc. with cement mortar 1:3, 12 mm thick, well mixed with red oxide powder of approved quality of 3.50 K.G per 50 K.G of cement used, finishing, polishing the surfaces smooth, curing etc., complete, all as per standard specifications. | M2 | 170.58 |
| 328 | 606 | Flooring with reinforced cement concrete of mix 1:2:4 using 40 mm and down graded hard broken granite stone jelly for thickness varying from 100 to 500 mm laid in panels not exceeding 6 x 30 m between expansion joints, including necessary vibration using needle / board / screed vibrators, all as required including necessary shuttering, painting the sides with bitumen, but excluding fabrication charges for reinforcement, all as per standard specifications. | M3 | 2706.86 |
| 329 | 607 | Floor finish with 40 mm thick granolithick flooring over the concrete base while it is wet for proper bonding, the bottom 25 mm thick consisting of one part of cement and one part of 6 mm gauge hard broken granite stone chips (the proportion being by volume) and the top 15 mm finished with hardening compound of proportion one part of hardonate (ironite or equivalent) four parts of cement and eight parts of 6 mm gauge blue granite stone chips (the proportion being by weight) including finishing and painting the sides with bitumen etc., complete, all as per standard specifications. | M2 | 592.59 |
| 330 | 608 | Floor finish with 40 mm thick over concrete base while it is wet for proper bonding. 40 mm thick finish consists of one part of cement and one part of 6 mm gauge hard broken granite stone chips (the proportion being by volume) and finished smooth including painting the sides with bitumen etc., complete, all as per standard specifications. | M2 | 465.13 |
| 331 | 609A | Providing, laying and finishing the top of floor / side walls with 20 mm thick mosaic tiles of approved make and quality over a bed of cement slurry @ 4.40 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm thick and tiles being joined, polished and finished smooth with necessary borders etc., complete including thorough cleaning of the surface before and after laying the tiles. All as per standard specifications. (Cost of tile shall include cost of cement for casting.) For gray colour | M2 | 499.43 |
| 332 | 609B | Providing, laying and finishing the top of floor / side walls with 20 mm thick mosaic tiles of approved make and quality over a bed of cement slurry @ 4.40 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm thick and tiles being joined, polished and finished smooth with necessary borders etc., complete including thorough cleaning of the surface before and after laying the tiles. All as per standard specifications. (Cost of tile shall include cost of cement for casting.) For colours other than gray | M2 | 557.57 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 333 | 610A | Finishing the top of floors / sides of walls with insitu mosaic comprising of a bedding layer of cement mortar 1:4, 12 mm thick followed by 20 mm thick mosaic wearing layer comprising of cement and mosaic chips of 6 mm and down graded in proportion of 1:2, laid, polished and finished with necessary borders etc., complete including thorough cleaning the surfaces before and after laying the finish, all as per standard specifications. Gray colour | M2 | 491.85 |
| 334 | 610B | Finishing the top of floors / sides of walls with insitu mosaic comprising of a bedding layer of cement mortar 1:4, 12 mm thick followed by 20 mm thick mosaic wearing layer comprising of cement and mosaic chips of 6 mm and down graded in proportion of 1:2, laid, polished and finished with necessary borders etc., complete including thorough cleaning the surfaces before and after laying the finish, all as per standard specifications. For colours other than gray | M2 | 549.96 |
| 335 | 611 | Grinding and wax polishing of old mosaic floors, dado, skirting etc. in gray and all colours and finishing the surfaces smooth including filling the joints and voids by matching pigments, chips etc., complete, all as per standard specifications. Rate includes cost of materials, hire and running charges of machines, labour etc., complete. | M2 | 81.63 |
| 336 | 612A | Providing and laying Ceramic tiles of required size and minimum thickness of 6 mm in flooring, treads of steps and landings laid over a bed of cement slurry @ 3.30 Kg/SQM and a backing layer of 10 mm thick cement mortar 1:3, finished with flush pointing in white cement etc.complete, all as per standard specifications. For Plain Ceramic tile of Size 305mm X 305mm X 6mm of all Colours | M2 | 1442.87 |
| 337 | 612B | Providing and laying Ceramic tiles of required size and minimum thickness of 6 mm in flooring, treads of steps and landings laid over a bed of cement slurry @ 3.30 Kg/SQM and a backing layer of 10 mm thick cement mortar 1:3, finished with flush pointing in white cement etc.complete, all as per standard specifications. For Plain Ceramic tile of Size 200mm X 200mm X 6mm of all Colours | M2 | 1113.23 |
| 338 | 612C | Providing and laying Ceramic tiles of required size and minimum thickness of 6 mm in flooring, treads of steps and landings laid over a bed of cement slurry @ 3.30 Kg/SQM and a backing layer of 10 mm thick cement mortar 1:3, finished with flush pointing in white cement etc.complete, all as per standard specifications. For First Quality Design Ceramic tile of Size 305mm X 305mm X 6mm of all Colours. | M2 | 1284.09 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 339 | 612D | Providing and laying Ceramic tiles of required size and minimum thickness of 6 mm in flooring, treads of steps and landings laid over a bed of cement slurry @ 3.30 Kg/SQM and a backing layer of 10 mm thick cement mortar 1:3, finished with flush pointing in white cement etc.complete, all as per standard specifications. For First Quality Design Ceramic tile of Size 200mm X 200mm X 6mm of all colours. | M2 | 1373.34 |
| 340 | 613 | Providing and laying minimum 5 mm thick ceramic glazed floor tiles of first quality approved make confirming to IS:15622 and in all colours of required sizes in flooring, treads of steps, landings etc., laid over a bed of cement slurry @ 3.30 Kg/SQM and a backing layer of 12 mm thick cement mortar 1:3, finished with flush pointing in white cement using appropriate colour pigment etc. complete, all as per standard specifications. | M2 | 710.55 |
| 341 | 614 | Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS : 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades as approved by Engineer-in- Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3 kg per sqm, including pointing in white cement mixed with pigment of matching shade complete | M2 | 710.55 |
| 342 | 615 | Providing and laying ceramic glazed floor tiles (of required thickness) of first quality approved make confirming to IS:15622 and in all colours of required sizes in flooring, treads of steps, landings etc., laid over a bed of cement slurry @ 3.30 Kg/SQM and a backing layer of 20 mm thick cement mortar 1:4, finished with flush pointing in white cement using appropriate colour pigment etc. complete, all as per standard specifications. | M2 | 717.02 |
| 343 | 616 | Providing and laying ceramic glazed wall tiles (of required thickness) of first quality of approved make confirming to IS:15622 and in all colours of required sizes in skirting, walls, risers of steps and dado laid over a bed of cement slurry @ 3.30 Kg/SQM and a backing layer of 12 mm thick cement mortar 1:3 plaster and joined with white cement using appropriate colour pigment etc.complete, all as per standard specifications. | M2 | 787.93 |
| 344 | 617 | Fixing glazed/ceramic/vitrified floor tiles with cement based high polymer modified quick set tile adhesive (water based) conforming to IS 15477, using 5 K.G adhesive per SQM of tile area, in average 3 mm thickness. | M2 | 388.38 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 345 | 618A | Providing, laying and finishing the top of floor with the following best quality slabs of required sizes over a bed of cement slurry @ 4.40 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Kota stone slabs 20 to 25 mm thick polished | M2 | 1216.46 |
| 346 | 618B | Providing, laying and finishing the top of floor with the following best quality slabs of required sizes over a bed of cement slurry @ 4.40 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Cuddappah slabs 20 to 25 mm thick single side polished | M2 | 928.89 |
| 347 | 618C | Providing, laying and finishing the top of floor with the following best quality slabs of required sizes over a bed of cement slurry @ 4.40 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Shahabad slabs 20 to 25 mm thick single side polished - Tandur Gray | M2 | 900.09 |
| 348 | 618D | Providing, laying and finishing the top of floor with the following best quality slabs of required sizes over a bed of cement slurry @ 4.40 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Shahabad slabs 20 to 25 mm thick single side polished - Tandur Green | M2 | 885.71 |
| 349 | 618E | Providing, laying and finishing the top of floor with the following best quality slabs of required sizes over a bed of cement slurry @ 4.40 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Marble slabs 16 to 18 mm thick, polished - Rajnagar plain white | M2 | 1288.84 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 350 | 618F | Providing, laying and finishing the top of floor with the following best quality slabs of required sizes over a bed of cement slurry @ 4.40 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Marble slabs 16 to 18 mm thick, polished - Green (Udaipur) colour | M2 | 1409.12 |
| 351 | 618G | Providing, laying and finishing the top of floor with the following best quality slabs of required sizes over a bed of cement slurry @ 4.40 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Marble slabs 16 to 18 mm thick, polished - Pink colour | M2 | 1349.01 |
| 352 | 618H | Providing, laying and finishing the top of floor with the following best quality slabs of required sizes over a bed of cement slurry @ 4.40 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Marble slabs 16 to 18 mm thick, polished - Black (Zebra/Galaxy) colour | M2 | 1523.99 |
| 353 | 618I | Providing, laying and finishing the top of floor with the following best quality slabs of required sizes over a bed of cement slurry @ 4.40 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Granite slabs 16 to 18 mm thick, polished - S.White | M2 | 1522.38 |
| 354 | 618J | Providing, laying and finishing the top of floor with the following best quality slabs of required sizes over a bed of cement slurry @ 4.40 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Granite slabs 16 to 18 mm thick, polished - Black (Andhra) Colour | M2 | 2428.34 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 355 | 618K | Providing, laying and finishing the top of floor with the following best quality slabs of required sizes over a bed of cement slurry @ 4.40 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Granite slabs 16 to 18 mm thick, polished - Gray Colour | M2 | 2140.7 |
| 356 | 618L | Providing, laying and finishing the top of floor with the following best quality slabs of required sizes over a bed of cement slurry @ 4.40 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Granite slabs 16 to 18 mm thick, polished - Green Colour | M2 | 2068.8 |
| 357 | 618M | Providing, laying and finishing the top of floor with the following best quality slabs of required sizes over a bed of cement slurry @ 4.40 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Granite slabs 16 to 18 mm thick, polished - Sweet Green Colour | M2 | 3393.31 |
| 358 | 618N | Providing, laying and finishing the top of floor with the following best quality slabs of required sizes over a bed of cement slurry @ 4.40 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Granite slabs 16 to 18 mm thick, polished - Red (Gem) Colour | M2 | 2068.8 |
| 359 | 618O | Providing, laying and finishing the top of floor with the following best quality slabs of required sizes over a bed of cement slurry @ 4.40 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Granite slabs 16 to 18 mm thick, polished - Blue (Lavender) Colour | M2 | 2356.44 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 360 | 618P | Providing, laying and finishing the top of floor with the following best quality slabs of required sizes over a bed of cement slurry @ 4.40 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Granite slabs 16 to 18 mm thick, polished - Lakha red Colour | M2 | 3866.42 |
| 361 | 618Q | Providing, laying and finishing the top of floor with the following best quality slabs of required sizes over a bed of cement slurry @ 4.40 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Granite slabs 16 to 18 mm thick, polished - Steel grey Colour | M2 | 1853.12 |
| 362 | 618R | Providing, laying and finishing the top of floor with the following best quality slabs of required sizes over a bed of cement slurry @ 3.30 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Vitrified Tiles of required thickness and 60 x 60 cm size. | M2 | 1712.08 |
| 363 | 618S | Providing, laying and finishing the top of floor with the following best quality slabs of required sizes over a bed of cement slurry @ 3.30 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Precast cement Concrete Tiles of approved make of minimum thickness 22mm and required size and pattern. | M2 | 523.51 |
| 364 | 619A | Providing, laying and finishing the top of floor with the following best quality tiles of required sizes over a bed of cement slurry @ 3.30 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications.Marble tiles (polished), 8 mm thick (approx.) - Rajnagar plain white/Green (Udaipur)/Black (Zebra) | M2 | 846.22 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 365 | 619B | Providing, laying and finishing the top of floor with the following best quality tiles of required sizes over a bed of cement slurry @ 3.30 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Granite tiles (polished), 8 to 10 mm thick (approx.) - P White | M2 | 923.13 |
| 366 | 619C | Providing, laying and finishing the top of floor with the following best quality tiles of required sizes over a bed of cement slurry @ 3.30 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Granite tiles (polished), 8 to 10 mm thick (approx.) - Gray (Steel) Colour | M2 | 884.67 |
| 367 | 619D | Providing, laying and finishing the top of floor with the following best quality tiles of required sizes over a bed of cement slurry @ 3.30 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Granite tiles (polished), 8 to 10 mm thick (approx.) - Red (Gem) Colour | M2 | 1302.38 |
| 368 | 619E | Providing, laying and finishing the top of floor with the following best quality tiles of required sizes over a bed of cement slurry @ 3.30 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Granite tiles (polished), 8 to 10 mm thick (approx.) - Green Colour | M2 | 1025.67 |
| 369 | 619F | Providing, laying and finishing the top of floor with the following best quality tiles of required sizes over a bed of cement slurry @ 3.30 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Granite tiles (polished), 8 to 10 mm thick (approx.) - Sweet Green Colour | M2 | 1333.27 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 370 | 619G | Providing, laying and finishing the top of floor with the following best quality tiles of required sizes over a bed of cement slurry @ 3.30 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Granite tiles (polished), 8 to 10 mm thick (approx.) - Black (Galaxy) Colour | M2 | 1025.67 |
| 371 | 619H | Providing, laying and finishing the top of floor with the following best quality tiles of required sizes over a bed of cement slurry @ 3.30 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Granite tiles (polished), 8 to 10 mm thick (approx.) - Lakha Red Colour | M2 | 1628.08 |
| 372 | 619I | Providing, laying and finishing the top of floor with the following best quality tiles of required sizes over a bed of cement slurry @ 3.30 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Granite tiles (polished), 8 to 10 mm thick (approx.) - Raw Silk Colour | M2 | 1217.84 |
| 373 | 619J | Providing, laying and finishing the top of floor with the following best quality tiles of required sizes over a bed of cement slurry @ 3.30 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Granite tiles (polished), 8 to 10 mm thick (approx.) - Steel Grey Colour | M2 | 884.67 |
| 374 | 620A | Stone tile work of 8 mm thick (mirror polished and machine cut edge). for wall lining upto 10 m height with special adhesive over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand), including pointing in white cement with an admixture of pigment to match the stone shade. Granite tiles (Polished) - Jet Black | M2 | 1787.57 |
| 375 | 620B | Stone tile work of 8 mm thick (mirror polished and machine cut edge). for wall lining upto 10 m height with special adhesive over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand), including pointing in white cement with an admixture of pigment to match the stone shade. Granite tiles (polished), 8 to 10 mm thick (approx.) - Red (Gem) Colour | M2 | 1418.06 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 376 | 620C | Stone tile work of 8 mm thick (mirror polished and machine cut edge). for wall lining upto 10 m height with special adhesive over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand), including pointing in white cement with an admixture of pigment to match the stone shade. Granite tiles (polished), 8 to 10 mm thick (approx.) - Green Colour | M2 | 1456.51 |
| 377 | 620D | Stone tile work of 8 mm thick (mirror polished and machine cut edge). for wall lining upto 10 m height with special adhesive over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand), including pointing in white cement with an admixture of pigment to match the stone shade. Granite tiles (polished), 8 to 10 mm thick (approx.) - Black (Galaxy) Colour | M2 | 1456.51 |
| 378 | 620E | Stone tile work of 8 mm thick (mirror polished and machine cut edge). for wall lining upto 10 m height with special adhesive over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand), including pointing in white cement with an admixture of pigment to match the stone shade. Granite tiles (polished), 8 to 10 mm thick (approx.) - Steel Grey Colour | M2 | 1315.53 |
| 379 | 620F | Stone tile work of 8 mm thick (mirror polished and machine cut edge). for wall lining upto 10 m height with special adhesive over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand), including pointing in white cement with an admixture of pigment to match the stone shade. Marble tiles (polished), 8 mm thick (approx.) - Rajnagar plain white/Green (Udaipur)/Black (Zebra) | M2 | 1277.05 |
| 380 | 621A | Stone tile (polished) work of 8mm thick for wall lining over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and cement slurry @ 3.3 kg/sqm including pointing in white cement complete with the following Granite tiles (Polished), 8 to 10 mm thick (approx.) - Jet Black. | M2 | 1960.61 |
| 381 | 621B | Stone tile (polished) work of 8mm thick for wall lining over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and cement slurry @ 3.3 kg/sqm including pointing in white cement complete with the following Granite tiles (polished), 8 to 10 mm thick (approx.) - Red (Gem) Colour | M2 | 1591.11 |
| 382 | 621C | Stone tile (polished) work of 8mm thick for wall lining over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and cement slurry @ 3.3 kg/sqm including pointing in white cement complete with the following Granite tiles (polished), 8 to 10 mm thick (approx.) - Green Colour | M2 | 1629.57 |
| 383 | 621D | Stone tile (polished) work of 8mm thick for wall lining over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and cement slurry @ 3.3 kg/sqm including pointing in white cement complete with the following Granite tiles (polished), 8 to 10 mm thick (approx.) - Black (Galaxy) Colour | M2 | 1629.57 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 384 | 621E | Stone tile (polished) work of 8mm thick for wall lining over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and cement slurry @ 3.3 kg/sqm including pointing in white cement complete with the following. Granite tiles (polished), 8 to 10 mm thick (approx.) - Steel Grey Colour | M2 | 1488.57 |
| 385 | 621F | Stone tile (polished) work of 8mm thick for wall lining over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and cement slurry @ 3.3 kg/sqm including pointing in white cement complete with the following Marble tiles (polished), 8 mm thick (approx.) - Rajnagar plain white/Green (Udaipur)/Black (Zebra) | M2 | 1450.1 |
| 386 | 622 | Mirror polishing on marble work/granite work/stone work wherever required to give high gloss finish etc.complete. | M2 | 171.37 |
| 387 | 623 | Extra for prefinished nosing to treads of steps of marble stones. | RM | 231.38 |
| 388 | 624 | Extra for prefinished nosing in treads of steps of kota stones. | RM | 74.9 |
| 389 | 625A | Supply and fixing homogeneous PVC sheets / tiles of approved brand, pattern, colour, shade and manufacture in flooring / skirting on a smooth and damp proof base using rubber based adhesives of approved quality including rolling with light wooden roller weighing about 5 K.G. etc.complete, all as per standard specifications.1.5 / 1.6 mm thick | M2 | 445.89 |
| 390 | 625B | Supply and fixing homogeneous PVC sheets / tiles of approved brand, pattern, colour, shade and manufacture in flooring / skirting on a smooth and damp proof base using rubber based adhesives of approved quality including rolling with light wooden roller weighing about 5 K.G. etc.complete, all as per standard specifications. 2 mm thick | M2 | 653.36 |
| 391 | 626 | Supply and laying roughly dressed cut stone slabs of required sizes and thickness over sand bed or mortar bed, excluding pointing, all as per standard specifications. Rate excludes cost of sand bed/mortar bed. | M3 | 6036.45 |
| 392 | 627 | Labour charges for edge preparation (NOZING) and polishing of the laid granite slab on the working platform, table etc. , The rate includes charges for required grinding machine, labour etc., complete. All as per the instructions of Engineer-in-charge | M | 192.24 |
| 393 | 628 | Flooring with reinforced cement concrete of mix 1:2:4 using 20 mm and down graded hard broken granite stone jelly for thickness varying from 100 to 500 mm laid in panels not exceeding 6 x 30 m between expansion joints, including necessary vibration using needle / board / screed vibrators, all as required including necessary shuttering, painting the sides with bitumen, but excluding fabrication charges for reinforcement, all as per standard specifications. | M3 | 2239.48 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 394 | 629 | Providing and laying 7mm thick (approximate) ceramic glazed floor/ wall tiles of first quality approved make and in all colours of required sizes in flooring, treads of steps, landings,skirting,walls,risers of steps and dedo etc.., laid with cement based high polymer modified quick set tile adhesive (water based) conforming to IS 15477, using 5 KG adhesive per SQM of tile area, in average 3 mm thickness and finishing to the required line, level & alignment by placing 2 mm spacers, tile mat for joints filling etc.., complete, all as per instructions of engineer in charge and standard specifications. Rate also includes removing the white wash/ distemper/paint thoroughly, chipping or hacking to make the levelled surface, cleaning the surface free from dirt and other foreign matters etc. | M2 | 835.5 |
| 395 | 630A | Providing laying and finishing the top of floor/wall with the following best quality slabs / tiles of required sizes laid with cement based high polymer modified quick set the adhesive ( water based ) conforming to IS 15477, using 5 K.G adhesive per SQM of tile area in average 3 mm thickness and finishing to the required line, level & alignment, tile mat for joints filling, including rubbing and ploishing wherever necessary etc. complete, all as per instructions of Engineer in Charge and standared spectfications. Rate also includes removing the white wash/ distemper / paint thoroughly, chipping or hacking to make the levelled surface, cleaning the surface free from dirt and other foreign matters etc,, Marble slabs 16 to 18 mm thick, polished - Rajnagar plain white. | M2 | 1791.88 |
| 396 | 630B | Providing laying and finishing the top of floor/wall with the following best quality slabs / tiles of required sizes laid with cement based high polymer modified quick set the adhesive ( water based ) conforming to IS 15477, using 5 K.G adhesive per SQM of tile area in average 3 mm thickness and finishing to the required line, level & alignment, tile mat for joints filling, including rubbing and ploishing wherever necessary etc. complete, all as per instructions of Engineer in Charge and standared spectfications. Rate also includes removing the white wash/ distemper / paint thoroughly, chipping or hacking to make the levelled surface, cleaning the surface free from dirt and other foreign matters etc,,Marble slabs 16 to 18 mm thick, polished - Green ( Udaipur ) colour. | M2 | 1950.56 |
| 397 | 630C | Providing laying and finishing the top of floor/wall with the following best quality slabs / tiles of required sizes laid with cement based high polymer modified quick set the adhesive ( water based ) conforming to IS 15477, using 5 K.G adhesive per SQM of tile area in average 3 mm thickness and finishing to the required line, level & alignment, tile mat for joints filling, including rubbing and ploishing wherever necessary etc. complete, all as per instructions of Engineer in Charge and standared spectfications. Rate also includes removing the white wash/ distemper / paint thoroughly, chipping or hacking to make the levelled surface, cleaning the surface free from dirt and other foreign matters etc,,Marble slabs 16 to 18 mm thick, polished - Pink Colour. | M2 | 1871.26 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 398 | 630D | Providing laying and finishing the top of floor/wall with the following best quality slabs / tiles of required sizes laid with cement based high polymer modified quick set the adhesive ( water based ) conforming to IS 15477, using 5 K.G adhesive per SQM of tile area in average 3 mm thickness and finishing to the required line, level & alignment, tile mat for joints filling, including rubbing and ploishing wherever necessary etc. complete, all as per instructions of Engineer in Charge and standared spectfications. Rate also includes removing the white wash/ distemper / paint thoroughly, chipping or hacking to make the levelled surface, cleaning the surface free from dirt and other foreign matters etc,, Marble slabs 16 to 18 mm thick, polished - Black (Zebra / Galaxy) colour. | M2 | 1615.57 |
| 399 | 630E | Providing laying and finishing the top of floor/wall with the following best quality slabs / tiles of required sizes laid with cement based high polymer modified quick set the adhesive ( water based ) conforming to IS 15477, using 5 K.G adhesive per SQM of tile area in average 3 mm thickness and finishing to the required line, level & alignment, tile mat for joints filling, including rubbing and ploishing wherever necessary etc. complete, all as per instructions of Engineer in Charge and standared spectfications. Rate also includes removing the white wash/ distemper / paint thoroughly, chipping or hacking to make the levelled surface, cleaning the surface free from dirt and other foreign matters etc,, Granite slabs 16 to 18 mm thick, polished - S. White | M2 | 1844.29 |
| 400 | 630F | Providing laying and finishing the top of floor/wall with the following best quality slabs / tiles of required sizes laid with cement based high polymer modified quick set the adhesive ( water based ) conforming to IS 15477, using 5 K.G adhesive per SQM of tile area in average 3 mm thickness and finishing to the required line, level & alignment, tile mat for joints filling, including rubbing and ploishing wherever necessary etc. complete, all as per instructions of Engineer in Charge and standared spectfications. Rate also includes removing the white wash/ distemper / paint thoroughly, chipping or hacking to make the levelled surface, cleaning the surface free from dirt and other foreign matters etc,, Granite slabs 16 to 18 mm thick, polished - Black (Andhra) colour. | M2 | 2935.57 |
| 401 | 630G | Providing laying and finishing the top of floor/wall with the following best quality slabs / tiles of required sizes laid with cement based high polymer modified quick set the adhesive ( water based ) conforming to IS 15477, using 5 K.G adhesive per SQM of tile area in average 3 mm thickness and finishing to the required line, level & alignment, tile mat for joints filling, including rubbing and ploishing wherever necessary etc. complete, all as per instructions of Engineer in Charge and standared spectfications. Rate also includes removing the white wash/ distemper / paint thoroughly, chipping or hacking to make the levelled surface, cleaning the surface free from dirt and other foreign matters etc,,Granite slabs 16 to 18 mm thick, polished - Grey colour. | M2 | 2589.14 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 402 | 630H | Providing laying and finishing the top of floor/wall with the following best quality slabs / tiles of required sizes laid with cement based high polymer modified quick set the adhesive ( water based ) conforming to IS 15477, using 5 K.G adhesive per SQM of tile area in average 3 mm thickness and finishing to the required line, level & alignment, tile mat for joints filling, including rubbing and ploishing wherever necessary etc. complete, all as per instructions of Engineer in Charge and standared spectfications. Rate also includes removing the white wash/ distemper / paint thoroughly, chipping or hacking to make the levelled surface, cleaning the surface free from dirt and other foreign matters etc,, Granite slabs 16 to 18 mm thick, polished - Green colour. | M2 | 2502.52 |
| 403 | 630I | Providing laying and finishing the top of floor/wall with the following best quality slabs / tiles of required sizes laid with cement based high polymer modified quick set the adhesive ( water based ) conforming to IS 15477, using 5 K.G adhesive per SQM of tile area in average 3 mm thickness and finishing to the required line, level & alignment, tile mat for joints filling, including rubbing and ploishing wherever necessary etc. complete, all as per instructions of Engineer in Charge and standared spectfications. Rate also includes removing the white wash/ distemper / paint thoroughly, chipping or hacking to make the levelled surface, cleaning the surface free from dirt and other foreign matters etc,, Granite slabs 16 to 18 mm thick, polished - Sweet Green colour. | M2 | 3108.76 |
| 404 | 630J | Providing laying and finishing the top of floor/wall with the following best quality slabs / tiles of required sizes laid with cement based high polymer modified quick set the adhesive ( water based ) conforming to IS 15477, using 5 K.G adhesive per SQM of tile area in average 3 mm thickness and finishing to the required line, level & alignment, tile mat for joints filling, including rubbing and ploishing wherever necessary etc. complete, all as per instructions of Engineer in Charge and standared spectfications. Rate also includes removing the white wash/ distemper / paint thoroughly, chipping or hacking to make the levelled surface, cleaning the surface free from dirt and other foreign matters etc,, Granite slabs 16 to 18 mm thick, polished - Red (Gem) colour. | M2 | 2502.52 |
| 405 | 630K | Providing laying and finishing the top of floor/wall with the following best quality slabs / tiles of required sizes laid with cement based high polymer modified quick set the adhesive ( water based ) conforming to IS 15477, using 5 K.G adhesive per SQM of tile area in average 3 mm thickness and finishing to the required line, level & alignment, tile mat for joints filling, including rubbing and ploishing wherever necessary etc. complete, all as per instructions of Engineer in Charge and standared spectfications. Rate also includes removing the white wash/ distemper / paint thoroughly, chipping or hacking to make the levelled surface, cleaning the surface free from dirt and other foreign matters etc,,Granite slabs 16 to 18 mm thick, polished - Blue (Lavender) Colour. | M2 | 2848.96 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 406 | 630L | Providing laying and finishing the top of floor/wall with the following best quality slabs / tiles of required sizes laid with cement based high polymer modified quick set the adhesive ( water based ) conforming to IS 15477, using 5 K.G adhesive per SQM of tile area in average 3 mm thickness and finishing to the required line, level & alignment, tile mat for joints filling, including rubbing and ploishing wherever necessary etc. complete, all as per instructions of Engineer in Charge and standared spectfications. Rate also includes removing the white wash/ distemper / paint thoroughly, chipping or hacking to make the levelled surface, cleaning the surface free from dirt and other foreign matters etc,,Granite slabs 16 to 18 mm thick, polished - Lakha Red Colour. | M2 | 4667.74 |
| 407 | 630M | Providing laying and finishing the top of floor/wall with the following best quality slabs / tiles of required sizes laid with cement based high polymer modified quick set the adhesive ( water based ) conforming to IS 15477, using 5 K.G adhesive per SQM of tile area in average 3 mm thickness and finishing to the required line, level & alignment, tile mat for joints filling, including rubbing and ploishing wherever necessary etc. complete, all as per instructions of Engineer in Charge and standared spectfications. Rate also includes removing the white wash/ distemper / paint thoroughly, chipping or hacking to make the levelled surface, cleaning the surface free from dirt and other foreign matters etc,, Granite slabs 16 to 18 mm thick, polished - Steel Grey colour. | M2 | 2242.71 |
| 408 | 630N | Providing laying and finishing the top of floor/wall with the following best quality slabs / tiles of required sizes laid with cement based high polymer modified quick set the adhesive ( water based ) conforming to IS 15477, using 5 K.G adhesive per SQM of tile area in average 3 mm thickness and finishing to the required line, level & alignment, tile mat for joints filling, including rubbing and ploishing wherever necessary etc. complete, all as per instructions of Engineer in Charge and standared spectfications. Rate also includes removing the white wash/ distemper / paint thoroughly, chipping or hacking to make the levelled surface, cleaning the surface free from dirt and other foreign matters etc,, Vitrified tiles or equivalent, 8.50 mm thick (approx) & 60 x 60 cm size. | M2 | 1911.56 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 409 | 701 | Carrying , hoisting and fixing in position of 0.47 to 0.50mm thick colour coated Aluminium zinc alloy coated high tensile steel rib profile sheets with accessories such as ridge pieces, barge boards, North light curves, end curves, etc., for roofing at all heights with necessary xylon coated self tapping / self drilling screws with EPDM washers at every ribs etc., complete. All as per drawings, manufacturers specifications and instructions of Engineer-in-charge .Rate includes cost of self tapping/ self drilling screws with EPDM washers etc., and labour charges for fixing, hire charges for tools and plants like drilling machines, cost of providing life line and other provisions for safety, scaffolding and all other incidental charges etc., complete but excluding cost of Aluminium zinc alloy coated high tensile steel sheets and its accessories such as ridge pieces, barge boards, curves, etc., which will be supplied by BHEL at Stores at free of cost. The payment will be made for the actual laid area only. | M2 | 93.62 |
| 410 | 702 | Carrying , hoisting and fixing in position of 0.47 to 0.50mm thick colour coated Aluminium zinc alloy coated high tensile steel rib profile sheets with accessories such as ridge pieces, barge boards, curves, etc., for side sheeting at all heights with necessary xylon coated self tapping / self drilling screws with EPDM washers at every valleys, etc., complete .All as per drawings, manufacturers specifications and instructions of Engineer-in-charge ..Rate includes cost of self tapping/ self drilling screws with EPDM washers etc., and labour charges for fixing, hire charges for tools and plants like drilling machines, cost of providing life line and other provisions for safety, scaffolding and all other incidental charges etc., complete but excluding cost of Aluminium zinc alloy coated high tensile steel sheets and its accessories such as ridge pieces, barge boards, curves, etc., which will be supplied by BHEL at Stores at free of cost. The payment will be made for the actual laid area only. | M2 | 120.81 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 411 | 703 | Supplying at site of work , hoisting and fixing in position of 0.47 to 0.50mm thick colour coated Aluminium zinc alloy coated high tensile steel rib profile sheets with accessories such as ridge pieces, barge boards, North light curves, end curves, etc., as per technical specifications given in note below for roofing at all heights with necessary xylon coated self tapping / self drilling screws with EPDM washers at every ribs etc., complete. All as per drawings, manufacturers specifications and instructions of Engineer-in-charge .Rate includes cost of all materials like colour coated Aluminium zinc alloy coated high tensile steel rib profile sheets with accessories such as ridge pieces, barge boards, curves, etc., wherever required self tapping / self drilling screws with EPDM washers at every ribs etc., and labour charges for fixing, hire charges for tools and plants like drilling machines, providing lifeline and other provisions for safety, and all other incidental charges etc., complete. The payment will be made for the actual laid area only.<br>Note: (1)The Aluminium zinc alloy coated high tensile steel sheets and specials shall be 0.47 to 0.50mm thick (TCT) (Aluminium around 55%, Zinc around 43%) alloy coated high tensile steel (Yield strength 550 MPA) colour coated rib profile sheets as per ASTM A792M, coating standard as per AS 1397-1933 Conforming to AZM 150 (Min Coating mass of 150 gsm) having cover width of 1000 plus or minus 10mm and over all width of 1060mm of any length to suit site conditions<br>(2) About 90% area of the Aluminium zinc alloy coated high tensile steel sheets shall be colour coated with Light Blue RAL 5012 and 10% of the covered area is of with white. All ridge pieces and barge boards are of white.<br>(3) The Aluminium zinc alloy coated high tensile steel sheets shall be Pre-Primed with a Primer of 5µm and finished with a final paint coat of 17-20 µm on top surface. A single backing coat of 7-10µm should be applied on reverse side | M2 | 591.44 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 412 | 704 | Supplying at site of work , hoisting and fixing in position of 0.47 to 0.50mm thick colour coated Aluminium zinc alloy coated high tensile steel rib profile sheets with accessories such as ridge pieces, barge boards, curves, etc., as per technical specifications given in note below for side sheeting at all heights with necessary xylon coated self tapping / self drilling screws with EPDM washers at every valleys, etc., complete .All as per drawings, manufacturers specifications and instructions of Engineer-in-charge .Rate includes cost of all materials like colour coated Aluminium zinc alloy coated high tensile steel rib profile sheets with accessories such as ridge pieces, barge boards, curves, self tapping / self drilling screws with EPDM washers at every valleys, etc., and labour charges for fixing, hire charges for tools and plants like drilling machines, providing lifeline and other provisions for safety, and all other incidental charges etc., complete. The payment will be made for the actual laid area only.Note: (1)The Aluminium zinc alloy coated high tensile steel sheets and specials shall be 0.47 to 0.50mm thick (TCT) (Aluminium around 55%, Zinc around 43%) alloy coated high tensile steel (Yield strength 550 MPA) colour coated rib profile sheets as per ASTM A792M, coating standard as per AS 1397-1933 Conforming to AZM 150 (Min Coating mass of 150 gsm) having cover width of 1000 plus or minus 10mm and over all width of 1060mm of any length to suit site conditions (2) About 90% area of the Aluminium zinc alloy coated high tensile steel sheets shall be colour coated with Light Blue RAL 5012 and 10% of the covered area is of with white. All ridge pieces and barge boards are of white.(3) The Aluminium zinc alloy coated high tensile steel sheets shall be Pre-Primed with a Primer of 5µm and finished with a final paint coat of 17-20 µm on top surface. A single backing coat of 7-10µm should be applied on reverse side | M2 | 618.68 |
| 413 | 705 | Supplying at site of work, hoisting and fixing in position of 2mm thick embossed clear poly carbonate roof light sheets in specified locations and at all heights with necessary xylon coated self tapping / self drilling screws with EPDM washers at every ribs, etc., complete to match the profile of Aluminium zinc alloy coated high tensile steel roof sheets, as per instructions of Engineerin- charge. The rate includes cost of poly carbonate sheets ,self tapping / self drilling screws with EPDM washer, at every ribs, and labour charges, all scaffolding charges, tools and plants and all other incidental charges etc., complete. | M2 | 1627.98 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 414 | 706 | Supplying roof extractors ( Turbo Air Ventilators ) of dia 600mm or thereabouts, fixing in position on AC / Aluminium zinc alloy coated high tensile steel sheet roofs at all heights with necessary screws,, bolts etc., and finishing to match with existing roof. Rate to include cost of all labour charges for fixing the roof extractors with necessary cutting of sheets to the required size ,drilling to suit the screws/ bolts, and finishing to match the existing profile including cost of roof extractors / ventilators. All as per manufacturers specifications and as directed by the Engineer in charge | EA | 9297.29 |
| 415 | 707A | Supply and fixing corrugated fibre glass reinforced polyester translucent roof light sheets of all colours including white of following thickness to match with the existing A.C. sheet roofing including cost of G.I. bolts, nuts, washers and bitumen washers etc., complete. Payment will be based on the laid area. FRP Sheet 1 mm thick | M2 | 501.44 |
| 416 | 707B | Supply and fixing corrugated fibre glass reinforced polyester translucent roof light sheets of all colours including white of following thickness to match with the existing A.C. sheet roofing including cost of G.I. bolts, nuts, washers and bitumen washers etc., complete. Payment will be based on the laid area. FRP Sheet 2 mm thick | M2 | 836.53 |
| 417 | 708 | Supply and fixing in position of galvanised iron plain sheets of 1.60 mm thick for flashing using G.I bolts, nuts, limpet washers etc. complete bent to shape and fixed in walls with cement mortar 1:3, all as per drawings and specifications. | M2 | 871.35 |
| 418 | 709 | Conveying G.I sheets from BHEL stores to site of work, bent to shape and fixing in proper position for flashing fixed with G.I bolts, nuts, limpet washers etc., complete and fixed in walls with cement mortar 1 : 3, all as per drawings and specifications. G.I sheet alone will be supplied by BHEL at Stores at free of cost. | M2 | 470.19 |
| 419 | 710 | Supply and fixing in position of 6 mm thick wired glass in roof north light glazing including straightening the aluminium astrangle as required. Rate includes cost of glass, labour etc. complete. | M2 | 1044.57 |
| 420 | 711 | Conveying from BHEL stores to site of work 6 mm thick wired glass and fixing in position for roof north light glazing including straightening the aluminium astrangle as required. Rate includes labour, conveyance and other incidentals, removing the broken glasses from its position etc.complete. | M2 | 108.03 |
| 421 | 712 | Providing weathering course on top of roof slab with 20 mm size brick jelly and pure lime (no sand) in the proportion of 32 : 12.5 to the required thickness, well beaten with wooden battens, so as to secure adequate slope, all as per standard specifications and instructions of Engineer-in-charge. | M3 | 2943.89 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 422 | 713 | Providing weathering course on top of roof slab with one course of split tiles or pressed flat tiles of 17 to 20 mm thick and of approved brand and size, set in cement mortar 1:3 with an admixture of crude oil at 10% by weight of cement, 12 mm thick bedding layer including pointing the tiles with the same oiled mortar etc., complete, all as per standard specifications. | M2 | 359.02 |
| 423 | 714 | Labour charges for repairing the weathering course tiles. Scope includes cleaning the surfaces by removal of vegetation growth, dry leaves etc., racking out the tile joints, replacing the damaged tiles wherever necessary with new ones supplied by department, pointing the tiles with cement mortar 1:3 and applying mendo non-tar plast cement over the pointed surfaces. (Tiles and mendo non tar plast cement will be supplied by BHEL at stores at free of cost.) | M2 | 165.31 |
| 424 | 715 | Labour charges for repairing the weathering course tiles. Scope includes cleaning the surfaces by removal of vegetation growth, dry leaves etc., racking out the tile joints, replacing the damaged tiles wherever necessary with new ones supplied by department, pointing the tiles with cement mortar 1:3 and applying mendo non-tar plast cement over the pointed surfaces. (Only Tiles will be supplied by BHEL at stores at free of cost). | M2 | 154.57 |
| 425 | 716 | Attending to leak at roof slab and wall joint, all as per instructions of Engineer-in-charge. Rate includes dismantling the weathering course tiles, brick jelly lime concrete etc. for a width of minimum 100 mm at wall and slab joint for required depth so as to reach the top surface of roof slab, finishing with cement concrete in the proportion of one part of cement and three parts of 6 mm stone chips in the dismantled portion with bitumen compound filler at joint and top, finished with tiles at 1 : 1 slope along with walls including hacking walls, replacing the damaged tiles, pointing with CM 1:3 etc. complete. Cement, tiles and bitumen compound will be supplied by BHEL at stores at free of cost. | RM | 245.87 |
| 426 | 717 | Attending to leak at roof slab and wall joint, all as per instructions of Engineer-in-charge. Rate includes dismantling the weathering course tiles, brick jelly lime concrete etc. for a width of minimum 100 mm at wall and slab joint for required depth so as to reach the top surface of roof slab, finishing with cement concrete in the proportion of one part of cement and three parts of 6 mm stone chips in the dismantled portion with bitumen compound filler at joint and top, finished with tiles at 1 : 1 slope along with walls including hacking walls, replacing the damaged tiles, pointing with CM 1:3 etc. complete. Cement and bitumen compound will be supplied by BHEL at stores at free of cost. | RM | 286.01 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 427 | 718 | Providing weathering course on top of roof slab with one course of split tiles or pressed flat tiles of 17 to 20 mm thick of approved brand and size set in CM 1:3 with Roff plaster master plus solution (100 ml of plaster master liquid to be mixed with required quantity of water for one bag of cement), 12 mm thick bedding layer including pointing the tiles with same mortar etc. complete, all as per std. specifications. Roff plaster master only will be supplied by BHEL at Stores at free of cost. | M2 | 493.48 |
| 428 | 719 | Providing weathering course on top of roof slab with one course of split tiles or pressed flat tiles of 17 to 20 mm thick of approved brand and size set in CM 1:3 with Roff plaster master plus solution (100 ml of plaster master liquid to be mixed with required quantity of water for one bag of cement), 12 mm thick bedding layer including pointing the tiles with same mortar etc. complete, all as per std. specifications. Roff plaster master and required tiles will be supplied by BHEL at Stores at free of cost. | M2 | 118.83 |
| 429 | 720A | Labour charges for removing the damaged weathering course tiles and laying with new tiles set in CM 1:3 with Roff plaster master water solution (100 ml of plaster master liquid to be mixed with required quantity of water for one bag of cement), 12 mm thick bedding layer including pointing the tiles with same mortar etc. complete, all as per std. specifications. Tiles and Roff plaster master will be supplied by BHEL at Stores at free of cost. 1 to 5 tiles at one spot. | EA | 52.12 |
| 430 | 720B | Labour charges for removing the damaged weathering course tiles and laying with new tiles set in CM 1:3 with Roff plaster master water solution (100 ml of plaster master liquid to be mixed with required quantity of water for one bag of cement), 12 mm thick bedding layer including pointing the tiles with same mortar etc. complete, all as per std. specifications. Tiles and Roff plaster master will be supplied by BHEL at Stores at free of cost. Beyond 5 but upto 10 tiles at one spot. | EA | 89 |
| 431 | 721 | Rectifying to the weathering course tile joints by scraping the old mortar joints to a minimum depth of 12 mm with wire brush and cleaning the surface of all dirt, loose mortar etc., pointing the grooved joints with CM 1:3 thoroughly mixed with Roff plaster master solution (100 ml. of plaster master liquid to be mixed with not more than 40 litre of water for one bag of cement), finishing the pointed joints smoothly, proper curing etc. complete. Roff plaster master liquid will be supplied by BHEL at Stores at free of cost. | M2 | 141.18 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 432 | 722 | Rectifying to the corners between wall and roof slab by removing the brick work and concrete at least to a depth of 25 mm along the corners horizontally, clearing the opened corners off all dirt and filling with roofing bituminous compound pressed gently to form smooth concaved corners and finishing the surface with CM 1:3, 12 mm thick for a maximum width of 25 cm, thoroughly mixed with Roff plaster master solution (100 ml Roff plaster master liquid to be mixed with not more than 40 litre of water for one bag of cement) to a neat finish. Bituminous compound and Roff plaster master liquid will be supplied by BHEL at Stores at free of cost. | RM | 70.8 |
| 433 | 723 | Conveying from BHEL stores to site of work, hoisting and fixing in position of 4 mm / 6 mm thick multi walled clear ( UV coated ) polycarbonate sheet for north light glazing runner ( inclined and vertical ) as per drawing including provision of suitable aluminium frames as required. The scope of work includes supply of aluminium frames ( top and bottom) in required profiles fitted with EPDM rubber gaskets and fixing in the glazing runner using SDST screws of approved make and polycarbonate sheets are suitably placed between the aluminium frames before driving the top frame screws all as per Drg.no and as per the instructions of Engineer in Charge. The top and bottom portion of polycarbonate sheets shall be closed with aluminium U channels to prevent dust and insects. Rate shall include cost of aluminium frames, U channels, EPDM rubber gaskets, SDST screws required labour, tools and plants, etc., except polycarbonate sheets which will be supplied by BHEL at free of cost | M2 | 1246.15 |
| 434 | 724 | To collect and cleaning of all the damaged north light glazing materials (polycarbonate sheets) at roof top for all heights and removing/repairing the north light glazing bars (aluminium beading) wherever required in line, level and alignment as per the instructions of Engineer in charge. The aluminium beadings and polycarbonate sheets shall be re fixed using 2 nos of 50mm X 6mm MS Hexagonal bolts, nuts and washersat top horizontal 8 nos of 35mm X 12mm Self drilling fasteners with EPDM washers aat both the vertical sides and 2 nos of 50mm X 12mm self drilling screws with EPDM washers at bottom horizontal in each panel. The rate shall include cost of all labour charges, incidental charges for removing repairing and cost of all required fasteners for re fixing work but excludes cost of polycarbonate sheets and aluminium beading which will be supplied at free of cost. Payment will be made only for the actual area of repair work executed. | M2 | 122.57 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 435 | 725 | Supplying at site of work, hoisting and fixing in position of 4 / 6mm thick multiwalled clear (UV coated) Polycarbonate sheet for north light glazing / glazing in monitor type roof to suit the rows of glazing runner (inclined and vertical) as per drawing including provision of suitable aluminium frames as required. The scope of work includes supply of polycarbonate sheets,aluminium frames (top & bottom) in required profile fitted with EPDM rubber gaskets and fixing in the glazing runner using SDST screws of approved make and the polycarbonate sheets are suitably placed between the aluminium frames before driving the top frame screws all as per std specification , instructions of Engineer-in-charge. The top and bottom portion of polycarbonate sheets shall be closed with aluminium U channels to prevent dust and insects. Rate shall include cost of polycarbonate sheets, aluminium frames, U channels, EPDM rubber gaskets, SDST screws, required labour, tools and plants etc.,complete. | M2 | 1901.73 |
| 436 | 801A | Plastering with cement mortar as per standard specifications. In cement mortar 1:3, 12mm thick | M2 | 89.68 |
| 437 | 801B | Plastering with cement mortar as per standard specifications. In cement mortar 1:4, 12mm thick | M2 | 98.31 |
| 438 | 801C | Plastering with cement mortar as per standard specifications. In Cement mortar 1:5, 12mm thick | M2 | 89.4 |
| 439 | 801D | Plastering with cement mortar as per standard specifications. In cement mortar 1:6, 12mm thick | M2 | 98.09 |
| 440 | 801E | Plastering with cement mortar as per standard specifications. In cement mortar 1:3, 15mm thick | M2 | 113.36 |
| 441 | 801F | Plastering with cement mortar as per standard specifications. In Cement mortar 1:4, 15mm thick | M2 | 113.1 |
| 442 | 801G | Plastering with cement mortar as per standard specifications. In Cement mortar 1:5, 15mm thick | M2 | 112.95 |
| 443 | 801H | Plastering with cement mortar as per standard specifications. In Cement mortar 1:6, 15mm thick | M2 | 112.83 |
| 444 | 801I | Plastering with cement mortar as per standard specifications. In Cement mortar 1:3, 20mm thick | M2 | 132.27 |
| 445 | 801J | Plastering with cement mortar as per standard specifications. In Cement Mortar 1:4, 20mm thick | M2 | 131.96 |
| 446 | 801K | Plastering with cement mortar as per standard specifications. In Cement mortar 1:5, 20mm thick | M2 | 131.75 |
| 447 | 801L | Plastering with cement mortar as per standard specifications. In Cement mortar 1:6, 20mm | M2 | 131.64 |
| 448 | 802 | Damp proof course with cement mortar 1:3, 12 mm thick mixed with an admixture of crude oil at 5 % by weight of cement, all labour etc. complete as per standard specifications. | M2 | 115.01 |
| 449 | 803 | Damp proof course with cement mortar 1:3, 20 mm thick mixed with an admixture of crude oil at 5 % by weight of cement, all labour etc. complete as per standard specifications. | M2 | 157.8 |
| 450 | 804 | Damp proof course with cement mortar 1:3, 12 mm thick mixed with water proofing compound (Accoproof or Impermo or equivalent) at 1 Kg per 50 Kg of cement for water facing surfaces etc. complete., all as per standard specifications. | M2 | 104.64 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 451 | 805 | Damp proof course with cement mortar 1:3, 20 mm thick mixed with water proofing compound (Accoproof or Impermo or equivalent) at 1 Kg per 50 Kg of cement for water facing surfaces etc. complete., all as per standard specifications. | M2 | 141.72 |
| 452 | 806 | Ceiling plastering with cement mortar 1:3, 6mm thick as per standard specifications. | M2 | 80 |
| 453 | 807 | Plain cement mortar bands of 12 mm thick in cement mortar 1:4 to the specified width as per standard specifications. | M2 | 241.77 |
| 454 | 808 | Stucco plastering 12 mm thick with cement mortar 1:3 (1 cement and 3 coarse aggregate of 6 to 12 mm size) over a backing plastering, all as per standard specifications. (Backing plaster will be paid for separately) | M2 | 102 |
| 455 | 809 | Exposed aggregate plastering with crushed stone graded from 6 to 12 mm nominal size dashed over and including fresh plaster in cement mortar 1:3, 12mm thick over a backing coat of cement plaster (which will be paid separately), all as per standard specfications. | M2 | 135.4 |
| 456 | 810 | Finishing the plastered surfaces with a floating coat of cement (punning), all as per standard specifications. | M2 | 22.92 |
| 457 | 811 | Flush/Ruled pointing on stone work with cement mortar 1:3 as per standard specifictions. | M2 | 120.49 |
| 458 | 812 | Pointing to rough stone dry packing in aprons and revetments including grouting to a depth of 40 mm with cement mortar 1:3, all as per standard specifications. | M2 | 66.45 |
| 459 | 813 | Flush pointing with cement mortar 1:3 for stone slab pavement or precast slab pavement or tiling works etc., all as per standard specifications. | M2 | 101.2 |
| 460 | 814 | Providing black board in walls in cement mortar 1:2 mixed with black oxide over rough plastered surface in cement mortar 1:4, 12 mm thick and providing 25 mm border alround in cement mortar 1:3 neatly rounded including providing and fixing with teak wood beading 50 x 25 mm on top of board and hooks and chalk stand on the bottom of board etc., all as per standard specifications. | M2 | 883.57 |
| 461 | 815A | White washing on surfaces using best shell lime to give an even shade including cleaning, brushing of walls and preparing surfaces in accordance with standard specifications. Rate includes cost of all materials, labour etc., complete. Three or more coats | M2 | 10.28 |
| 462 | 815B | White washing on surfaces using best shell lime to give an even shade including cleaning, brushing of walls and preparing surfaces in accordance with standard specifications. Rate includes cost of all materials, labour etc., complete. Two coats | M2 | 5.81 |
| 463 | 815C | White washing on surfaces using best shell lime to give an even shade including cleaning, brushing of walls and preparing surfaces in accordance with standard specifications. Rate includes cost of all materials, labour etc., complete. One coat | M2 | 4.14 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 464 | 816A | White washing on surfaces using Janathacem or equivalent material to give an even shade including cleaning, brushing of walls and preparing surfaces in accordance with standard specifications. Rate includes cost of all materials, labour, curing etc., complete. Three coats | M2 | 11.25 |
| 465 | 816B | White washing on surfaces using Janathacem or equivalent material to give an even shade including cleaning, brushing of walls and preparing surfaces in accordance with standard specifications. Rate includes cost of all materials, labour, curing etc., complete. Two coats | M2 | 6.81 |
| 466 | 816C | White washing on surfaces using Janathacem or equivalent material to give an even shade including cleaning, brushing of walls and preparing surfaces in accordance with standard specifications. Rate includes cost of all materials, labour, curing etc., complete. One coat | M2 | 4.14 |
| 467 | 817A | Colour washing such as green, blue or buff on surfaces to give an even shade including cleaning, brushing walls and preparing surfaces in accordance with standard specifications. Rate includes cost of all materials, labour, etc., complete. Two or more coats with a base coat of white washing with lime | M2 | 13.36 |
| 468 | 817B | Colour washing such as green, blue or buff on surfaces to give an even shade including cleaning, brushing walls and preparing surfaces in accordance with standard specifications. Rate includes cost of all materials, labour, etc., complete. Two coats | M2 | 7.61 |
| 469 | 817C | Colour washing such as green, blue or buff on surfaces to give an even shade including cleaning, brushing walls and preparing surfaces in accordance with standard specifications. Rate includes cost of all materials, labour, etc., complete. One coat | M2 | 4.43 |
| 470 | 818 | Removing white or colour wash by scraping, sand papering and preparing the surfaces smooth including necessary repairs to scratches etc. complete. | M2 | 5.35 |
| 471 | 819 | Applying one coat of cement primer of approved brand and manufacturer on wall surfaces. | M2 | 28.51 |
| 472 | 820A | Painting walls with water proofing cement paint of approved brand and shade on surfaces to give an even shade including cleaning, preparing the surfaces, curing etc., complete. Three coats ( A priming coat of cement primer and two coats of water proofing cement paint ) | M2 | 74.8 |
| 473 | 820B | Painting walls with water proofing cement paint of approved brand and shade on surfaces to give an even shade including cleaning, preparing the surfaces, curing etc., complete. Two coats | M2 | 46.28 |
| 474 | 820C | Painting walls with water proofing cement paint of approved brand and shade on surfaces to give an even shade including cleaning, preparing the surfaces, curing etc., complete. One coat | M2 | 29.21 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 475 | 821A | Painting with sandtex matt of approved brand and shade on surfaces to give an even shade including cleaning the surfaces of all dirt, dust and other foreign matters, sand papering and stopping, all as per standard specifications. Three coats (A priming coat of approved cement primer and two coats of sandtex matt) | M2 | 152.63 |
| 476 | 821B | Painting with sandtex matt of approved brand and shade on surfaces to give an even shade including cleaning the surfaces of all dirt, dust and other foreign matters, sand papering and stopping, all as per standard specifications. Two coats | M2 | 110.26 |
| 477 | 821C | Painting with sandtex matt of approved brand and shade on surfaces to give an even shade including cleaning the surfaces of all dirt, dust and other foreign matters, sand papering and stopping, all as per standard specifications. One coat | M2 | 45.27 |
| 478 | 822 | Applying one coat of distemper primer of approved brand and manufacture on wall surfaces. | M2 | 29.57 |
| 479 | 823A | Distempering using oil bound washable distemper of approved brand and shade on surfaces including cleaning, brushing, preparing the surfaces even and sand papered smooth in accordance with standard specifications. Three coats (A priming coat with approved primer and two coats of distempering). | M2 | 68.74 |
| 480 | 823B | Distempering using oil bound washable distemper of approved brand and shade on surfaces including cleaning, brushing, preparing the surfaces even and sand papered smooth in accordance with standard specifications. Two coats | M2 | 39.17 |
| 481 | 823C | Distempering using oil bound washable distemper of approved brand and shade on surfaces including cleaning, brushing, preparing the surfaces even and sand papered smooth in accordance with standard specifications. One coat | M2 | 26.66 |
| 482 | 824A | Painting with ready mixed plastic emulsion paint of approved brand and shade on surfaces to give an even shade including thorough scraping, removal of dirt, applying necessary plaster of paris, putty etc.complete, all as per standard specifications. Three coats (A priming coat with approved primer and two coats of plastic emulsion paint). | M2 | 83.69 |
| 483 | 824B | Painting with ready mixed plastic emulsion paint of approved brand and shade on surfaces to give an even shade including thorough scraping, removal of dirt, applying necessary plaster of paris, putty etc.complete, all as per standard specifications. Two coats | M2 | 54.11 |
| 484 | 824C | Painting with ready mixed plastic emulsion paint of approved brand and shade on surfaces to give an even shade including thorough scraping, removal of dirt, applying necessary plaster of paris, putty etc.complete, all as per standard specifications. One coat | M2 | 36.59 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
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| 485 | 825A | Painting with synthetic enamel paint of approved brand and shade on surfaces to give an even shade including cleaning the surfaces of all dirt, dust and other foreign matters, sand papering and stopping, all as per standard specifications. Three coats (A priming coat with approved primer and two coats of synthetic enamel paint). | M2 | 95.38 |
| 486 | 825B | Painting with synthetic enamel paint of approved brand and shade on surfaces to give an even shade including cleaning the surfaces of all dirt, dust and other foreign matters, sand papering and stopping, all as per standard specifications. Two coats | M2 | 65.82 |
| 487 | 825C | Painting with synthetic enamel paint of approved brand and shade on surfaces to give an even shade including cleaning the surfaces of all dirt, dust and other foreign matters, sand papering and stopping, all as per standard specifications. One coat | M2 | 42.44 |
| 488 | 826 | Removing dry or oil bound distemper / water proofing cement paint / paint by scraping, sand papering and preparing the surfaces smooth including necessary repairs to scratches etc., complete. | M2 | 7.05 |
| 489 | 827A | Varnishing with varnish of approved brand and manufacture to give an even shade, all as per standard specifications. Three coats (An under coat with flatting varnish and two coats of copal varnish) | M2 | 90.94 |
| 490 | 827B | Varnishing with varnish of approved brand and manufacture to give an even shade, all as per standard specifications. Two coats | M2 | 61 |
| 491 | 827C | Varnishing with varnish of approved brand and manufacture to give an even shade, all as per standard specifications. One coat | M2 | 39.89 |
| 492 | 828A | Polishing with french polish including a coat of wood filler to give an even surface, including cleaning the surfaces of all dirt, dust and sand papered smooth, all as per standard specifications.Two coats | M2 | 247.03 |
| 493 | 828B | Polishing with french polish including a coat of wood filler to give an even surface, including cleaning the surfaces of all dirt, dust and sand papered smooth, all as per standard specifications.One coat | M2 | 129.15 |
| 494 | 829A | Painting with aluminium paint of approved brand and manufacture on surfaces to give an even shade, all as per standard specifications. Two coats. | M2 | 64.93 |
| 495 | 829B | Painting with aluminium paint of approved brand and manufacture on surfaces to give an even shade, all as per standard specifications. One coat | M2 | 41.36 |
| 496 | 830A | Painting with black anti corrosive bitumastic paint of approved brand and manufacture on surfaces to give an even shade, all as per standard specifications. Two coats. | M2 | 44.37 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
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| 497 | 830B | Painting with black anti corrosive bitumastic paint of approved brand and manufacture on surfaces to give an even shade, all as per standard specifications. One coat | M2 | 29.82 |
| 498 | 831A | Painting with black board paint of approved brand and manufacture on surfaces to give an even shade, all as per standard specifications. Two coats. | M2 | 58.32 |
| 499 | 831B | Painting with black board paint of approved brand and manufacture on surfaces to give an even shade, all as per standard specifications. One coat | M2 | 37.76 |
| 500 | 832A | Lettering with paint of approved brand, shade and manufacture of 1cm height. In synthetic enamel paint | EA | 1.86 |
| 501 | 832B | Lettering with paint of approved brand, shade and manufacture of 1cm height. In black japan paint. | EA | 1.79 |
| 502 | 833A | Painting one priming coat with approved primer on surfaces including preparing the surfaces by thoroughly cleaning oil, grease, dirt and other foreign matters and scoured with wire brushes, fine steel wool scrapers and sand paper, all as per standard specifications. Zinc Chromate primer | M2 | 29.95 |
| 503 | 833B | Painting one priming coat with approved primer on surfaces including preparing the surfaces by thoroughly cleaning oil, grease, dirt and other foreign matters and scoured with wire brushes, fine steel wool scrapers and sand paper, all as per standard specifications. Red oxide primer | M2 | 21.55 |
| 504 | 834A | Painting one priming coat with approved primer over structural steel works in roof structures, columns etc., including preparing the surfaces by thoroughly cleaning oil, grease, dirt and other foreign matters and scoured with wire brushes, fine steel wool scrapers and sand paper, all as per standard specifications. Zinc Chromate primer | MT | 1009.34 |
| 505 | 834B | Painting one priming coat with approved primer over structural steel works in roof structures, columns etc., including preparing the surfaces by thoroughly cleaning oil, grease, dirt and other foreign matters and scoured with wire brushes, fine steel wool scrapers and sand paper, all as per standard specifications. Red oxide primer | MT | 594.12 |
| 506 | 835A | Painting (excluding priming coat) on structural steel works in roof structures, columns etc.with synthetic enamel paint of approved brand and shade, brushing to give an even shade including cleaning the surfaces of all dirt, dust and other foreign matters, scaffolding charges etc.complete. All as per standard specifications. Two coats | MT | 1669.81 |
| 507 | 835B | Painting (excluding priming coat) on structural steel works in roof structures, columns etc.with synthetic enamel paint of approved brand and shade, brushing to give an even shade including cleaning the surfaces of all dirt, dust and other foreign matters, scaffolding charges etc.complete. All as per standard specifications. One coat | MT | 990.15 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
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| 508 | 836A | Painting (excluding priming coat) on structural steel works in roof structures, columns etc.with aluminium paint of approved brand, brushing to give an even shade including cleaning the surfaces of all dirt, dust and other foreign matters, scaffolding charges etc.complete. All as per standard specifications. Two coats | MT | 1544.46 |
| 509 | 836B | Painting (excluding priming coat) on structural steel works in roof structures, columns etc.with aluminium paint of approved brand, brushing to give an even shade including cleaning the surfaces of all dirt, dust and other foreign matters, scaffolding charges etc.complete. All as per standard specifications. One coat | MT | 907.9 |
| 510 | 837 | Providing black board in walls in cement mortar 1:2 mixed with black oxide over rough plastered surfaces in cement mortar 1:4, 12 mm thick and providing 25 mm border alround in cement mortar 1:3, neatly rounded etc. complete. | M2 | 201.03 |
| 511 | 838 | Repairs to plaster of thickness 12 to 20 mm in patches of area 2.5 Sqm and under with cement mortar 1:4 including cutting the patches in proper shape, preparing and plastering the surface of the walls completely including disposal of rubbish within a lead of 50 metre. | M2 | 141.61 |
| 512 | 839 | Removal of all nails, screws, wooden plugs etc. from the walls, chipping the plastering of small holes caused by removal, cleaning and finishing good the same with cement mortar etc. complete in Quarters. | EA | 104.54 |
| 513 | 840A | Painting with exterior emulsion paint (ACE or any other equivalent and approved brand) of approved shade on surfaces to give an even shade including preparing the surfaces, removal of dirt, thorough cleaning by watering etc., all as per standard specifications. Rate includes cost of necessary plaster of paris and putty wherever required, labour and all incidentals etc.complete. Three coats (One coat of Primer of approved brand with two coats of Paint) | M2 | 72.89 |
| 514 | 840B | Painting with exterior emulsion paint (ACE or any other equivalent and approved brand) of approved shade on surfaces to give an even shade including preparing the surfaces, removal of dirt, thorough cleaning by watering etc., all as per standard specifications. Rate includes cost of necessary plaster of paris and putty wherever required, labour and all incidentals etc.complete. Two coats | M2 | 60.46 |
| 515 | 840C | Painting with exterior emulsion paint (ACE or any other equivalent and approved brand) of approved shade on surfaces to give an even shade including preparing the surfaces, removal of dirt, thorough cleaning by watering etc., all as per standard specifications. Rate includes cost of necessary plaster of paris and putty wherever required, labour and all incidentals etc.complete. One coat | M2 | 38.82 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
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| 516 | 841A | Painting with exterior emulsion paint (ACE or any other equivalent and approved brand) of approved shade on STUCCO/EXPOSED AGGREGATE surfaces to give an even shade including preparing the surfaces, removal of dirt, thorough cleaning by watering etc., all as per standard specifications. Rate includes cost of necessary plaster of paris and putty wherever required, labour and all incidentals etc.complete. This is applicable only for STUCCO/EXPOSED AGGREGATE surfaces. Three coats (One coat of Primer of approved brand with two coats of Paint) | M2 | 92.08 |
| 517 | 841B | Painting with exterior emulsion paint (ACE or any other equivalent and approved brand) of approved shade on STUCCO/EXPOSED AGGREGATE surfaces to give an even shade including preparing the surfaces, removal of dirt, thorough cleaning by watering etc., all as per standard specifications. Rate includes cost of necessary plaster of paris and putty wherever required, labour and all incidentals etc.complete. This is applicable only for STUCCO/EXPOSED AGGREGATE surfaces. Two coats | M2 | 73.4 |
| 518 | 841C | Painting with exterior emulsion paint (ACE or any other equivalent and approved brand) of approved shade on STUCCO/EXPOSED AGGREGATE surfaces to give an even shade including preparing the surfaces, removal of dirt, thorough cleaning by watering etc., all as per standard specifications. Rate includes cost of necessary plaster of paris and putty wherever required, labour and all incidentals etc.complete. This is applicable only for STUCCO/EXPOSED AGGREGATE surfaces. One coat | M2 | 47.45 |
| 519 | 842A | Painting with Epoxy paint (two or more coats) at all locations, prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surfaces etc.complete. On steel work | M2 | 100.53 |
| 520 | 842B | Painting with Epoxy paint (two or more coats) at all locations, prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surfaces etc.complete. On concrete work | M2 | 94.99 |
| 521 | 843 | Extra charges for plastering to exterior walls of height more than 13.50 metre from plinth level for every additional height of 3 metre or part thereof. | M2 | 30.11 |
| 522 | 844 | Extra charges for plastering to spherical ceiling. | M2 | 55.24 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
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| 523 | 845A | Labour charges for painting with primer/plastic emulsion paint/synthetic enamel paint/aluminium paint/anti corrosive bitumastic paint/black board paint/chlorinated rubber paint or any other paint on required surfaces to give an even shade including scraping, cleaning the surfaces of all dirt, dust and other foreign matters, sand papering and stopping, all as per standard specifications. Rate excludes cost of primer and paint. Required primer and paint will be issued by BHEL at stores at free of cost. For one priming coat with primer | M2 | 21.72 |
| 524 | 845B | Labour charges for painting with primer/plastic emulsion paint/synthetic enamel paint/aluminium paint/anti corrosive bitumastic paint/black board paint/chlorinated rubber paint or any other paint on required surfaces to give an even shade including scraping, cleaning the surfaces of all dirt, dust and other foreign matters, sand papering and stopping, all as per standard specifications. Rate excludes cost of primer and paint. Required primer and paint will be issued by BHEL at stores at free of cost. For three coats (A priming coat and two coats of painting or directly three coats of painting) | M2 | 57.93 |
| 525 | 845C | Labour charges for painting with primer/plastic emulsion paint/synthetic enamel paint/aluminium paint/anti corrosive bitumastic paint/black board paint/chlorinated rubber paint or any other paint on required surfaces to give an even shade including scraping, cleaning the surfaces of all dirt, dust and other foreign matters, sand papering and stopping, all as per standard specifications. Rate excludes cost of primer and paint. Required primer and paint will be issued by BHEL at stores at free of cost. For Two coats of painting | M2 | 36.13 |
| 526 | 845D | Labour charges for painting with primer/plastic emulsion paint/synthetic enamel paint/aluminium paint/anti corrosive bitumastic paint/black board paint/chlorinated rubber paint or any other paint on required surfaces to give an even shade including scraping, cleaning the surfaces of all dirt, dust and other foreign matters, sand papering and stopping, all as per standard specifications. Rate excludes cost of primer and paint. Required primer and paint will be issued by BHEL at stores at free of cost. For one coat of painting | M2 | 25.52 |
| 527 | 846 | Applying two coats of Alltek Superfine (interior plaster) putty to a thickness of 2mm over plastered surface including sand papering and preparing the surface smooth and there after applying one priming coat of Alltek primer and two coats of plastic emulsion paint of approved brand and shade, all as per instructions of Engineer-in-charge. | M2 | 281.77 |
| 528 | 901A | Supply and stacking the following to standard gauge at site of work, all as per instructions of Engineer-in-Charge. Soling stones 15 cm average thickness (measured in stacks will be reduced by 15 % for payment) | M3 | 415.35 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
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| 529 | 901B | Supply and stacking the following to standard gauge at site of work, all as per instructions of Engineer-in-Charge. 53 mm IRC size metal (measured in stacks will be reduced by 7.5 % for payment) | M3 | 1090.73 |
| 530 | 901C | Supply and stacking the following to standard gauge at site of work, all as per instructions of Engineer-in-Charge. 37.50 mm IRC size metal / 37.5 or 40 mm Stone metal ISS (measured in stacks will be reduced by 7.5 % for payment) | M3 | 1435.48 |
| 531 | 901D | Supply and stacking the following to standard gauge at site of work, all as per instructions of Engineer-in-Charge. 22.40 mm IRC size metal (No voids) | M3 | 1769.37 |
| 532 | 901E | Supply and stacking the following to standard gauge at site of work, all as per instructions of Engineer-in-Charge. 11.20 mm IRC size metal (No voids) | M3 | 1166.83 |
| 533 | 901F | Supply and stacking the following to standard gauge at site of work, all as per instructions of Engineer-in-Charge. 6 mm IRC size metal (No voids) | M3 | 903.12 |
| 534 | 901G | Supply and stacking the following to standard gauge at site of work, all as per instructions of Engineer-in-Charge. River sand (No voids) | M3 | 618.56 |
| 535 | 901H | Supply and stacking the following to standard gauge at site of work, all as per instructions of Engineer-in-Charge. Gravel / Red earth (No voids) | M3 | 254.45 |
| 536 | 901I | Supply and stacking the following to standard gauge at site of work, all as per instructions of Engineer-in-Charge. Earth ( measured in stacks will be reduced by 20 % for payment ) | M3 | 219.01 |
| 537 | 901J | Supply and stacking the following to standard gauge at site of work, all as per instructions of Engineer-in-Charge. Cattle manure ( measured in stacks will be reduced by 8 % for payment ) | M3 | 392.77 |
| 538 | 901K | Supply and stacking the following to standard gauge at site of work, all as per instructions of Engineer-in-Charge. IRC graded stone aggregate of size range from 90 to 45 mm (measured in stacks will be reduced by 7.5 % for payment) | M3 | 751.27 |
| 539 | 901L | Supply and stacking the following to standard gauge at site of work, all as per instructions of Engineer-in-Charge. IRC graded stone aggregate of size range from 63 to 45 mm (measured in stacks will be reduced by 7.5 % for payment) | M3 | 947.79 |
| 540 | 901M | Supply and stacking the following to standard gauge at site of work, all as per instructions of Engineer-in-Charge. IRC graded stone aggregate of size range from 53 to 22.4 mm (measured in stacks will be reduced by 7.5 % for payment) | M3 | 1296.26 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 541 | 902A | Supply RCC pipes (NP2 Class) of following sizes with collars at site of work, lowering to trench, laying to proper grade and alignment, joining the collars with stiff mixture of cement mortar 1 : 2, testing of joints etc., but excludes cost of cement which will be supplied by BHEL at stores at free of cost. 150 mm dia | RM | 352.79 |
| 542 | 902B | Supply RCC pipes (NP2 Class) of following sizes with collars at site of work, lowering to trench, laying to proper grade and alignment, joining the collars with stiff mixture of cement mortar 1 : 2, testing of joints etc., but excludes cost of cement which will be supplied by BHEL at stores at free of cost. 250 mm dia | RM | 468.25 |
| 543 | 902C | Supply RCC pipes (NP2 Class) of following sizes with collars at site of work, lowering to trench, laying to proper grade and alignment, joining the collars with stiff mixture of cement mortar 1 : 2, testing of joints etc., but excludes cost of cement which will be supplied by BHEL at stores at free of cost. 300 mm dia | RM | 513.68 |
| 544 | 902D | Supply RCC pipes (NP2 Class) of following sizes with collars at site of work, lowering to trench, laying to proper grade and alignment, joining the collars with stiff mixture of cement mortar 1 : 2, testing of joints etc., but excludes cost of cement which will be supplied by BHEL at stores at free of cost. 450 mm dia | RM | 942.28 |
| 545 | 902E | Supply RCC pipes (NP2 Class) of following sizes with collars at site of work, lowering to trench, laying to proper grade and alignment, joining the collars with stiff mixture of cement mortar 1 : 2, testing of joints etc., but excludes cost of cement which will be supplied by BHEL at stores at free of cost. 600 mm dia | RM | 1837.12 |
| 546 | 902F | Supply RCC pipes (NP2 Class) of following sizes with collars at site of work, lowering to trench, laying to proper grade and alignment, joining the collars with stiff mixture of cement mortar 1 : 2, testing of joints etc., but excludes cost of cement which will be supplied by BHEL at stores at free of cost. 750 mm dia | RM | 2234.2 |
| 547 | 902G | Supply RCC pipes (NP2 Class) of following sizes with collars at site of work, lowering to trench, laying to proper grade and alignment, joining the collars with stiff mixture of cement mortar 1 : 2, testing of joints etc., but excludes cost of cement which will be supplied by BHEL at stores at free of cost. 900 mm dia | RM | 2635.5 |
| 548 | 902H | Supply RCC pipes (NP2 Class) of following sizes with collars at site of work, lowering to trench, laying to proper grade and alignment, joining the collars with stiff mixture of cement mortar 1 : 2, testing of joints etc., but excludes cost of cement which will be supplied by BHEL at stores at free of cost. 1200 mm dia | RM | 4091.68 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
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| 549 | 903A | Providing of granular sub- base by providing close graded Material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density,complete as per clause 401 of MOHRT-Rev5/Latest. For Grading-V Material (Drainage/ Top Layer) | M3 | 1619.13 |
| 550 | 903B | Providing of granular sub- base by providing close graded Material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density,complete as per clause 401 of MOHRT-Rev5/Latest. For Grading-III Material (Bottom Layer if thickness more than 300 mm) | M3 | 1690.56 |
| 551 | 909 | Providing and laying, spreading and compacting graded stone aggregates to Wet Mix Macadam of 250mm thick specification including premixing the materials with water at OMC in mechnanical mix plant carriage of mixed material by tipper to site laying in uniform layers with pavers in Sub Base/ Base course on well prepared surface and compacting with vibratory roller to acheive the desired density including cost of material, labour charges, rentals for machinery, fuel and all other incidental charges etc., complete as per clause 406 of MORTH Rev-5 | M3 | 2073.44 |
| 552 | 918 | Providing, laying and compacting Well Gravel including cost and conveyance of the same to work site with an average lead of 5 Km including stacking the same to departemental gauge for premeasurement including all labour charges for laying, spreading etc., complete and directed by the departmental engineers for making up of low berms | M3 | 326.29 |
| 553 | 919 | Providing, laying and compacting Gravel including cost and conveyance of the same to work site with an average lead of 5 Km including stacking the same to departemental gauge for premeasurement including all labour charges for laying, spreading etc., complete and as directed by the departmental engineers for making up of low berms | M3 | 464.27 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 554 | 920 | Providing and laying Bituminous Concrete to 50 mm thick using 0.22 cum of 26.5- 13.20mm, 0.24 cum of 13.20-2.36mm and 0.26cum of 2.36 and below IRC HBG metal with 62.40 kgs of VG30/ VG40 bitumen for premixing per 10sqm including cost and conveyance of all materials to CMP site, heating the bitumen and aggregate to required temperature and mixing them in required temperature in central hot mix plant 20-30 ton capacity, conveying the mix by tipper trucks to paver site, spreading the mix to uniform thickness of 50mm with mechanical paver to the specified grades and cross sections and consolidated by 8-10 tonne Vibratory / Pneumatic Roller to the required density etc., including labour for attending to paver to site etc., including hire charges and fuel charges for 20-30 t CMP with bitumen boiler, tipper trucks, Paver Finisher / 9m paver finisher, Vibratory / Pneumatic roller and all other tools and plant required, including fuel and all other incidental charges etc., complete as per specification using CMP clause 507 of MORTH. | M3 | 15008.86 |
| 555 | 921 | Formation of embankment with earth from quarrying place and compaction by power roller (100 % compaction ) | M3 | 752.53 |
| 556 | 922 | Labour charges for spreading the patchmat material for road patch work. Rate includes preparation of surface, brushing, cleaning, laying patchmat, compacting etc. complete. Patchmat will be supplied by BHEL at stores at free of cost. | M2 | 44.37 |
| 557 | 1001A1 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge.Brick work in cement mortar | M3 | 509.96 |
| 558 | 1001A2 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge.Stone rubble masonry in cement mortar | M3 | 668.46 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 559 | 1001A3 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge.Old plastering / skirting raking out joints / chipping the concrete and roughening the surface. | M2 | 13.79 |
| 560 | 1001A4 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge.Plain Cement Concrete. | M3 | 409.03 |
| 561 | 1001A5 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. RCC works including stacking of steel bars by manual / mechanical means. | M3 | 881.87 |
| 562 | 1001A6 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge.RCC or PCC (Using jack hammer only for pockets) | M3 | 1690.25 |
| 563 | 1001A71 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. Precast concrete or stone slabs in walls, partition walls etc. Thickness upto 40 mm | M2 | 82.39 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 564 | 1001A72 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. Precast concrete or stone slabs in walls, partition walls etc. Thickness above 40 mm upto 75 mm | M2 | 123.4 |
| 565 | 1001A8 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. RCC louvers / RCC jally | M2 | 161.49 |
| 566 | 1001A9 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. Ellis pattern finish / Insitu mosaic. | M2 | 29.53 |
| 567 | 1001A10 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. Tile work in floors and roofs laid in cement mortar. | M2 | 26.64 |
| 568 | 1001A11 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. Brick jelly lime concrete. | M3 | 210.77 |
| 569 | 1001A12 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge.Doors / Windows / Ventilators (steel or wood) including frame and shutters, holdfasts, hinges, fastenings etc. of area 3 sqm and below. | EA | 150.92 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 570 | 1001A13 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. Only shutters of Doors / Windows / Ventilators (steel or wood) including hinges, fastenings etc. | M2 | 27.4 |
| 571 | 1001A14 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. IWC with 'P' trap and foot rests | SET | 253.77 |
| 572 | 1001A15 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. EWC (excluding flushing cistern) / Urinal (earthenware) of any size including foot rests / Wash basin with connected fittings / RCC precast sink or other ready made sinks with connected fittings/ Nahani trap. | EA | 152.24 |
| 573 | 1001A16 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. Flushing cistern of any size | EA | 287.85 |
| 574 | 1001A17 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. G.I / PVC pipe lines of various dia including all specials. | RM | 14.25 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 575 | 1001A18 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. A.C / C.I rain water pipes upto 150 mm dia with fittings and clamps. | RM | 26.59 |
| 576 | 1001A19 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. S.W pipe lines upto 225 mm dia. | RM | 39.93 |
| 577 | 1001A201 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. C.I pipes including earthwork excavation, breaking lead caulked joints, melting of lead and making into blocks, refilling trenches after taking out the pipes etc. Upto 150 mm dia | RM | 168.42 |
| 578 | 1001A202 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. C.I pipes including earthwork excavation, breaking lead caulked joints, melting of lead and making into blocks, refilling trenches after taking out the pipes etc. Above 150 upto 300 mm dia | RM | 223.85 |
| 579 | 1001A203 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. C.I pipes including earthwork excavation, breaking lead caulked joints, melting of lead and making into blocks, refilling trenches after taking out the pipes etc. Above 300 mm dia | RM | 290.52 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 580 | 1001A211 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. C.I sluice valveUpto 150 mm dia | EA | 132.59 |
| 581 | 1001A212 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. C.I sluice valve Above 150 mm dia | EA | 460.88 |
| 582 | 1001A22 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. A.C sheets from roofs and side cladding including ridges, valleys, gutters etc. | M2 | 24.18 |
| 583 | 1001A23 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. G.I / Aluminium sheets / Aluminium Zinc alloy coated sheets from roofs and side cladding including ridges, valleys, gutters etc. | M2 | 68.72 |
| 584 | 1001A24 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. Steel structures / steel works in built up sections including bolts, nuts, cutting rivets, welding, dismembering, preparation of DODL etc. | MT | 2159.02 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 585 | 1001A25 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. Steel partitions including bolts, nuts, cutting rivets, welding etc. and dismembering | M2 | 71.84 |
| 586 | 1001A26 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. North light glasses at various levels ranging from 9 to 24 metre | M2 | 108.1 |
| 587 | 1001A27 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. False ceiling / partitions / fixed glazing, all in A.C sheet or hard board or aluminium or gypsum or other materials including connected frame works . | M2 | 18.49 |
| 588 | 1001A28 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. Rough stone dry packing for apron, revetments etc. | M3 | 232.01 |
| 589 | 1001A29 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. R.C.C fencing post including all earthwork, dismanling base concrete etc. | EA | 92.77 |
| 590 | 1001A30 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. Barbed wire / flexible wire rope in fencing. | KG | 9.98 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 591 | 1001A31 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. R.C.C pipes upto 450 mm dia | RM | 193.92 |
| 592 | 1001A32 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. Kerb stone | RM | 18.86 |
| 593 | 1001A33 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. Bituminous road. | M3 | 397.46 |
| 594 | 1001A34 | Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. W.B.M /W.M.M road. | M3 | 246.38 |
| 595 | 1101A | Providing and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings and clamps on walls and floors, including cutting and making good the walls and floors etc. complete. (Internal work - exposed on walls) 15 mm dia nominal bore. | RM | 194.16 |
| 596 | 1101B | Providing and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings and clamps on walls and floors, including cutting and making good the walls and floors etc. complete. (Internal work - exposed on walls) 20 mm dia nominal bore. | RM | 237.59 |
| 597 | 1101C | Providing and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings and clamps on walls and floors, including cutting and making good the walls and floors etc. complete. (Internal work - exposed on walls) 25 mm dia nominal bore. | RM | 316.33 |
| 598 | 1101D | Providing and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings and clamps on walls and floors, including cutting and making good the walls and floors etc. complete. (Internal work - exposed on walls) 32 mm dia nominal bore. | RM | 382.91 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 599 | 1101E | Providing and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings and clamps on walls and floors, including cutting and making good the walls and floors etc. complete. (Internal work - exposed on walls) 40 mm dia nominal bore. | RM | 455.52 |
| 600 | 1101F | Providing and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings and clamps on walls and floors, including cutting and making good the walls and floors etc. complete. (Internal work - exposed on walls) 50 mm dia nominal bore. | RM | 569.61 |
| 601 | 1101G | Providing and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings and clamps on walls and floors, including cutting and making good the walls and floors etc. complete. (Internal work - exposed on walls) 65 mm dia nominal bore. | RM | 701.22 |
| 602 | 1101H | Providing and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings and clamps on walls and floors, including cutting and making good the walls and floors etc. complete. (Internal work - exposed on walls) 80 mm dia nominal bore. | RM | 894.45 |
| 603 | 1101I | Providing and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings and clamps on walls and floors, including cutting and making good the walls and floors etc. complete. (Internal work - exposed on walls) 100 mm dia nominal bore. | RM | 1102.99 |
| 604 | 1101J | Providing and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings and clamps on walls and floors, including cutting and making good the walls and floors etc. complete. (Internal work - exposed on walls) 125 mm dia nominal bore. | RM | 1860.52 |
| 605 | 1101K | Providing and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings and clamps on walls and floors, including cutting and making good the walls and floors etc. complete. (Internal work - exposed on walls) 150 mm dia nominal bore. | RM | 2148.14 |
| 606 | 1102 | Making chases upto 7.50 x 7.50 cm in walls for concealed pipe line works etc. including making good to match with existing one after housing pipes etc. complete. Rate excludes cost of pipes. | RM | 75.76 |
| 607 | 1103A | Providing and laying G.I pipes and specials (B - Class) of approved brand with G.I fittings in trenches. (External work) Earth work excavation for trenches and refilling will be paid separately. 15 mm dia nominal bore. | RM | 114.83 |
| 608 | 1103B | Providing and laying G.I pipes and specials (B - Class) of approved brand with G.I fittings in trenches. (External work) Earth work excavation for trenches and refilling will be paid separately. 20 mm dia nominal bore. | RM | 145.99 |
| 609 | 1103C | Providing and laying G.I pipes and specials (B - Class) of approved brand with G.I fittings in trenches. (External work) Earth work excavation for trenches and refilling will be paid separately. 25 mm dia nominal bore. | RM | 213.97 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 610 | 1103D | Providing and laying G.I pipes and specials (B - Class) of approved brand with G.I fittings in trenches. (External work) Earth work excavation for trenches and refilling will be paid separately. 32 mm dia nominal bore. | RM | 262.94 |
| 611 | 1103E | Providing and laying G.I pipes and specials (B - Class) of approved brand with G.I fittings in trenches. (External work) Earth work excavation for trenches and refilling will be paid separately. 40 mm dia nominal bore. | RM | 307.16 |
| 612 | 1103F | Providing and laying G.I pipes and specials (B - Class) of approved brand with G.I fittings in trenches. (External work) Earth work excavation for trenches and refilling will be paid separately. 50 mm dia nominal bore. | RM | 382.91 |
| 613 | 1103G | Providing and laying G.I pipes and specials (B - Class) of approved brand with G.I fittings in trenches. (External work) Earth work excavation for trenches and refilling will be paid separately. 65 mm dia nominal bore. | RM | 503.83 |
| 614 | 1103H | Providing and laying G.I pipes and specials (B - Class) of approved brand with G.I fittings in trenches. (External work) Earth work excavation for trenches and refilling will be paid separately. 80 mm dia nominal bore. | RM | 665.57 |
| 615 | 1103I | Providing and laying G.I pipes and specials (B - Class) of approved brand with G.I fittings in trenches. (External work) Earth work excavation for trenches and refilling will be paid separately. 100 mm dia nominal bore. | RM | 859.21 |
| 616 | 1103J | Providing and laying G.I pipes and specials (B - Class) of approved brand with G.I fittings in trenches. (External work) Earth work excavation for trenches and refilling will be paid separately. 125 mm dia nominal bore. | RM | 1518.26 |
| 617 | 1103K | Providing and laying G.I pipes and specials (B - Class) of approved brand with G.I fittings in trenches. (External work) Earth work excavation for trenches and refilling will be paid separately. 150 mm dia nominal bore. | RM | 1796.18 |
| 618 | 1104A | Providing and fixing PVC water pipes and specials conforming to ISS on walls and floors with clamps at one metre spacings, joining with proper adhesive as suggested by manufacturers, cutting and making good the wall etc. complete. (internal work - exposed on walls) PVC Pipe 18/20 mm OD (10 kg/Sq.cm) | RM | 83.01 |
| 619 | 1104B | Providing and fixing PVC water pipes and specials conforming to ISS on walls and floors with clamps at one metre spacings, joining with proper adhesive as suggested by manufacturers, cutting and making good the wall etc. complete. (internal work - exposed on walls) PVC Pipe 25 mm OD (10 kg/Sq.cm) | RM | 105.66 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 620 | 1104C | Providing and fixing PVC water pipes and specials conforming to ISS on walls and floors with clamps at one metre spacings, joining with proper adhesive as suggested by manufacturers, cutting and making good the wall etc. complete. (internal work - exposed on walls) PVC Pipe 32 mm OD (10 kg/Sq.cm) | RM | 126.85 |
| 621 | 1104D | Providing and fixing PVC water pipes and specials conforming to ISS on walls and floors with clamps at one metre spacings, joining with proper adhesive as suggested by manufacturers, cutting and making good the wall etc. complete. (internal work - exposed on walls) PVC Pipe 40 mm OD ( 6 kg/Sq.cm) | RM | 157.93 |
| 622 | 1104E | Providing and fixing PVC water pipes and specials conforming to ISS on walls and floors with clamps at one metre spacings, joining with proper adhesive as suggested by manufacturers, cutting and making good the wall etc. complete. (internal work - exposed on walls) PVC Pipe 50 mm OD ( 6 kg/Sq.cm) | RM | 206.97 |
| 623 | 1105A | Providing and laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately. PVC Pipe 18/20 mm OD (10 kg/Sq.cm) | RM | 30.82 |
| 624 | 1105B | Providing and laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately. PVC Pipe 25 mm OD (10 kg/Sq.cm) | RM | 42.71 |
| 625 | 1105C | Providing and laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately. PVC Pipe 32 mm OD (10 kg/Sq.cm) | RM | 61.04 |
| 626 | 1105D | Providing and laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately. PVC Pipe 40 mm OD (6 kg/Sq.cm) | RM | 67.46 |
| 627 | 1105E | Providing and laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately. PVC Pipe 50 mm OD (6 kg/Sq.cm) | RM | 95.49 |
| 628 | 1105F | Providing and laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately. PVC Pipe 63 mm OD (6 kg/Sq.cm) | RM | 143.22 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 629 | 1105G | Providing and laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately. PVC Pipe 75 mm OD (6 kg/Sq.cm) | RM | 198.91 |
| 630 | 1105H | Providing and laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately. PVC Pipe 90 mm OD (6 kg/Sq.cm) | RM | 279.1 |
| 631 | 1105I | Providing and laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately. PVC Pipe 110 mm OD (6 kg/Sq.cm) | RM | 388.93 |
| 632 | 1105J | Providing and laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately. PVC Pipe 140 mm OD (6 kg/Sq.cm) | RM | 612.84 |
| 633 | 1105K | Providing and laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately. PVC Pipe 160 mm OD (6 kg/Sq.cm) | RM | 784.97 |
| 634 | 1105L | Providing and laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately. PVC Pipe 180 mm OD (6 kg/Sq.cm) | RM | 1022.11 |
| 635 | 1105M | Providing and laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately. PVC Pipe 200 mm OD (6 kg/Sq.cm) | RM | 1243.26 |
| 636 | 1106A | Providing and fixing PVC pipes of 4 K.G / Sqcm conforming to ISS including joining with proper adhesive as suggested by manufacturers and suitable clamps for rain water pipes, drainage etc. Rate excludes all specials like shoe, bend, tee, tee with door etc. PVC Pipe 75 mm OD | RM | 169.01 |
| 637 | 1106B | Providing and fixing PVC pipes of 4 K.G / Sqcm conforming to ISS including joining with proper adhesive as suggested by manufacturers and suitable clamps for rain water pipes, drainage etc. Rate excludes all specials like shoe, bend, tee, tee with door etc. PVC Pipe 110 mm OD | RM | 297.65 |
| 638 | 1106C | Providing and fixing PVC pipes of 4 K.G / Sqcm conforming to ISS including joining with proper adhesive as suggested by manufacturers and suitable clamps for rain water pipes, drainage etc. Rate excludes all specials like shoe, bend, tee, tee with door etc. PVC Pipe 160 mm OD | RM | 481.57 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 639 | 1107A | Providing and fixing PVC moulded fittings / accessories on walls for rain water pipes conforming to IS 13592 Type A including joining with seal rings conforming to IS 5382 and proper adhesive as suggested by manufacturers etc., complete. 75 x75 x 75 mm single tee with door. | EA | 177.55 |
| 640 | 1107B | Providing and fixing PVC moulded fittings / accessories on walls for rain water pipes conforming to IS 13592 Type A including joining with seal rings conforming to IS 5382 and proper adhesive as suggested by manufacturers etc., complete. 110 x 110 x 110 mm single tee with door. | EA | 261.22 |
| 641 | 1107C | Providing and fixing PVC moulded fittings / accessories on walls for rain water pipes conforming to IS 13592 Type A including joining with seal rings conforming to IS 5382 and proper adhesive as suggested by manufacturers etc., complete. 160 x 160 x 160 mm single tee with door. | EA | 442.37 |
| 642 | 1107D | Providing and fixing PVC moulded fittings / accessories on walls for rain water pipes conforming to IS 13592 Type A including joining with seal rings conforming to IS 5382 and proper adhesive as suggested by manufacturers etc., complete. 75 x75 x 75 mm single tee without door. | EA | 157.2 |
| 643 | 1107E | Providing and fixing PVC moulded fittings / accessories on walls for rain water pipes conforming to IS 13592 Type A including joining with seal rings conforming to IS 5382 and proper adhesive as suggested by manufacturers etc., complete. 110 x110 x 110 mm single tee without door. | EA | 230.74 |
| 644 | 1107F | Providing and fixing PVC moulded fittings / accessories on walls for rain water pipes conforming to IS 13592 Type A including joining with seal rings conforming to IS 5382 and proper adhesive as suggested by manufacturers etc., complete. 160 x160 x 160 mm single tee without door. | EA | 381.26 |
| 645 | 1107G | Providing and fixing PVC moulded fittings / accessories on walls for rain water pipes conforming to IS 13592 Type A including joining with seal rings conforming to IS 5382 and proper adhesive as suggested by manufacturers etc., complete. 75 mm shoe | EA | 90.53 |
| 646 | 1107H | Providing and fixing PVC moulded fittings / accessories on walls for rain water pipes conforming to IS 13592 Type A including joining with seal rings conforming to IS 5382 and proper adhesive as suggested by manufacturers etc., complete. 110 mm shoe | EA | 134.24 |
| 647 | 1107I | Providing and fixing PVC moulded fittings / accessories on walls for rain water pipes conforming to IS 13592 Type A including joining with seal rings conforming to IS 5382 and proper adhesive as suggested by manufacturers etc., complete. 160 mm shoe | EA | 230.85 |
| 648 | 1107J | Providing and fixing PVC moulded fittings / accessories on walls for rain water pipes conforming to IS 13592 Type A including joining with seal rings conforming to IS 5382 and proper adhesive as suggested by manufacturers etc., complete. 75 mm bend | EA | 108.1 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 649 | 1107K | Providing and fixing PVC moulded fittings / accessories on walls for rain water pipes conforming to IS 13592 Type A including joining with seal rings conforming to IS 5382 and proper adhesive as suggested by manufacturers etc., complete. 110 mm bend | EA | 198.33 |
| 650 | 1107L | Providing and fixing PVC moulded fittings / accessories on walls for rain water pipes conforming to IS 13592 Type A including joining with seal rings conforming to IS 5382 and proper adhesive as suggested by manufacturers etc., complete. 160 mm bend | EA | 252.76 |
| 651 | 1108A | Providing and fixing in position of brass wheel valve / gate valve (G.M) of approved brand with C.I wheel etc. complete. (ISI marked) 15 to 25 mm nominal bore | EA | 556.62 |
| 652 | 1108B | Providing and fixing in position of brass wheel valve / gate valve (G.M) of approved brand with C.I wheel etc. complete. (ISI marked) 32 mm nominal bore | EA | 719.84 |
| 653 | 1108C | Providing and fixing in position of brass wheel valve / gate valve (G.M) of approved brand with C.I wheel etc. complete. (ISI marked) 40 mm nominal bore | EA | 940.85 |
| 654 | 1108D | Providing and fixing in position of brass wheel valve / gate valve (G.M) of approved brand with C.I wheel etc. complete. (ISI marked) 50 mm nominal bore | EA | 1270.71 |
| 655 | 1108E | Providing and fixing in position of brass wheel valve / gate valve (G.M) of approved brand with C.I wheel etc. complete. (ISI marked) 80 mm nominal bore | EA | 3603.79 |
| 656 | 1108F | Providing and fixing in position of brass wheel valve / gate valve (G.M) of approved brand with C.I wheel etc. complete. (ISI marked) 100 mm nominal bore | EA | 6562.73 |
| 657 | 1109A | Providing and fixing in position C.P brass bib cock / stop cock (Medium Duty) of approved brand (ISI marked) 15 mm nominal bore. | EA | 273.96 |
| 658 | 1109B | Providing and fixing in position C.P brass bib cock / stop cock (Medium Duty) of approved brand (ISI marked) 20 mm nomial bore. | EA | 350.11 |
| 659 | 1109C | Providing and fixing in position C.P brass bib cock / stop cock (Medium Duty) of approved brand (ISI marked) 25 mm nominal bore. | EA | 451.55 |
| 660 | 1110A | Providing and fixing in position of following of approved brand (ISI marked) 15 mm nominal bore C.P brass long nose bibcock | EA | 988.23 |
| 661 | 1110B | Providing and fixing in position of following of approved brand (ISI marked) 15mm nominal C.P brass stop cock (concealed) | EA | 773.42 |
| 662 | 1110C | Providing and fixing in position of following of approved brand (ISI marked) 15 mm nominal C.P brass long body bibcock | EA | 761.74 |
| 663 | 1111 | Providing and fixing in position 15 mm nominal bore C.P brass angle valve for basin mixer and geyser points of approved brand (ISI marked) | EA | 633.38 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 664 | 1112 | Providing and fixing in position 100 mm dia C.P brass shower rose (tilting type) of approved brand with 15 or 20 mm dia inlet. | EA | 89.29 |
| 665 | 1113 | Providing and fixing in position of white glazed earthenware wash basin of size 550 x 400 x 225 mm of approved brand with M.S or C.I brackets painted with two coats of synthetic enamel paint, single 15 mm C.P brass pillar tap and C.P brass chain with rubber plug, 32 mm C.P brass waste coupling of standard pattern, 32 mm dia PVC flexible waste pipe etc. complete, including cutting and making good the walls wherever required. | EA | 2119.55 |
| 666 | 1114 | Providing built-in-wash basin of inner dimension 0.30 x 0.25 m with 50 mm thick bottom slab in cement concrete 1:2:4, using 12 to 20 mm size hard broken granite stone jelly and 30 mm thick side walls in cement concrete 1:2:4 using 6 mm granite stone chips applied over chickenmesh and finished with insitu gray mosaic of 10 mm thick wearing layer on both faces. Rate includes cost of all materials, labour, centering, curing and all other incidentals but excluding cost of binding wire and fabrication charges for grills. | RM | 1523.87 |
| 667 | 1115A | Providing and fixing in position of towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fitting arrangement of approved quality and colour. ( 600 mm long towel rail with total length of 645 mm, width 78 mm and effective height of 88 mm, weighing not less than 190 grams) PTMT towel rail 600 mm | EA | 504.29 |
| 668 | 1115B | Providing and fixing in position of towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fitting arrangement of approved quality and colour. ( 600 mm long towel rail with total length of 645 mm, width 78 mm and effective height of 88 mm, weighing not less than 190 grams) Brass chromium plated towel rail 600 mm and 20 mm dia | EA | 527.52 |
| 669 | 1115C | Providing and fixing in position of towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fitting arrangement of approved quality and colour. ( 600 mm long towel rail with total length of 645 mm, width 78 mm and effective height of 88 mm, weighing not less than 190 grams) Anodised aluminium Towel rail 60cm long and 20mm dia with brackets | EA | 351.83 |
| 670 | 1116A | Providing and fixing 600 x 450 x 5 mm bevelled edge mirror of superior glass (approved brand) mounted on 5/6 mm thick hard board / ply wood / plastic folder sheet, fixed to wooden cleats with C.P brass screws and washers, etc. complete. 600 x 450 x 5 mm bevelled edge mirror | EA | 493.66 |
| 671 | 1116B | Providing and fixing 600 x 450 x 5 mm bevelled edge mirror of superior glass (approved brand) mounted on 5/6 mm thick hard board / ply wood / plastic folder sheet, fixed to wooden cleats with C.P brass screws and washers, etc. complete. Circular shape 450 mm dia Mirror with Plastic moulded frame | EA | 696.93 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 672 | 1116C | Providing and fixing 600 x 450 x 5 mm bevelled edge mirror of superior glass (approved brand) mounted on 5/6 mm thick hard board / ply wood / plastic folder sheet, fixed to wooden cleats with C.P brass screws and washers, etc. complete. Rectangular shape 453x357 mm Mirror with Plastic moulded frame | EA | 479.14 |
| 673 | 1116D | Providing and fixing 600 x 450 x 5 mm bevelled edge mirror of superior glass (approved brand) mounted on 5/6 mm thick hard board / ply wood / plastic folder sheet, fixed to wooden cleats with C.P brass screws and washers, etc. complete. Oval shape 450x350 mm (outer dimensions) Mirror with Plastic | EA | 551.75 |
| 674 | 1116E | Providing and fixing 600 x 450 x 5 mm bevelled edge mirror of superior glass (approved brand) mounted on 5/6 mm thick hard board / ply wood / plastic folder sheet, fixed to wooden cleats with C.P brass screws and washers, etc. complete. Rectangular shape 1500x450 mm Mirror with Plastic moulded frame | EA | 1059.92 |
| 675 | 1117 | Providing and fixing in position of 600 x 120 x 5 mm glass shelf ( approved brand) with edges rounded off, supported on anodised aluminium angle frame with C.P brackets fixed with screws , rawl plugs etc. complete. | EA | 406.55 |
| 676 | 1118 | Providing and fixing RCC precast sink of size 60 x 45 x 25 cm in cement concrete of mix 1:2:4 for 25 mm thick bottom slab and 20 mm thick side walls using 6 mm granite stone jelly, applied on chickenmesh and plastered both sides with cement mortar 1:4, 12 mm thick and finished smooth, supply and fixing PVC waste pipe 32 mm dia. with necessary coupling. etc., complete. Rate includes cost of all materials, labour, curing, carrying and fixing in position etc. but excluding cost of binding wire and fabrication charges for grills, all as per standard specifications. | EA | 1642.53 |
| 677 | 1119A | Providing and fixing in position of ready made sink including PVC flexible waste pipe of 32 mm dia with necessary C.P waste coupling etc. complete. Cudappa sink of size 600X450X200 or thereabouts (outer dimensions) - 12 mm thick. | EA | 1011.21 |
| 678 | 1119B | Providing and fixing in position of ready made sink including PVC flexible waste pipe of 32 mm dia with necessary C.P waste coupling etc. complete. Cudappa sink of size 600X600X200 or thereabouts (outer dimensions) - 12 mm thick. | EA | 1230.39 |
| 679 | 1119C | Providing and fixing in position of ready made sink including PVC flexible waste pipe of 32 mm dia with necessary C.P waste coupling etc. complete. Marble (white) sink of size 23” x 17” x 9"/10” or thereabouts (outer dimensions) - 12 mm thick. | EA | 1550.68 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 680 | 1119D | Providing and fixing in position of ready made sink including PVC flexible waste pipe of 32 mm dia with necessary C.P waste coupling etc. complete. Marble (white) sink of size 23” x 23” x 9"/10” or thereabouts (outer dimensions) - 12 mm thick. | EA | 1928.18 |
| 681 | 1119E | Providing and fixing in position of ready made sink including PVC flexible waste pipe of 32 mm dia with necessary C.P waste coupling etc. complete. Granite (black) sink of size 23” x 17” x 9"/10” or thereabouts (outer dimensions) - 12 mm thick. | EA | 2131.44 |
| 682 | 1119F | Providing and fixing in position of ready made sink including PVC flexible waste pipe of 32 mm dia with necessary C.P waste coupling etc. complete. Granite (black) sink of size 23” x 23” x 9"/10” or thereabouts (outer dimensions) - 12 mm thick. | EA | 2508.94 |
| 683 | 1120 | Conveying RCC/ ready made sink from BHEL stores to site of work and fixing in proper position with cement mortar including supply and fixing 32 mm dia PVC waste pipe with necessary coupling etc. complete. Rate excludes cost of sink which will be supplied by BHEL at stores at free of cost. | EA | 239.57 |
| 684 | 1121 | Providing and fixing in position of 100 x 75 mm Nahani trap with PVC grating, all as per standard specifications. | EA | 241.16 |
| 685 | 1122 | Providing and fixing in position of 150 mm SW gully trap with HCI grating, all as per standard specifications. | EA | 381.14 |
| 686 | 1123A | Providing and fixing in position of brass ball valve of approved brand with plastic float fitted with brass rod etc. complete. 20mm nominal bore | EA | 509.24 |
| 687 | 1123B | Providing and fixing in position of brass ball valve of approved brand with plastic float fitted with brass rod etc. complete. 25mm nominal bore | EA | 558.74 |
| 688 | 1124A | Providing and fixing in position of Indian type white glazed earthenware water closet pan of approved brand with suitable P or S trap including a pair of white glazed foot rest etc. complete. 580 mm size | EA | 1468.24 |
| 689 | 1124B | Providing and fixing in position of Indian type white glazed earthenware water closet pan of approved brand with suitable P or S trap including a pair of white glazed foot rest etc. complete. 500 mm size | EA | 2085.32 |
| 690 | 1125A | Providing and fixing in position of orissa pattern water closet of approved brand with integral type foot rests,suitable P or S trap etc. complete. 580 mm size (White) (Parryware/Neycer/Cera) | EA | 2396.01 |
| 691 | 1125B | Providing and fixing in position of orissa pattern water closet of approved brand with integral type foot rests,suitable P or S trap etc. complete. 580 mm size (colour) | EA | 2833.05 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 692 | 1126 | Providing and fixing in position of 25 mm nominal bore C.P half turn flush valve of approved brand (ISI marked) in pipe lines. | EA | 1343.02 |
| 693 | 1127A | Providing and fixing in position of pedestal type water closet (European type W.C pan) 400 mm high of approved brand with seat and lid, C.P brass hinges and rubber buffers, 10 litre PVC low level flushing cistern with fittings and painted C.I / M.S brackets with 15 mm PVC connection, 32/40 mm PVC flush bend with fittings and clamps, over flow arrangement with specials and mosquito proof coupling including painting of fittings and brackets, cutting and making good the walls and floors wherever required etc. complete. White glazed (white seat and lid) | EA | 5979.4 |
| 694 | 1127B | Providing and fixing in position of pedestal type water closet (European type W.C pan) 400 mm high of approved brand with seat and lid, C.P brass hinges and rubber buffers, 10 litre PVC low level flushing cistern with fittings and painted C.I / M.S brackets with 15 mm PVC connection, 32/40 mm PVC flush bend with fittings and clamps, over flow arrangement with specials and mosquito proof coupling including painting of fittings and brackets, cutting and making good the walls and floors wherever required etc. complete. Colour glazed with colour seat and lid | EA | 6509.34 |
| 695 | 1128 | Providing and fixing in position of 10 litre low level PVC flushing cistern of approved make with fittings and flush pipe etc. complete. | EA | 897.49 |
| 696 | 1129 | Providing and fixing in position 32 mm dia G.I flush pipe with brass union for high level flushing cistern including cutting and making good the walls and floors etc. complete. | EA | 717.98 |
| 697 | 1130A | Providing and fixing in position of white glazed earthenware urinal of approved brand with teakwood plugs and screws/clamps, including standard PVC flush pipe and C.P. brass spreaders with brass unions and G.I clamps complete, cutting of floor and walls and making good all damages and finishing to match with the existing work etc., complete. Flat back angular lipped urinal of 430 x 260 x 350 mm or 340 x 410 x 265 mm | EA | 1826.13 |
| 698 | 1130B | Providing and fixing in position of white glazed earthenware urinal of approved brand with teakwood plugs and screws/clamps, including standard PVC flush pipe and C.P. brass spreaders with brass unions and G.I clamps complete, cutting of floor and walls and making good all damages and finishing to match with the existing work etc., complete. Flat back half stall urinal of size 580x380x350 mm | EA | 3440.68 |
| 699 | 1131A | Providing, laying in proper grade and alignment and joining glazed stoneware pipes of approved brand with stiff mixture of cement mortar 1:1 and spun yarn including testing of joints etc.complete. 100 mm dia S.W Pipes | RM | 233.29 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 700 | 1131B | Providing, laying in proper grade and alignment and joining glazed stoneware pipes of approved brand with stiff mixture of cement mortar 1:1 and spun yarn including testing of joints etc.complete. 150 mm dia S.W Pipes | RM | 356.98 |
| 701 | 1131C | Providing, laying in proper grade and alignment and joining glazed stoneware pipes of approved brand with stiff mixture of cement mortar 1:1 and spun yarn including testing of joints etc.complete. 200 mm dia S.W Pipes | RM | 531.48 |
| 702 | 1131D | Providing, laying in proper grade and alignment and joining glazed stoneware pipes of approved brand with stiff mixture of cement mortar 1:1 and spun yarn including testing of joints etc.complete. 225 mm dia S.W Pipes | RM | 649.09 |
| 703 | 1132A | Providing rectangular/circular manhole as per Drawing for the following depths. Rate includes earth work excavation in all soils (except hard rock requiring blasting) including soft disintegrated rock, watering and ramming of foundation bed, providing cement concrete 1:4:8 in foundation, including necessary slope and forming channels smoothly finished in C.M 1:2, brick work in C.M 1:5 for arch ring, etc., using standard approved bricks, plastering in cement mortar 1:4 for side walls (outside and inside), cement concrete 1:2:4 using 12 to 20 mm HBGS jelly for manhole cover fixing, providing and fixing C.I steps for ladder rungs, etc., complete. Rate includes an initial lead of 10 m and all lifts for excavation and other charges etc., complete, but excludes cost of manhole cover and frame. Upto 0.90 m depth (Rectangular) | EA | 5453.67 |
| 704 | 1132B | Providing rectangular/circular manhole as per Drawing for the following depths. Rate includes earth work excavation in all soils (except hard rock requiring blasting) including soft disintegrated rock, watering and ramming of foundation bed, providing cement concrete 1:4:8 in foundation, including necessary slope and forming channels smoothly finished in C.M 1:2, brick work in C.M 1:5 for arch ring, etc., using standard approved bricks, plastering in cement mortar 1:4 for side walls (outside and inside), cement concrete 1:2:4 using 12 to 20 mm HBGS jelly for manhole cover fixing, providing and fixing C.I steps for ladder rungs, etc., complete. Rate includes an initial lead of 10 m and all lifts for excavation and other charges etc., complete, but excludes cost of manhole cover and frame. Above 0.90 and upto 1.20 m depth (Rectangular) | EA | 8697.94 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 705 | 1132C | Providing rectangular/circular manhole as per Drawing for the following depths. Rate includes earth work excavation in all soils (except hard rock requiring blasting) including soft disintegrated rock, watering and ramming of foundation bed, providing cement concrete 1:4:8 in foundation, including necessary slope and forming channels smoothly finished in C.M 1:2, brick work in C.M 1:5 for arch ring, etc., using standard approved bricks, plastering in cement mortar 1:4 for side walls (outside and inside), cement concrete 1:2:4 using 12 to 20 mm HBGS jelly for manhole cover fixing, providing and fixing C.I steps for ladder rungs, etc., complete. Rate includes an initial lead of 10 m and all lifts for excavation and other charges etc., complete, but excludes cost of manhole cover and frame. Above 1.20 and upto 1.50 m depth (Rectangular) | EA | 11036.48 |
| 706 | 1132D | Providing rectangular/circular manhole as per Drawing for the following depths. Rate includes earth work excavation in all soils (except hard rock requiring blasting) including soft disintegrated rock, watering and ramming of foundation bed, providing cement concrete 1:4:8 in foundation, including necessary slope and forming channels smoothly finished in C.M 1:2, brick work in C.M 1:5 for arch ring, etc., using standard approved bricks, plastering in cement mortar 1:4 for side walls (outside and inside), cement concrete 1:2:4 using 12 to 20 mm HBGS jelly for manhole cover fixing, providing and fixing C.I steps for ladder rungs, etc., complete. Rate includes an initial lead of 10 m and all lifts for excavation and other charges etc., complete, but excludes cost of manhole cover and frame. Above 1.50 and upto 1.80 m depth (Rectangular) | EA | 12255.51 |
| 707 | 1132E | Providing rectangular/circular manhole as per Drawing for the following depths. Rate includes earth work excavation in all soils (except hard rock requiring blasting) including soft disintegrated rock, watering and ramming of foundation bed, providing cement concrete 1:4:8 in foundation, including necessary slope and forming channels smoothly finished in C.M 1:2, brick work in C.M 1:5 for arch ring, etc., using standard approved bricks, plastering in cement mortar 1:4 for side walls (outside and inside), cement concrete 1:2:4 using 12 to 20 mm HBGS jelly for manhole cover fixing, providing and fixing C.I steps for ladder rungs, etc., complete. Rate includes an initial lead of 10 m and all lifts for excavation and other charges etc., complete, but excludes cost of manhole cover and frame.Above 1.80 and upto 2.10 m depth (Rectangular) | EA | 14220.75 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 708 | 1132F | Providing rectangular/circular manhole as per Drawing for the following depths. Rate includes earth work excavation in all soils (except hard rock requiring blasting) including soft disintegrated rock, watering and ramming of foundation bed, providing cement concrete 1:4:8 in foundation, including necessary slope and forming channels smoothly finished in C.M 1:2, brick work in C.M 1:5 for arch ring, etc., using standard approved bricks, plastering in cement mortar 1:4 for side walls (outside and inside), cement concrete 1:2:4 using 12 to 20 mm HBGS jelly for manhole cover fixing, providing and fixing C.I steps for ladder rungs, etc., complete. Rate includes an initial lead of 10 m and all lifts for excavation and other charges etc., complete, but excludes cost of manhole cover and frame. Above 2.10 and upto 2.40 m depth (Rectangular) | EA | 16451.07 |
| 709 | 1132G | Providing rectangular/circular manhole as per Drawing for the following depths. Rate includes earth work excavation in all soils (except hard rock requiring blasting) including soft disintegrated rock, watering and ramming of foundation bed, providing cement concrete 1:4:8 in foundation, including necessary slope and forming channels smoothly finished in C.M 1:2, brick work in C.M 1:5 for arch ring, etc., using standard approved bricks, plastering in cement mortar 1:4 for side walls (outside and inside), cement concrete 1:2:4 using 12 to 20 mm HBGS jelly for manhole cover fixing, providing and fixing C.I steps for ladder rungs, etc., complete. Rate includes an initial lead of 10 m and all lifts for excavation and other charges etc., complete, but excludes cost of manhole cover and frame. Above 2.40 and upto 2.70 m depth (Rectangular) | EA | 20592.19 |
| 710 | 1132H | Providing rectangular/circular manhole as per Drawing for the following depths. Rate includes earth work excavation in all soils (except hard rock requiring blasting) including soft disintegrated rock, watering and ramming of foundation bed, providing cement concrete 1:4:8 in foundation, including necessary slope and forming channels smoothly finished in C.M 1:2, brick work in C.M 1:5 for arch ring, etc., using standard approved bricks, plastering in cement mortar 1:4 for side walls (outside and inside), cement concrete 1:2:4 using 12 to 20 mm HBGS jelly for manhole cover fixing, providing and fixing C.I steps for ladder rungs, etc., complete. Rate includes an initial lead of 10 m and all lifts for excavation and other charges etc., complete, but excludes cost of manhole cover and frame. Above 2.70 and upto 3.00 m depth (Rectangular) | EA | 22117.77 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 711 | 1132I | Providing rectangular/circular manhole as per Drawing for the following depths. Rate includes earth work excavation in all soils (except hard rock requiring blasting) including soft disintegrated rock, watering and ramming of foundation bed, providing cement concrete 1:4:8 in foundation, including necessary slope and forming channels smoothly finished in C.M 1:2, brick work in C.M 1:5 for arch ring, etc., using standard approved bricks, plastering in cement mortar 1:4 for side walls (outside and inside), cement concrete 1:2:4 using 12 to 20 mm HBGS jelly for manhole cover fixing, providing and fixing C.I steps for ladder rungs, etc., complete. Rate includes an initial lead of 10 m and all lifts for excavation and other charges etc., complete, but excludes cost of manhole cover and frame. Above 3.00 and upto 3.30 m depth (Rectangular) | EA | 24576.75 |
| 712 | 1132J | Providing rectangular/circular manhole as per Drawing No.D/1016065 for the following depths. Rate includes earth work excavation in all soils (except hard rock requiring blasting) including soft disintegrated rock, watering and ramming of foundation bed, providing cement concrete 1:4:8 in foundation, including necessary slope and forming channels smoothly finished in C.M 1:2, brick work in C.M 1:5 for arch ring, etc., using standard approved bricks, plastering in cement mortar 1:4 for side walls (outside and inside), cement concrete 1:2:4 using 12 to 20 mm HBGS jelly for manhole cover fixing, providing and fixing C.I steps for ladder rungs, etc., complete. Rate includes an initial lead of 10 m and all lifts for excavation and other charges etc., complete, but excludes cost of manhole cover and frame. Above 3.30 and upto 3.60 m depth (Rectangular) | EA | 27035.73 |
| 713 | 1133A | Supply and fixing C.I cover without frame for manholes/gully traps. 500 mm dia C.I cover only (Medium duty) Weight of the cover to be not less than 58 K.G. | EA | 3415.16 |
| 714 | 1133B | Supply and fixing C.I cover with frame for manholes/gully traps. 500 mm dia C.I cover (Medium duty) Total weight of cover and frame to be not less than 116 K.G (Weight of cover 58 K.G and weight of frame 58 K.G) | EA | 7008.49 |
| 715 | 1133C | Supply and fixing C.I cover without frame for manholes/gully traps. 560 mm dia C.I cover only. (Heavy duty) Weight of cover to be not less than 108 K.G. | EA | 7341.98 |
| 716 | 1133D | Supply and fixing C.I cover with frame for manholes/gully traps. 560 mm dia C.I cover . (Heavy duty) Total weight of cover and frame to be not less than 208 K.G ( Weight of cover 108 K.G and weight of frame 100 K.G) | EA | 13259.05 |
| 717 | 1133E | Supply and fixing C.I cover without frame for manholes/gully traps. 300 x 300 mm C.I cover for gully trap (standard pattern) The weight of cover to be not less than 4.50 K.G. | EA | 343.98 |
| 718 | 1134 | Labour charges for laying centrifugally C.I pipes (S and S or flanged pipes) in trenches to proper grade and alignment. Rate excludes cost of pipes. | MT | 1346.95 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 719 | 1135 | Labour charges for laying C.I specials such as tees, bends, collars, tapers, caps etc. in trenches to proper alignment. Rate excludes cost of specials. | MT | 2587.69 |
| 720 | 1136A | Labour charges for cutting C.I pipes true to axis and filing smoothly and finishing the ends complete. 80 mm dia C.I pipe. | EA | 58.92 |
| 721 | 1136B | Labour charges for cutting C.I pipes true to axis and filing smoothly and finishing the ends complete. 100 mm dia C.I pipe. | EA | 79.32 |
| 722 | 1136C | Labour charges for cutting C.I pipes true to axis and filing smoothly and finishing the ends complete. 125 mm dia C.I pipe. | EA | 110.75 |
| 723 | 1136D | Labour charges for cutting C.I pipes true to axis and filing smoothly and finishing the ends complete. 150 mm dia C.I pipe. | EA | 149.3 |
| 724 | 1136E | Labour charges for cutting C.I pipes true to axis and filing smoothly and finishing the ends complete. 200 mm dia C.I pipe. | EA | 199.1 |
| 725 | 1136F | Labour charges for cutting C.I pipes true to axis and filing smoothly and finishing the ends complete. 250 mm dia C.I pipe. | EA | 246.76 |
| 726 | 1136G | Labour charges for cutting C.I pipes true to axis and filing smoothly and finishing the ends complete. 300 mm dia C.I pipe. | EA | 296.58 |
| 727 | 1136H | Labour charges for cutting C.I pipes true to axis and filing smoothly and finishing the ends complete. 350 mm dia C.I pipe. | EA | 344.25 |
| 728 | 1136I | Labour charges for cutting C.I pipes true to axis and filing smoothly and finishing the ends complete. 400 mm dia C.I pipe. | EA | 393.75 |
| 729 | 1136J | Labour charges for cutting C.I pipes true to axis and filing smoothly and finishing the ends complete. 450 mm dia C.I pipe. | EA | 441.72 |
| 730 | 1137A | Providing lead caulked joints to C.I pipes and specials including testing of joints but excluding cost of pig lead. 80 / 100 mm dia pipe. | EA | 215.82 |
| 731 | 1137B | Providing lead caulked joints to C.I pipes and specials including testing of joints but excluding cost of pig lead. 125 / 150 mm dia pipe. | EA | 318.76 |
| 732 | 1137C | Providing lead caulked joints to C.I pipes and specials including testing of joints but excluding cost of pig lead. 200 / 250 mm dia pipe. | EA | 483.03 |
| 733 | 1137D | Providing lead caulked joints to C.I pipes and specials including testing of joints but excluding cost of pig lead. 300 / 350 mm dia pipe. | EA | 657.65 |
| 734 | 1137E | Providing lead caulked joints to C.I pipes and specials including testing of joints but excluding cost of pig lead. 400 / 450 mm dia pipe. | EA | 922.56 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 735 | 1138A | Providing flanged joints to double flanged C.I pipes and specials including testing of joints, 3 mm thick rubber insertions, suitable bolts and nuts etc. complete. 100 / 125 mm dia pipe. | EA | 228.67 |
| 736 | 1138B | Providing flanged joints to double flanged C.I pipes and specials including testing of joints, 3 mm thick rubber insertions, suitable bolts and nuts etc. complete. 150 / 200 mm dia pipe. | EA | 275.27 |
| 737 | 1138C | Providing flanged joints to double flanged C.I pipes and specials including testing of joints, 3 mm thick rubber insertions, suitable bolts and nuts etc. complete. 250 / 300 mm dia pipe. | EA | 426.94 |
| 738 | 1138D | Providing flanged joints to double flanged C.I pipes and specials including testing of joints, 3 mm thick rubber insertions, suitable bolts and nuts etc. complete. 350 / 400 mm dia pipe. | EA | 598.91 |
| 739 | 1138E | Providing flanged joints to double flanged C.I pipes and specials including testing of joints, 3 mm thick rubber insertions, suitable bolts and nuts etc. complete. 450 / 500 mm dia pipe. | EA | 1104.46 |
| 740 | 1139 | Desludging and cleaning the underground equalising reservoirs by dewatering, scraping the silt deposited on floor, brushing, swabbing, cleaning, scraping side walls and floors with bleaching powder, removing dirt, moss, cleaning the reservoirs with fresh water etc. complete. Rate includes labour, scaffolding, brushes, brooms etc. complete. Bleaching powder, electrical/diesel opearated pumps with power/diesel and fresh water will be supplied by BHEL at free of charges. | M2 | 7.92 |
| 741 | 1140 | Cleaning the main over head water tanks by dewatering, scouring the silt deposited on the floor of tanks, removing cobweb, brushing, scraping the side walls and floors of inner and outer compartments using cleaning powder, removal of sediment, applying cleaning powder on all interior surfaces and kept under disinfection for a minimum of 12 hour, then washing thoroughly with clean water without any residual cleaning powder or any foreign matter etc. complete. Rate includes all labour, brushes, brooms etc. Cleaning powder will be supplied by BHEL at stores at free of cost. Payment will be made for the floors and inside walls of the water tanks. (Staging height may vary from 15 to 23 M from ground level) | M2 | 8.58 |
| 742 | 1141 | Cleaning of over head water tank of 500 cum capacity with a staging height of 23 to 40 M from ground level by de-watering, removing algae, fungus, scouring the silt deposited on the floors of the tank, removing cobweb, brushing, scraping the side walls of inner and outer shells, floors, columns and beams using necessary cleaning powder on all interior surfaces and kept under disinfection for a minimum of 12 hour, then washing thoroughly with clean water without any residual cleaning powder or any other foreign matter etc., complete. Necessary cleaning powder, brushes, brooms and ladder will be supplied by BHEL at stores at free of cost. Contractor has to take all safety precautions. | EA | 6442.3 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 743 | 1142A | Replacement to the damaged water closet by providing new Orissa water closet pan of approved brand with suitable trap. Rate includes dismantling the damaged water closet with foot rests, trap, ellis/mosaic floor finish with base concrete, sand and refilling with fresh river sand, providing new Orissa pan with trap and fixing in position, providing 20 mm thick ellis pattern finish over 75 mm thick floor concrete in PCC 1:5:10 using 40 mm size stone jelly for that area, finishing the side walls to match with the existing one etc. complete. 580 mm size (White) | EA | 2135.54 |
| 744 | 1142B | Replacement to the damaged water closet by providing new Orissa water closet pan of approved brand with suitable trap. Rate includes dismantling the damaged water closet with foot rests, trap, ellis/mosaic floor finish with base concrete, sand and refilling with fresh river sand, providing new Orissa pan with trap and fixing in position, providing 20 mm thick ellis pattern finish over 75 mm thick floor concrete in PCC 1:5:10 using 40 mm size stone jelly for that area, finishing the side walls to match with the existing one etc. complete. 580 mm size (White), but with 20 mm thick insitu mosaic floor finish as per usual practice instead of ellis pattern finish. | EA | 2360.57 |
| 745 | 1143 | Replacement to the damaged European water closet by providing new white glazed European water closet (white) 400 mm high of approved brand with seat andandlid. Rate includes dismantling the damaged water closet, providing new EWC, fixing, all labour etc. complete. | EA | 1974.1 |
| 746 | 1144 | Labour charges for dismantling the trap alone without damaging the water closet and refixing with new trap supplied by BHEL at stores at free of cost and making good all damages and finishing to match with the existing one etc.complete. | EA | 279.51 |
| 747 | 1145 | Replacement to the damaged nahani trap by providing and fixing in position of new PVC nahani trap 100 x 75 mm with grating as per std. specns. Rate includes labour for dismantling the existing trap, refixing with new one, making good all damages and finishing to match with the existing one etc., complete. | EA | 464.62 |
| 748 | 1146 | Providing 32 mm dia PVC waste pipe to sink with necessary coupling etc complete. | EA | 65.35 |
| 749 | 1149A | Labour charges for conveying, laying and fixing G.I pipes and specials with G.I fittings and clamps on walls and floors, including cutting and making good the walls and floors etc. complete. Rate includes cost of white lead, hemp, oil, sand etc. but excludes cost of G.I pipes, specials and clamps which will be supplied by BHEL at stores at free of cost. 15 mm dia nominal bore. | RM | 77.29 |
| 750 | 1149B | Labour charges for conveying, laying and fixing G.I pipes and specials with G.I fittings and clamps on walls and floors, including cutting and making good the walls and floors etc. complete. Rate includes cost of white lead, hemp, oil, sand etc. but excludes cost of G.I pipes, specials and clamps which will be supplied by BHEL at stores at free of cost. 20 mm dia nominal bore. | RM | 85.58 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 751 | 1149C | Labour charges for conveying, laying and fixing G.I pipes and specials with G.I fittings and clamps on walls and floors, including cutting and making good the walls and floors etc. complete. Rate includes cost of white lead, hemp, oil, sand etc. but excludes cost of G.I pipes, specials and clamps which will be supplied by BHEL at stores at free of cost. 25 mm dia nominal bore. | RM | 94.24 |
| 752 | 1149D | Labour charges for conveying, laying and fixing G.I pipes and specials with G.I fittings and clamps on walls and floors, including cutting and making good the walls and floors etc. complete. Rate includes cost of white lead, hemp, oil, sand etc. but excludes cost of G.I pipes, specials and clamps which will be supplied by BHEL at stores at free of cost. 32 mm dia nominal bore. | RM | 105.66 |
| 753 | 1149E | Labour charges for conveying, laying and fixing G.I pipes and specials with G.I fittings and clamps on walls and floors, including cutting and making good the walls and floors etc. complete. Rate includes cost of white lead, hemp, oil, sand etc. but excludes cost of G.I pipes, specials and clamps which will be supplied by BHEL at stores at free of cost. 40 mm dia nominal bore. | RM | 134.85 |
| 754 | 1149F | Labour charges for conveying, laying and fixing G.I pipes and specials with G.I fittings and clamps on walls and floors, including cutting and making good the walls and floors etc. complete. Rate includes cost of white lead, hemp, oil, sand etc. but excludes cost of G.I pipes, specials and clamps which will be supplied by BHEL at stores at free of cost. 50 mm dia nominal bore. | RM | 163.78 |
| 755 | 1149G | Labour charges for conveying, laying and fixing G.I pipes and specials with G.I fittings and clamps on walls and floors, including cutting and making good the walls and floors etc. complete. Rate includes cost of white lead, hemp, oil, sand etc. but excludes cost of G.I pipes, specials and clamps which will be supplied by BHEL at stores at free of cost. 65 mm dia nominal bore. | RM | 178.44 |
| 756 | 1149H | Labour charges for conveying, laying and fixing G.I pipes and specials with G.I fittings and clamps on walls and floors, including cutting and making good the walls and floors etc. complete. Rate includes cost of white lead, hemp, oil, sand etc. but excludes cost of G.I pipes, specials and clamps which will be supplied by BHEL at stores at free of cost. 80 mm dia nominal bore. | RM | 189.67 |
| 757 | 1149I | 1Labour charges for conveying, laying and fixing G.I pipes and specials with G.I fittings and clamps on walls and floors, including cutting and making good the walls and floors etc. complete. Rate includes cost of white lead, hemp, oil, sand etc. but excludes cost of G.I pipes, specials and clamps which will be supplied by BHEL at stores at free of cost. 100 mm dia nominal bore. | RM | 303.25 |
| 758 | 1149J | Labour charges for conveying, laying and fixing G.I pipes and specials with G.I fittings and clamps on walls and floors, including cutting and making good the walls and floors etc. complete. Rate includes cost of white lead, hemp, oil, sand etc. but excludes cost of G.I pipes, specials and clamps which will be supplied by BHEL at stores at free of cost. 125 mm dia nominal bore. | RM | 215.61 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 759 | 1149K | Labour charges for conveying, laying and fixing G.I pipes and specials with G.I fittings and clamps on walls and floors, including cutting and making good the walls and floors etc. complete. Rate includes cost of white lead, hemp, oil, sand etc. but excludes cost of G.I pipes, specials and clamps which will be supplied by BHEL at stores at free of cost. 150 mm dia nominal bore. | RM | 227.55 |
| 760 | 1150A | Painting G.I pipes and fittings with synthetic enamel paint of two coats over a ready mixed priming coat, both of approved quality for new work. 15 mm diameter pipe | RM | 11.15 |
| 761 | 1150B | Painting G.I pipes and fittings with synthetic enamel paint of two coats over a ready mixed priming coat, both of approved quality for new work. 20 mm diameter pipe | RM | 13.14 |
| 762 | 1150C | Painting G.I pipes and fittings with synthetic enamel paint of two coats over a ready mixed priming coat, both of approved quality for new work. 25 mm diameter pipe | RM | 17.28 |
| 763 | 1150D | Painting G.I pipes and fittings with synthetic enamel paint of two coats over a ready mixed priming coat, both of approved quality for new work. 32 mm diameter pipe | RM | 20.45 |
| 764 | 1150E | Painting G.I pipes and fittings with synthetic enamel paint of two coats over a ready mixed priming coat, both of approved quality for new work. 40 mm diameter pipe | RM | 24.28 |
| 765 | 1150F | Painting G.I pipes and fittings with synthetic enamel paint of two coats over a ready mixed priming coat, both of approved quality for new work. 50 mm diameter pipe | RM | 28.64 |
| 766 | 1151A | Conveying polyethylene cylinderical moulded water storage tank of following capacity from BHEL stores to site of work and placing it in proper position in buildings at required levels/floors. All as per instructions of Engineer in charge. Rate includes conveyance, placing it in position at required level, fixing the specials like barrel nipples etc. complete. PVC tank ans all specials will be issued by BHEL at stores at free of cost. Upto 500 litre | EA | 130.68 |
| 767 | 1151B | Conveying polyethylene cylinderical moulded water storage tank of following capacity from BHEL stores to site of work and placing it in proper position in buildings at required levels/floors. All as per instructions of Engineer in charge. Rate includes conveyance, placing it in position at required level, fixing the specials like barrel nipples etc. complete. PVC tank ans all specials will be issued by BHEL at stores at free of cost. Above 500 but up to 1000 litre | EA | 162.62 |
| 768 | 1151C | Conveying polyethylene cylinderical moulded water storage tank of following capacity from BHEL stores to site of work and placing it in proper position in buildings at required levels/floors. All as per instructions of Engineer in charge. Rate includes conveyance, placing it in position at required level, fixing the specials like barrel nipples etc. complete. PVC tank ans all specials will be issued by BHEL at stores at free of cost. Above 1000 but up to 2000 litre | EA | 261.35 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 769 | 1152A | Labour charges for conveying, laying and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings in trenches.Rate includes cost of white lead, hemp, oil, sand etc. but excludes cost of G.I pipes, specials and clamps which will be supplied by BHEL at stores at free of cost. 15 mm dia nominal bore. | RM | 11.15 |
| 770 | 1152B | Labour charges for conveying, laying and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings in trenches.Rate includes cost of white lead, hemp, oil, sand etc. but excludes cost of G.I pipes, specials and clamps which will be supplied by BHEL at stores at free of cost. 20 mm dia nominal bore. | RM | 11.15 |
| 771 | 1152C | Labour charges for conveying, laying and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings in trenches.Rate includes cost of white lead, hemp, oil, sand etc. but excludes cost of G.I pipes, specials and clamps which will be supplied by BHEL at stores at free of cost. 25 mm dia nominal bore. | RM | 17.04 |
| 772 | 1152D | Labour charges for conveying, laying and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings in trenches.Rate includes cost of white lead, hemp, oil, sand etc. but excludes cost of G.I pipes, specials and clamps which will be supplied by BHEL at stores at free of cost. 32 mm dia nominal bore. | RM | 17.08 |
| 773 | 1152E | Labour charges for conveying, laying and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings in trenches.Rate includes cost of white lead, hemp, oil, sand etc. but excludes cost of G.I pipes, specials and clamps which will be supplied by BHEL at stores at free of cost. 40 mm dia nominal bore. | RM | 22.77 |
| 774 | 1152F | Labour charges for conveying, laying and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings in trenches.Rate includes cost of white lead, hemp, oil, sand etc. but excludes cost of G.I pipes, specials and clamps which will be supplied by BHEL at stores at free of cost. 50 mm dia nominal bore. | RM | 23.05 |
| 775 | 1152G | Labour charges for conveying, laying and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings in trenches.Rate includes cost of white lead, hemp, oil, sand etc. but excludes cost of G.I pipes, specials and clamps which will be supplied by BHEL at stores at free of cost. 65 mm dia nominal bore. | RM | 40.33 |
| 776 | 1152H | Labour charges for conveying, laying and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings in trenches.Rate includes cost of white lead, hemp, oil, sand etc. but excludes cost of G.I pipes, specials and clamps which will be supplied by BHEL at stores at free of cost. 80 mm dia nominal bore. | RM | 40.59 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 777 | 1152I | Labour charges for conveying, laying and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings in trenches.Rate includes cost of white lead, hemp, oil, sand etc. but excludes cost of G.I pipes, specials and clamps which will be supplied by BHEL at stores at free of cost. 100 mm dia nominal bore. | RM | 59.54 |
| 778 | 1152J | Labour charges for conveying, laying and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings in trenches.Rate includes cost of white lead, hemp, oil, sand etc. but excludes cost of G.I pipes, specials and clamps which will be supplied by BHEL at stores at free of cost. 125 mm dia nominal bore. | RM | 59.54 |
| 779 | 1152K | Labour charges for conveying, laying and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings in trenches.Rate includes cost of white lead, hemp, oil, sand etc. but excludes cost of G.I pipes, specials and clamps which will be supplied by BHEL at stores at free of cost. 150 mm dia nominal bore. | RM | 93.04 |
| 780 | 1153A | Providing and fixing gun metal non- return valve of approved quality(screwed end) 25 mm nominal bore (Horizontal) | EA | 512.54 |
| 781 | 1153B | Providing and fixing gun metal non- return valve of approved quality(screwed end) 25 mm nominal bore (Vertical) | EA | 556.09 |
| 782 | 1153C | Providing and fixing gun metal non- return valve of approved quality(screwed end) 32 mm nominal bore (Horizontal) | EA | 689.95 |
| 783 | 1153D | Providing and fixing gun metal non- return valve of approved quality(screwed end) 32 mm nominal bore (Vertical) | EA | 791.59 |
| 784 | 1153E | Providing and fixing gun metal non- return valve of approved quality(screwed end) 40 mm nominal bore (Horizontal) | EA | 852.87 |
| 785 | 1153F | Providing and fixing gun metal non- return valve of approved quality(screwed end) 40 mm nominal bore (Vertical) | EA | 1128.75 |
| 786 | 1153G | Providing and fixing gun metal non- return valve of approved quality(screwed end) 50 mm nominal bore (Horizontal) | EA | 1233.89 |
| 787 | 1153H | Providing and fixing gun metal non- return valve of approved quality(screwed end) 50 mm nominal bore (Vertical) | EA | 1509.76 |
| 788 | 1153I | Providing and fixing gun metal non- return valve of approved quality(screwed end) 65 mm nominal bore (Horizontal) | EA | 2209.9 |
| 789 | 1153J | Providing and fixing gun metal non- return valve of approved quality(screwed end) 65 mm nominal bore (Vertical) | EA | 2529.33 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 790 | 1153K | Providing and fixing gun metal non- return valve of approved quality(screwed end) 80 mm nominal bore (Horizontal) | EA | 3128.13 |
| 791 | 1153L | Providing and fixing gun metal non- return valve of approved quality(screwed end) 80 mm nominal bore (Vertical) | EA | 4246.11 |
| 792 | 1154 | Supply at site of work and fixing in position of 32mm dia. CP bottle trap for water line connection in wash basin / urinals of approved brand and quality. All as per standard specifications and instructions of Engineer-in-charge. | EA | 825.96 |
| 793 | 1155 | Supplying and placing in proper position of Polyethlene cylindrical moulded vertical storage tank of 500 litres capacity of approved quality in buildings at required levels / floors as per the instruction of Engineer in charge. Rate shall include cost of the tank, taxes, duties, loading unloading transportation charges delivery to BHEL conveying to site of work and placing in position at required level, fixing the barrel nipple to the tank etc., and all other incidental charges etc., complete. Rate will exclude the cost of all special like barrel nipple etc., which will be issued by BHEL at free of cost | EA | 4962.05 |
| 794 | 1156 | Providing and fixing in position of fire clay laboratory sink ( white ) of size 610 mm x 460 mm x 205 mm or thereabouts of approved make and quality Neycer or equivalent with 32 mm waste coupling, waste hose and 250 mm clamps with necessary fixing arrangements. Rate includes cost of sink, waste coupling, waste hose, clamps, labour for fixing and all other incidental charges etc., complete. All as per standard specifications and instructions of Engineer in charge. | EA | 12158.9 |
| 795 | 1157 | Providing and fixing in position of white glazed earthen ware wash hand basin of oval shape size 540 mm x 460 mm or thereabouts of approved make and quality ( Parry ware or equivalent) with 32 mm CP Waste coupling and necessary fixing arrangements. Rate includes cost of wash basin, waste coupling, labour for fixing and all other incidental charges, etc., complete. All as per standard specifications and instructions of Engineer in charge | EA | 2726.99 |
| 796 | 1158 | Providing and fixing in position of Float valve- PTMT ( Poly Tetra- Methylene Terepthalate) Ball Cock-20 mm nominal bore of PRAYAG (India) make with Epoxy coated Aluminium rod and HD Ball etc. complete(Full Set) | EA | 398.61 |
| 797 | 1159 | Labour charges for removing the blockage in the gully trap and cleaning it completely, all as per the instructions of Engineer-in-charge. | NO | 42.56 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 798 | 1201A | Providing and fixing anodised aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections / appropriate Z sections of approved make conforming to IS:733 and 1285, fixed with rawl plugs and screws or with fixing clips, or with expansion hold fasteners including necessary filling up of gaps at junctions, at top, bottom and sides with required PVC / neoprene felt etc. Aluminium sections shall be smooth, rust free, straight, mitred and joined mechanically wherever rerquired including cleat angle, aluminium snap beading for glazing / panelling, C.P brass / stainless steel screws, all complete as per architectural drawings and insrtuctions of Engineer-in-charge. (Glazing and panelling to be paid for separately) For fixed portion - Anodised aluminium (anodised transperant or dyed to required shade according to IS 1868, minimum anodic coating of grade AC 15) | KG | 421.22 |
| 799 | 1201B | Providing and fixing anodised aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections / appropriate Z sections of approved make conforming to IS:733 and 1285, fixed with rawl plugs and screws or with fixing clips, or with expansion hold fasteners including necessary filling up of gaps at junctions, at top, bottom and sides with required PVC / neoprene felt etc. Aluminium sections shall be smooth, rust free, straight, mitred and joined mechanically wherever rerquired including cleat angle, aluminium snap beading for glazing / panelling, C.P brass / stainless steel screws, all complete as per architectural drawings and insrtuctions of Engineer-in-charge. (Glazing and panelling to be paid for separately) 'For shutters of doors, windows and ventilators including providing and fixing hinges / pivots and making provision for fixing of fittings wherever required including cost of PVC/ neoprene gasket required. (Fittings shall be paid for separately) Anodised aluminium (anodised transperant or dyed to required shade according to IS 1868, minimum anodic coating of grade AC 15) | KG | 452.15 |
| 800 | 1202 | Extra for powder coated aluminium (minimum thickness of powder coating 50 micron) sections instead of anodised aluminium sections. | KG | 36.15 |
| 801 | 1203 | Extra for polyester powder coated aluminium (minimum thickness of polyester powder coating 50 micron) sections instead of anodised aluminium sections. | KG | 45.23 |
| 802 | 1204A | Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with PVC/ neoprene gasket etc. complete as per drawing and instructions of Engineer-in- charge. (Cost of aluminium snap beading shall be paid in basic item.) With float glass panes of 4 mm thick | M2 | 1092.82 |
| 803 | 1204B | Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with PVC/ neoprene gasket etc. complete as per drawing and instructions of Engineer-in- charge. | M2 | 1299.41 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| | | (Cost of aluminium snap beading shall be paid in basic item.) With float glass panes of 5.50 mm thick | | |
| 804 | 1205 | Providing and fixing double action hydraulic floor spring with stainless steel cover plate of approved brand and manufacture conforming to IS : 6315 for doors including cost of cutting floors as required, embedding in floors and cover plates with brass pivot and single piece M.S sheet outer box with side plate etc. complete as per instructions of Engineer-in- charge. | EA | 2608.77 |
| 805 | 1206 | Providing and fixing powder coated aluminium work (minimum thickness of powder coating 50 micron) consisting of tee / angle sections of approved make conforming to IS:733 in frames of false ceiling including aluminium angle cleats with necessary C.P brass / stainless steel sunk screws, aluminium perimeter angles fixed to wall with rawl plugs at 450 mm c/c and fixing the frame work to level adjusting hangers (6mm dia MS rods) with necessary cadmium plated machine screws, all complete as per drawing and directions of Engineer-in-charge.(Level adjusting hangers, ceiling cleats and expansion hold fasteners to be paid for separately) | KG | 619.17 |
| 806 | 1207 | Providing and fixing 6 mm dia G.I level adjusting hangers (upto 1200 mm length) fixed to roof slabs by means of ceiling cleats made of G.I flat 40 x 3 mm size, 60 mm long and expansion hold fasteners 12.5 mm dia, 40 mm long etc.complete. | EA | 136.88 |
| 807 | 1208 | Providing and fixing machine moulded anodised aluminium (anodised transperant or dyed to required shade according to IS 1868, minimum anodic coating of grade AC 15) sheet covering of approved pattern and design made out machine cut aluminium sheet and machine holed for receiving screws, over expansion joints on vertical surfaces / ceilings with full threaded cadmium plated steel screws 4 mm dia, stem 30 mm long and aluminium washers 2 mm thick, 15 mm dia at a staggered pitch of 200 mm c/c including drilling holes in the receiving surface and providing expandable plastic sleeves in holes etc. complete. | KG | 548.32 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 808 | 1209 | Providing false ceiling at all height with 12.5 mm thick tapered edge gypsum board conforming to IS : 2095 including providing and fixing of frame work made of special sections of power pressed from M.S sheet and galvanised in accordance of zinc coating of grade 350 as per IS:277 and consisting of angle cleats of size 25 wide and 1.6 mm thick with flanges of 22 mm and 37 mm at 1200 mm c/c one flange fixed to the ceiling with dash fastener 12.5 mm dia, 40 mm long with 6 mm dia bolts to the angle hangers of 25 x 25 x 0.55 mm of required length and other end of angle hanger being fixed with nut and bolts to G.I channels 45 x 15 x 0.9 mm running at the rate of 1200 mm c/c to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having clips of 10.5 mm at 450 mm c/c shall be fixed in a direction perpendicular to G.I channel with connecting clips made of 2.64 mm dia, 230 mm long G.I wire at every junction including fixing the gypsum board with ceiling section and perimeter channels 0.5 mm thick 27 mm high having flanges of 20 mm and 30 mm long, the perimeter of ceiling fixed to wall / partition with the help of rawl plugs at 450 mm c/c with 25 mm long drive-all screws @ 230 mm interval including joining and fixing to a flush finish of tapered and square edges of gypsum board with recommended filler, paper tapes, finisher and two coats of primer suitable for gypsum board as per manufacturers' specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed all complete as per drawing, specification and direction of Engineer-in-charge, but excluding the cost of painting. | M2 | 1014.78 |
| 809 | 1210A | Providing false ceiling at all heights using the following ceiling tiles. The scope of work includes providing and fixing frame of grid size 600 mm x 600 mm or thereabouts using GI sections of main tees of size 24mm x 38mm cross tees of size 24mm x 38mm, wall angles of size 19mm x 19mm , suspended by hangers of ceiling/ stay angles / G I wires of 2mm x 2 ply of 8' length screwed with suitable bullets of size 45 to 50mmx 8mm size to RCC roof ceiling / steel trusses etc. complete. hangers and height adjustment clips if any shall also to be provided wherever light fixtures / AC grills / diffusers are flush to the ceiling frame work and the ceiling boards have to made alright accordingly. Rate to include cost of all materials involved including suitable fasteners, screws, etc., , labour charges and all other incidentals etc., Complete. All as per standard / manufacturers specifications and instructions of Engineer-in- charge. Arm Gyp- FB Ceiling tiles of Armstrong make of size 595mm x 595mm x 9mm thick | M2 | 1707.24 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 810 | 1210B | Providing false ceiling at all heights using the following ceiling tiles. The scope of work includes providing and fixing frame of grid size 600 mm x 600 mm or thereabouts using GI sections of main tees of size 24mm x 38mm x, cross tees of size 24mm x 38mm, wall angles of size 19mm x 19mm , suspended by hangers of ceiling/ stay angles / G I wires of 2mm x 2 ply of 8' length screwed with suitable bullets of size 45 to 50mmx 8mm size to RCC roof ceiling / steel trusses etc. complete. hangers and height adjustment clips if any shall also to be provided wherever light fixtures / AC grills / diffusers are flush to the ceiling frame work and the ceiling boards have to made alright accordingly. Rate to include cost of all materials involved including suitable fasteners, screws, etc., labour charges and all other incidentals etc., Complete. All as per standard / manufacturers specifications and instructions of Engineer-in- charge. Aruba- FB Ceiling tiles of Armstrong make of size 595mm x 595mm x7.5mm thick | M2 | 1558.65 |
| 811 | 1211A | Providing 10 mm thick plaster of paris (Gypsum anhydrous) ceiling upto a height of 5 metre above floor level over first clas kail wood strips 25 x 6 mm with 10 mm gap in between and reinforced with rabbit wire mesh fixed to wooden. (Frame work will be paid separately) Flat surfaces | M2 | 997.27 |
| 812 | 1211B | Providing 10 mm thick plaster of paris (Gypsum anhydrous) ceiling upto a height of 5 metre above floor level over first clas kail wood strips 25 x 6 mm with 10 mm gap in between and reinforced with rabbit wire mesh fixed to wooden. (Frame work will be paid separately) Curved surfaces | M2 | 1151.43 |
| 813 | 1212 | Extra for any sunk or raised mouldings in the plaster of paris (Gypsum anhydrous) ceiling. | M2 | 284.43 |
| 814 | 1213 | Extra for providing plaster of paris (Gypsum anhydrous) ceiling for every 1m height above 5 metre height from floor level. (Height beyond 5 metre to be measured for extra payment) | M2 | 115.15 |
| 815 | 1214 | Providing and fixing 100 mm brass lock (mortise latch and lock with six levers) for aluminium doors including necessary cutting and making good etc.complete. | EA | 508.88 |
| 816 | 1215 | Providing and fixing anodised (AC 15) aluminium round shape handle of outer dia 100 mm with SS screws etc.complete, all as per instructions of Engineer in charge. | EA | 80.29 |
| 817 | 1216 | Providing and fixing powder coated (50 micron) aluminium round shape handle of outer dia 100 mm with SS screws etc.complete, all as per instructions of Engineer in charge. | EA | 87.82 |
| 818 | 1217 | Providing and fixing polyester powder coated (50 micron) aluminium round shape handle of outer dia 100 mm with SS screws etc.complete, all as per instructions of Engineer in charge. | EA | 95.37 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 819 | 1218 | Servicing / overhauling, oiling, cleaning of aluminium door / window shutter of any size for smooth operation as per instructions of Engineer-in-charge. Rate includes cost of tool and labour (Excluding cost of spares which will be paid separately) and other incidental charges etc., complete | M2 | 245.93 |
| 820 | 1219A | Providing Powder coated aluminium alloy grills of following and fixing in proper position in windows/ventilators/balconies/partitions/fences/racks etc. with necessary appropriate type, material, brand and quality screws as per manufacturers recommendation etc.complete, all as per the instructions of Engineer-in-charge. Aluminium Grill 12x4-4" open - 7.5 mm thick (245-255g/sqft) | M2 | 2633.91 |
| 821 | 1219B | Providing Powder coated aluminium alloy grills of following and fixing in proper position in windows/ventilators/balconies/partitions/fences/racks etc. with necessary appropriate type, material, brand and quality screws as per manufacturers recommendation etc.complete, all as per the instructions of Engineer-in-charge. Aluminium Grill 12x4-4" open - 6.3 mm thick 175-185g/sqft | M2 | 2243.91 |
| 822 | 1219C | Providing Powder coated aluminium alloy grills of following and fixing in proper position in windows/ventilators/balconies/partitions/fences/racks etc. with necessary appropriate type, material, brand and quality screws as per manufacturers recommendation etc.complete, all as per the instructions of Engineer-in-charge. Aluminium Grill 12x4-4" open -5.5 mm thick 125-135g/sqft | M2 | 2048.89 |
| 823 | 1219D | Providing Powder coated aluminium alloy grills of following and fixing in proper position in windows/ventilators/balconies/partitions/fences/racks etc. with necessary appropriate type, material, brand and quality screws as per manufacturers recommendation etc.complete, all as per the instructions of Engineer-in-charge. Aluminium Grill 12x4-3" open - 7.5 mm thick 315-325g/sqft | M2 | 3024.05 |
| 824 | 1219E | Providing Powder coated aluminium alloy grills of following and fixing in proper position in windows/ventilators/balconies/partitions/fences/racks etc. with necessary appropriate type, material, brand and quality screws as per manufacturers recommendation etc.complete, all as per the instructions of Engineer-in-charge. Aluminium Grill 12x4-3" open -6.3 mm thick 230-240g/sqft | M2 | 2731.45 |
| 825 | 1219F | Providing Powder coated aluminium alloy grills of following and fixing in proper position in windows/ventilators/balconies/partitions/fences/racks etc. with necessary appropriate type, material, brand and quality screws as per manufacturers recommendation etc.complete, all as per the instructions of Engineer-in-charge. Aluminium Grill 12x4-3" open -5.5 mm thick160-170g/sqft | M2 | 2341.39 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 826 | 1219G | Providing Powder coated aluminium alloy grills of following and fixing in proper position in windows/ventilators/balconies/partitions/fences/racks etc. with necessary appropriate type, material, brand and quality screws as per manufacturers recommendation etc.complete, all as per the instructions of Engineer-in-charge. Aluminium Grill 12x4-2" open -7.5 mm thick 410-420 g/sqft | M2 | 3316.64 |
| 827 | 1219H | Providing Powder coated aluminium alloy grills of following and fixing in proper position in windows/ventilators/balconies/partitions/fences/racks etc. with necessary appropriate type, material, brand and quality screws as per manufacturers recommendation etc.complete, all as per the instructions of Engineer-in-charge. Aluminium Grill 12x4-2" open -5.5 mm thick 200-210g/sqft | M2 | 3024.05 |
| 828 | 1220 | Manufacturing, supplying and fixing in position of partitions for an approximate height of 3.20 m as detailed below:<br>The bottom 90 cm and top 110 cm of the partition shall be of wooden, using 9 mm thick interior grade ISI marked (IS : 12823) three layered melamine faced prelaminated (both side) particle board of approved shade with Powder coated aluminium frame work. The middle 120 cm height of partition shall be of glazed using 5 mm thick plain glass and powder coated aluminium frame work of approved quality. The partitions shall be rigidly fixed on floors and walls using 8 mm anchor fasteners including cutting and making good the walls and floors etc., complete. FRAME WORK: The frame work shall be with Powder coated aluminium sections with suitable aluminium beadings and rubber gaskets. The bottom member shall be of size 3 ¾" x 1 ¾" and 1.70 mm thick (weight 1.312 kg/m). The middle, top and vertical members shall be of size 2 ½" x 1 ½" and 1.28 mm thick (weight 0.754 kg/m). The verticals shall be generally spaced at 0.90 m centers and can be suitably varied at corners, wall junctions etc, without affecting the general elevation. Generally all the vertical sections shall be taken up to ceiling height and fixing the same with RC beams/slabs for better rigidity. Rate includes cost of all materials, labour and other incidentals etc., complete. | M2 | 3241.48 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
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| 829 | 1221 | Manufacturing, supplying and fixing in position of partitions for an approximate height of 3.20 m as detailed below: The bottom ,middle and top of the partition (full portion) shall be of wooden, using 9 mm thick interior grade ISI marked (IS : 12823) three layered melamine faced prelaminated (both side) particle board of approved shade with Powder coated aluminium frame work. FRAME WORK: The frame work shall be with Powder coated aluminium sections with suitable aluminium beadings and rubber gaskets. The bottom member shall be of size 3 ¾" x 1 ¾" and 1.70 mm thick (weight 1.312 kg/m). The middle, top and vertical members shall be of size 2 ½" x 1 ½" and 1.28 mm thick (weight 0.754 kg/m). The verticals shall be generally spaced at 0.90 m centers and can be suitably varied at corners, wall junctions etc, without affecting the general elevation. Generally all the vertical sections shall be taken up to ceiling height and fixing the same with RC beams/slabs for better rigidity. Rate includes cost of all materials, labour and other incidentals etc., complete. | M2 | 3267.72 |
| 830 | 1222 | Manufacturing, supplying and fixing in position of Aluminium partitions for an approximate height of 1.50m as detailed below: The bottom 90 cm of the partition shall be of wooden, using 9 mm thick interior grade ISI marked (IS:12823) three layered melamine faced prelaminated (both side) particle board of approved shade with Powder coated aluminium frame work. The top 0.60 m height of partition shall be of glazed using 5 mm thick frosted glass and anodized aluminium frame work of approved quality. The partitions shall be rigidly fixed on floors and walls using metal fasteners including cutting and making good the walls and floors etc. complete. The frame work shall be with Powder aluminium sections with suitable aluminium beadings and rubber gaskets. The bottom member shall be of size 3 3/4" x 1 ¾" and 1.70 (1.312 kg/m) mm thick approximate. The middle, top and vertical members shall be of size 2 ½" x 1 ½" and 1.28 mm thick (0.754 kg/m) approximate and the verticals shall be generally spaced at 0.90 m centers and can be suitably varied at corners, wall junctions etc, without affecting the general elevation. Rate includes cost of all materials, labour and other incidentals etc., complete | M2 | 4539.96 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 831 | 1223 | Manufacturing, supplying and fixing in position of Powder coated aluminium single leaved/double leaved glazed door of overall size 1.00 x 2.10m with suitable frame work as per the following specification and instructions of Engineer- in- charge. The alround vertical and horizontal outer frame shall be with 4" x 1¾" x 1.60 mm (unit wt. 1.312 kg/m)sections and for door shutter the bottom member shall be with 3 ¾" x 1 ¾" x 1.70 mm thick (unit wt. 1.312 kg/m) shutter top and verticals shall be of size 1 ¾" x 1 ¾" x 1.52 mm (unit wt. 0.885 kg/m) thick and shutter divider shall be 2 nos of of 1 ¾" x 1 ¾" x 1.70 mm (unit wt. 0.885 kg/m) with necessary beadings and rubber gaskets as per standard specifications. The upper panel of 120 cm shall be with 5 mm thick plain glass and lower panel of 90cm shall be with 9 mm thick interior grade ISI marked (IS:12823) three layered melamine faced prelaminated (both side) particle board . Door shall be provided with 2 Nos. of 300 mm long anodized aluminium handle, One No. of ISI marked heavy duty door closer of approved brand, One No. 200 mm long anodized aluminium tower bolt, suitable lock (4 lever), required top and bottom pivots, all as per specification of Engineer in charge. Rate includes cost of all materials, labour and other incidentals etc., complete | M2 | 4806.03 |
| 832 | 1224 | Supplying and fixing in position of aluminium ventilator using Powder coated aluminium section of size 2 ½" x 1 ½" and 1.28 mm thick (0.754 kg/m) for frames confirming to IS: 1948 of latest edition. The fixed and louvered glass panels shall be 5mm thick frosted glass panes. The ventilator should have required No. of louvers fitted properly in aluminium frame work having arrangement to close / open. The rate quoted shall include cost of all materials, labour, fixing charges, locking arrangements etc. all as per standard specifications, drawing and code of practice and instruction of Engineer-in-charge. | M2 | 5504.65 |
| 833 | 1225 | Providing and fixing powder coated aluminium two track sliding windows of approved colours aluminium sections of size 60 x 28 x1.20 mm ( wt 0.656 kg /m ) for outer frame , 38 x 17 x 1.20 mm (0.41 kg / m) for shutter box and 38 x 17 x 1.20 mm (0.44 kg/m) for inter lock 4 mm thick plain glass for panes, PVC wheels, U rubber, screws, locking arrangements etc. complete, all as per instructions of Engineer-in-charge. | M2 | 4067.33 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 834 | 1226 | Manufacturing, supplying and fixing in position of partitions for an approximate height of 3.20 m as detailed below:<br>The bottom 90 cm and top 110 cm of the partition shall be of wooden, using 9 mm thick interior grade ISI marked (IS : 12823) three layered melamine faced prelaminated (both side) particle board of approved shade with anodised (25 micron) aluminium frame work. The middle 120 cm height of partition shall be of glazed using 5 mm thick plain glass and anodized aluminium frame work of approved quality. The partitions shall be rigidly fixed on floors and walls using 8 mm anchor fasteners including cutting and making good the walls and floors etc., complete.<br>FRAME WORK: The frame work shall be with anodised (25 micron) aluminium sections with suitable aluminium beadings and rubber gaskets. The bottom member shall be of size 3 ¾" x 1 ¾" and 1.70 mm thick (weight 1.312 kg/m). The middle, top and vertical members shall be of size 2 ½" x 1 ½" and 1.28 mm thick (weight 0.754 kg/m). The verticals shall be generally spaced at 0.90 m centers and can be suitably varied at corners, wall junctions etc, without affecting the general elevation. Generally all the vertical sections shall be taken up to ceiling height and fixing the same with RC beams/slabs for better rigidity. Rate includes cost of all materials, labour and other incidentals etc., complete. | M2 | 3034 |
| 835 | 1227 | Manufacturing, supplying and fixing in position of partitions for an approximate height of 3.20 m as detailed below: The bottom ,middle and top of the partition (full portion) shall be of wooden, using 9 mm thick interior grade ISI marked (IS : 12823) three layered melamine faced prelaminated (both side) particle board of approved shade with anodised (25 micron) aluminium frame work. FRAME WORK: The frame work shall be with anodised (25 micron) aluminium sections with suitable aluminium beadings and rubber gaskets. The bottom member shall be of size 3 ¾" x 1 ¾" and 1.70 mm thick (weight 1.312 kg/m). The middle, top and vertical members shall be of size 2 ½" x 1 ½" and 1.28 mm thick (weight 0.754 kg/m). The verticals shall be generally spaced at 0.90 m centers and can be suitably varied at corners, wall junctions etc, without affecting the general elevation. Generally all the vertical sections shall be taken up to ceiling height and fixing the same with RCC beams/slabs for better rigidity. Rate includes cost of all materials, labour and other incidentals etc., complete. | M2 | 3058.93 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 836 | 1228 | Manufacturing, supplying and fixing in position of Aluminium partitions for an approximate height of 1.50m as detailed below:<br>The bottom 90 cm of the partition shall be of wooden, using 9 mm thick interior grade ISI marked (IS:12823) three layered melamine faced prelaminated (both side) particle board of approved shade with anodised (25 micron) aluminium frame work. The top 0.60 m height of partition shall be of glazed using 5 mm thick frosted glass and anodized aluminium frame work of approved quality. The partitions shall be rigidly fixed on floors and walls using metal fasteners including cutting and making good the walls and floors etc. complete. The frame work shall be with anodised aluminium sections with suitable aluminium beadings and rubber gaskets. The bottom member shall be of size 3 3/4" x 1 ¾" and 1.70 (1.312 kg/m) mm thick approximate. The middle, top and vertical members shall be of size 2 ½" x 1 ½" and 1.28 mm thick (0.754 kg/m) approximate and the verticals shall be generally spaced at 0.90 m centers and can be suitably varied at corners, wall junctions etc, without affecting the general elevation. Rate includes cost of all materials, labour and other incidentals etc., complete | M2 | 4062.88 |
| 837 | 1229 | Manufacturing, supplying and fixing in position of anodised (25 micron) aluminium single leaved/double leaved glazed door of overall size 1.00 x 2.10m with suitable frame work as per the following specification and instructions of Engineer- in- charge.The alround vertical and horizontal outer frame shall be with 4" x 1¾" x 1.60 mm (unit wt. 1.312 kg/m)sections and for door shutter the bottom member shall be with 3 ¾" x 1 ¾" x 1.70 mm thick (unit wt. 1.312 kg/m) shutter top and verticals shall be of size 1 ¾" x 1 ¾" x 1.52 mm (unit wt. 0.885 kg/m) thick and shutter divider shall be 2 nos of of 1 ¾" x 1 ¾" x 1.70 mm (unit wt. 0.885 kg/m) with necessary beadings and rubber gaskets as per standard specifications. The upper panel of 120 cm shall be with 5 mm thick plain glass and lower panel of 90cm shall be with 9 mm thick interior grade ISI marked (IS:12823) three layered melamine faced prelaminated (both side) particle board . Door shall be provided with 2 Nos. of 300 mm long anodized aluminium handle, One No. of ISI marked heavy duty door closer of approved brand, One No. 200 mm long anodized aluminium tower bolt, suitable lock (4 lever), required top and bottom pivots, all as per specification of Engineer in charge. Rate includes cost of all materials, labour and other incidentals etc., complete | M2 | 4337.17 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 838 | 1230 | Supplying and fixing in position of aluminium ventilator using anodised (25 micron) aluminium section of size 2 ½" x 1 ½" and 1.28 mm thick (0.754 kg/m) for frames confirming to IS: 1948 of latest edition. The fixed and louvered glass panels shall be 5mm thick frosted glass panes. The ventilator should have required No. of louvers fitted properly in aluminium frame work having arrangement to close / open. The rate quoted shall include cost of all materials, labour, fixing charges, locking arrangements etc. all as per standard specifications, drawing and code of practice and instruction of Engineer-in-charge. | M2 | 5280.7 |
| 839 | 1231 | Providing and fixing anodised (25 micron) aluminium two track sliding windows of approved colours aluminium sections of size 60 x 28 x1.20 mm ( wt 0.656 kg /m ) for outer frame , 38 x 17 x 1.20 mm (0.41 kg / m) for shutter box and 38 x 17 x 1.20 mm (0.44 kg/m) for inter lock 4 mm thick plain glass for panes, PVC wheels, U rubber, screws, locking arrangements etc. complete, all as per instructions of Engineer-in-charge. | M2 | 3657.87 |
| 840 | 1232A | Providing false ceiling at all heights using the following ceiling tiles. The scope of work includes providing and fixing frame of grid size 600 mm x 600 mm or thereabouts using GI sections of main tees of size 24mm x 38mm x, cross tees of size 24mm x 38mm, wall angles of size 19mm x 19mm , suspended by hangers of ceiling/ stay angles / G I wires of 2mm x 2 ply of 8' length screwed with suitable bullets of size 45 to 50mmx 8mm size to RCC roof ceiling / steel trusses etc. complete. hangers and height adjustment clips if any shall also to be provided wherever light fixtures / AC grills / diffusers are flush to the ceiling frame work and the ceiling boards have to made alright accordingly. Rate to include cost of all materials involved including suitable fasteners, screws, etc., , labour charges and all other incidentals etc., Complete. All as per standard / manufacturers specifications and instructions of Engineer-in- charge. 7.5MM NANO TILES 600mm X 600mm | M2 | 1300.26 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
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| 841 | 1232B | Providing false ceiling at all heights using the following ceiling tiles. The scope of work includes providing and fixing frame of grid size 600 mm x 600 mm or thereabouts using GI sections of main tees of size 24mm x 38mm x, cross tees of size 24mm x 38mm, wall angles of size 19mm x 19mm , suspended by hangers of ceiling/ stay angles / G I wires of 2mm x 2 ply of 8' length screwed with suitable bullets of size 45 to 50mmx 8mm size to RCC roof ceiling / steel trusses etc. complete. hangers and height adjustment clips if any shall also to be provided wherever light fixtures / AC grills / diffusers are flush to the ceiling frame work and the ceiling boards have to made alright accordingly. Rate to include cost of all materials involved including suitable fasteners, screws, etc., , labour charges and all other incidentals etc., Complete. All as per standard / manufacturers specifications and instructions of Engineer-in- charge. 4MM EVEREST TILES OSANIC 600mm X 600mm | M2 | 1421.85 |
| 842 | 1233A | Providing and fixing in position of boards/sheets/tiles of approved quality for false ceiling. Rate includes cost of all materials, conveyance, cutting to required sizes to suit the false ceiling frame work grids, wastages, supply and fixing with necessary nails/screws, all labour etc. complete. (Frame work will be paid separately) 12 mm flat pressed 3 layer medium density particle boards - Grade - I | M2 | 851.13 |
| 843 | 1233B | Providing and fixing in position of boards/sheets/tiles of approved quality for false ceiling. Rate includes cost of all materials, conveyance, cutting to required sizes to suit the false ceiling frame work grids, wastages, supply and fixing with necessary nails/screws, all labour etc. complete. (Frame work will be paid separately) 12 mm thick plain/semi perforated or with design ceiling tiles of BWP type phenol formoldehyde synthetic resin bonded pressed conforming to IS 3087. | M2 | 866.26 |
| 844 | 1233C | Providing and fixing in position of boards/sheets/tiles of approved quality for false ceiling. Rate includes cost of all materials, conveyance, cutting to required sizes to suit the false ceiling frame work grids, wastages, supply and fixing with necessary nails/screws, all labour etc. complete. (Frame work will be paid separately) 3 mm thick translucent white acrylic plastic sheets. | M2 | 1203.38 |
| 845 | 1233D | Providing and fixing in position of boards/sheets/tiles of approved quality for false ceiling. Rate includes cost of all materials, conveyance, cutting to required sizes to suit the false ceiling frame work grids, wastages, supply and fixing with necessary nails/screws, all labour etc. complete. (Frame work will be paid separately) 20 mm thick thermocole boards. (22 K.G/CUM) | M2 | 367.66 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
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| 846 | 1234A1 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. MDF Boards or equivalent of 6 mm thick (Regular grade) | M2 | 416.04 |
| 847 | 1234A2 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. MDF Boards or equivalent of 18 mm thick (Regular grade) | M2 | 932.84 |
| 848 | 1234A3 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Commercial plywood 6 mm thick - M.R Grade - (Anchor/Swati or equivalent) | M2 | 816.04 |
| 849 | 1234A4 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Commercial plywood 12 mm thick - M.R Grade- (Anchor/Swati or equivalent) | M2 | 1129.87 |
| 850 | 1234A5 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Commercial plywood 6 mm thick-Synthetic resin bonded - (Anchor/Swati or equivalent) | M2 | 816.04 |
| 851 | 1234A6 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Commercial plywood 12 mm thick-Synthetic resin bonded- (Anchor/Swati or equivalent) | M2 | 1674.75 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 852 | 1234A7 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Cement bonded particle boards - 6 mm thick (Bison panel) | M2 | 465.78 |
| 853 | 1234A8 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Cement bonded particle boards - 10 mm thick (Bison panel) | M2 | 670.13 |
| 854 | 1234A9 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Cement bonded particle boards - 12 mm thick (Bison panel) | M2 | 806.32 |
| 855 | 1234A10 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Cement bonded particle boards - 16 mm thick (Bison panel) | M2 | 938.53 |
| 856 | 1234A11 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Both sides pre laminated Cement bonded particle boards - 6 mm thick (Bison panel) | M2 | 925.52 |
| 857 | 1234A12 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Both sides pre laminated Cement bonded particle boards - 8 mm thick (Bison panel) | M2 | 993.62 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 858 | 1234A13 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Both sides pre laminated Cement bonded particle boards - 10 mm thick (Bison panel) | M2 | 1061.79 |
| 859 | 1234A14 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Both sides pre laminated Cement bonded particle boards - 12 mm thick (Bison panel) | M2 | 1155.42 |
| 860 | 1234A15 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Both sides pre laminated Cement bonded particle boards - 16 mm thick (Bison panel) | M2 | 1281.87 |
| 861 | 1234A16 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Plain particle boards- 9 mm thick-Regular Grade-(Novapan-Prime or equivalent) | M2 | 501.53 |
| 862 | 1234A17 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Plain particle boards- 12mm thick-Regular Grade-(Novapan-Prime or equivalent) | M2 | 600.33 |
| 863 | 1234A18 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Plain particle boards- 18mm thick-Regular Grade-(Novapan-Prime or equivalent) | M2 | 777.89 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
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| 864 | 1234A19 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Plain particle boards- 25mm thick-Regular Grade-(Novapan-Prime or equivalent) | M2 | 1042.11 |
| 865 | 1234A20 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Plain particle boards- 35mm thick-Regular Grade-(Novapan-Prime or equivalent) | M2 | 1556.81 |
| 866 | 1234A21 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Plain particle boards- 9 mm thick-Exterior Grade-(Novapan-Prime or equivalent) | M2 | 574.77 |
| 867 | 1234A22 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Plain particle boards- 12mm thick-Exterior Grade-(Novapan-Prime or equivalent) | M2 | 698.23 |
| 868 | 1234A23 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Plain particle boards- 18mm thick-Exterior Grade-(Novapan-Prime or equivalent) | M2 | 912.36 |
| 869 | 1234A24 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Plain particle boards- 25mm thick-Exterior Grade-(Novapan-Prime or equivalent) | M2 | 1229.41 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 870 | 1234A25 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Plain particle boards- 35mm thick-Exterior Grade-(Novapan-Prime or equivalent) | M2 | 1854.79 |
| 871 | 1234A26 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Pre laminated (one side) particle boards - 9 mm thick - (Emotive or equivalent) | M2 | 729.73 |
| 872 | 1234A27 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Pre laminated (both sides) particle boards - 9 mm thick - (Emotive or equivalent) | M2 | 738.3 |
| 873 | 1234A28 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Pre laminated (one side) particle boards - 12 mm thick - (Emotive or equivalent) | M2 | 842.1 |
| 874 | 1234A29 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Pre laminated (both sides) particle boards - 12 mm thick - (Emotive or equivalent) | M2 | 851.53 |
| 875 | 1234A30 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Pre laminated (one side) particle boards - 18 mm thick - (Emotive or equivalent) | M2 | 983.95 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 876 | 1234A31 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Pre laminated (both sides) particle boards - 18 mm thick - (Emotive or equivalent) | M2 | 992.93 |
| 877 | 1234A32 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Pre laminated (one side) particle boards - 25 mm thick - (Emotive or equivalent) | M2 | 1236.25 |
| 878 | 1234A33 | Supply and fixing the following boards/sheets of approved brand and quality in panelling fixed in aluminium doors/window shutters/partition frames etc. with C.P brass/stainless steel screws etc. complete, all as per drawings, specifications and instructions of Engineer in charge. Rate includes cutting to required sizes, wastages etc.complete. Rate excludes cost of respective frame works. Pre laminated (both sides) particle boards - 25 mm thick - (Emotive or equivalent) | M2 | 1245.51 |
| 879 | 1235 | Supplying and fixing of vertical Venetian blinds 100mm wide with dual colour of approved make (Hunter Douglas make or equivalent) and shade and / as decided by BHEL - for windows / ventilators. Rate inclusive of cost of all materials, labour for fixing and incidentals etc., complete | M2 | 1633.1 |
| 880 | 1401A | Labour charges for carrying out the following. Scope includes all labour, relevant tools and plants required for the work, disposing off all the wastes, cut leaves etc. in the nearby areas within a lead of 100 metre etc. complete. All as per instructions of Engineer-in-charge. Mowing of lawns neatly to uniform levels. (By means of blade/ mower) | M2 | 3.16 |
| 881 | 1401B | Labour charges for carrying out the following. Scope includes all labour, relevant tools and plants required for the work, disposing off all the wastes, cut leaves etc. in the nearby areas within a lead of 100 metre etc. complete. All as per instructions of Engineer-in-charge. Cutting all types of hedges to the required and uniform height and width. | RM | 5.27 |
| 882 | 1401C | Labour charges for carrying out the following. Scope includes all labour, relevant tools and plants required for the work, disposing off all the wastes, cut leaves etc. in the nearby areas within a lead of 100 metre etc. complete. All as per instructions of Engineer-in-charge. Cutting and trimming topiary work for various shrubs, domes etc. to the required sizes, shapes etc. complete. | EA | 20.64 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 883 | 1402 | Conveying tree saplings / plants from BHEL and planting the same in the pits excavated (in the premises of BHEL), initial watering, forming bed etc., all as per instructions of Engineer-in-charge. Tree saplings / plants will be supplied at BHEL Nursery at free of cost. Rate includes conveyance,loading, unloading, lifting and planting, initial watering etc., complete. | EA | 5.09 |
| 884 | 1403 | Maintaining the shrub plants available at various locations in BHEL. Maintenance covers watering once in two days, weeding, mulching the top soil to a depth of 15 cm once in three months, making basin to proper size, manuring, cutting and trimming whenever necessary, cleaning the areas etc.complete. Replanting is also to be done as and when necessary. Rate includes all labour, tools, hose pipes, water carts, all incidentals etc.complete. All as per instructions of Engineer-in-charge. Required manure and plants will be issued by BHEL at Stores or Nursery at free of cost. Contractor has to transport the same to site of works. (Payment will be made for every month). | EA | 3.77 |
| 885 | 1404 | Maintaining the domes available at various locations in BHEL. Maintenance covers watering once in two days, weeding, mulching the top soil to a depth of 15 cm once in three months, making the basin to proper size, manuring, pruning/trimming topiary work once in a month, cleaning the areas, diposing off all wastes, cut branches, leaves etc. in the nearby areas within a lead of 50 metre etc.complete. Replanting is also to be done as and when necessary. Rate includes all labour, tools, hose pipes, water carts, all incidentals etc.complete. All as per instructions of Engineer-in-charge. Required manure and plants will be issued by BHEL at Stores or Nursery at free of cost. Contractor has to transport the same to site of works. (Payment will be made for every month). | EA | 37.08 |
| 886 | 1405 | Maintaining the hedges (upto a height of 1.50 m) available at various locations in BHEL. Maintenance covers watering once in two days, weeding, mulching the top soil to a depth of 15 cm once in three months, making basin along the hedges, manuring and cutting, pruning, trimming the hedges once in a month, cleaning the areas, diposing off all wastes, cut branches, leaves etc. in the nearby areas within a lead of 100 metre etc. complete. Replanting is also to be done as and when necessary. Rate includes all labour, tools, hose pipes, water carts, all incidentals etc.complete. All as per instructions of Engineer-in-charge. Required manure, hedge plants will be issued by BHEL at Stores or Nursery at free of cost. Contractor has to transport the same to site of works. (Payment will be made for every month). | RM | 2.27 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 887 | 1406 | Maintaining rose beds at various locations in BHEL. Maintenance covers watering once in two days, weeding, mulching the top soil to a depth of 15 cm once in 15 days, making basin for rose plants, manuring, cutting and trimming whenever necessary, clearing the jungle, leveling the areas once in 15 days etc.complete. Replanting is also to be done as and when necessary. Rate includes all labour, tools, hose pipes, water carts, all incidentals etc.complete. All as per instructions of Engineer-in-charge. Required manure and plants will be issued by BHEL at Stores or Nursery at free of cost. Contractor has to transport the same to site of works. (Payment will be made for every month). | M2 | 3.09 |
| 888 | 1407 | Maintaining and safeguarding the lawns including flower beds available at various locations in BHEL. Maintenance covers watering once in two days, periodical weeding, mowing, scraping, raking, replacing flower beds, mulching the top soil and forming basins etc.all once in 45 days, manuring, cleaning the areas, diposing off all wastes, dried leaves etc. in the nearby areas within a lead of 100 metre etc.complete. Re-lawn is also to be done as and when necessary. Rate includes all labour, tools, hose pipes, water carts, all incidentals etc.complete. All as per instructions of Engineer-in-charge. Required manure, plants and grass will be issued by BHEL at Stores or Nursery at free of cost. Contractor has to transport the same to site of works. (Payment will be made for every month). | M2 | 2.27 |
| 889 | 1408 | Maintenance and protection of avenue tree plants/coconut tree seedlings etc. available at various locations in BHEL. Maintenance covers watering once in two days, protecting the plants from cattle menace and theft by providing thorny fencing, periodical weeding, maintaining the area free from other vegetation growth, mulching the top soil and forming basin, manuring, cleaning the area etc.complete. Rate includes all labour, tools, hose pipes, water carts, all incidentals etc.complete. All as per instructions of Engineer-in-charge. Required manure and plants will be issued by BHEL at Stores or Nursery at free of cost. Contractor has to transport the same to site of works. (Payment will be made for every month). | EA | 9.27 |
| 890 | 1409 | Maintaining the potted plants available at Nursery and other locations by watering once in two days, mulching and weeding the soil once in a fortnight, application of manure/fertilizer/pesticides as and when required (normally three times in an year) pruning and shaping as and when required, repotting the plant once in a year, replacement of broken pots (pots and plants will be supplied by BHEL), propogation of different species of pots as directed etc.complete. Rate includes all labour, tools, hose pipes, water carts, all incidentals etc.complete. All as per instructions of Engineer-in-charge. Required manure / fertilizer / pesticides, pots and plants will be issued by BHEL at Stores or Nursery at free of cost. (Payment will be made for every month). | EA | 3.71 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 891 | 1501 | Grouting the H.D bolts, underneath the base plates etc., after alignment with wet cement grout (1:1), all as per standard specifications. Rate includes cleaning the sleeves/pockets, tools and plants required for the work etc., complete except cement which will be supplied by BHEL at stores at free of cost. | M3 | 16904.84 |
| 892 | 1502 | Grouting the H.D bolts, underneath the base plates etc., after alignment with non-shrink high strength cementitious grout of such as Tec. Grout 40 or Pidigrout 10M or Flogrout 60 or Conbextra GP2 or any other equivalent grout, all as per instructions of Engineer in charge and as per standard specifications. Rate includes cost of non-shrink grout, cleaning the sleeves/pockets, tools, labour etc., complete. | M3 | 56509.96 |
| 893 | 1503 | Precasting and fixing in position of reinforced cement concrete (1:2:4) fencing post (using 12 to 20 mm size hard broken granite stone jelly) of size 100 x 100 mm at top and 150 x 150 mm at bottom and 1.70 m high of which 45 cm will be embedded in cement concrete base below ground level. Rate includes shuttering, casting, finishing, curing, conveying and fixing in position but excluding cost of excavation, concrete base and fabrication charges for reinforcement which will be paid separately under respective items. | EA | 249.56 |
| 894 | 1504 | Precasting and fixing in position of reinforced cement concrete (1:2:4) fencing post (using 12 to 20 mm size hard broken granite stone jelly) of size 100 x 100 mm at top and 150 x 150 mm at bottom and 2.10 m high of which 45 cm will be embedded in cement concrete base below ground level. Rate includes shuttering, casting, finishing, curing, conveying and fixing in position but excluding cost of excavation, concrete base and fabrication charges for reinforcement which will be paid separately under respective items. | EA | 295.57 |
| 895 | 1505 | Precasting and fixing in position of reinforced cement concrete (1:2:4) fencing post (using 12 to 20 mm size hard broken granite stone jelly) of size 200 x 200 x 3650 mm of which 600 mm (approx.) will be embedded in cement concrete base below ground level. Rate includes making necessary groove arrangements on two sides of post for inserting 50 mm thick precast slabs, shuttering, casting, embedding 'Y' angle with necessary lugs, finishing, curing, conveying the posts including all lead, erection in position by embedding in foundation concrete up to a depth of 600 mm (approx.) below ground level true to plumb, line, level etc.complete, all as per drawings and as per instructions of Engineer in charge. Rate excludes cost of excavation, concrete base, precast slabs and it's inserting/fixing charges, fabrication charges for reinforcement and 'Y' angle which will all be paid separately under respective items. | EA | 1226.91 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 896 | 1506 | Conveying RCC fencing post of overall height 1.70 to 2.10 m from stores/stack yard to site of work and fixing in position, line, level etc. Earth work excavation and concrete base will be paid separately. | EA | 33.12 |
| 897 | 1507 | Providing and fixing G.I barbed wire of 12 G, 2 ply and 4 barbs with spacing of barbs at 80 mm c/c for fencing including unwinding the coil and fixing in position with proper tension and alignment by means of providing G.I staples on wooden plugs or G.I binding wire tied to 6 mm bar ribs provided in the posts etc. complete. | RM | 14.54 |
| 898 | 1508 | Conveying G.I barbed wire, G.I staples/binding wires etc. from BHEL stores and fixing in position for fencing including unwinding the coil, fixing it in posts with proper tension and alignment by means of G.I staples on wooden plugs or G.I binding wire tied to 6 mm bar ribs provided in the posts etc. complete. Rate excludes G.I barbed wire and G.I staples / binding wire which will be supplied by BHEL at stores at free of cost. | RM | 1.55 |
| 899 | 1509A | Conveyance of earth, sand, gravel, rough stone, broken stone, brick bats (debris) etc. by contractor's own lorry including loading, leading, unloading, stacking or spreading, all as per instructions of Engineer-in-charge. Payment for conveyance of earth will be made based on pit measurement and for other items based on stack measurements. 0 - 1 Km | M3 | 120.44 |
| 900 | 1509B | Conveyance of earth, sand, gravel, rough stone, broken stone, brick bats (debris) etc. by contractor's own lorry including loading, leading, unloading, stacking or spreading, all as per instructions of Engineer-in-charge. Payment for conveyance of earth will be made based on pit measurement and for other items based on stack measurements. Beyond 1 Km but upto 2 Km | M3 | 128.52 |
| 901 | 1509C | Conveyance of earth, sand, gravel, rough stone, broken stone, brick bats (debris) etc. by contractor's own lorry including loading, leading, unloading, stacking or spreading, all as per instructions of Engineer-in-charge. Payment for conveyance of earth will be made based on pit measurement and for other items based on stack measurements.Beyond 2 Km but upto 3 Km | M3 | 137.61 |
| 902 | 1509D | Conveyance of earth, sand, gravel, rough stone, broken stone, brick bats (debris) etc. by contractor's own lorry including loading, leading, unloading, stacking or spreading, all as per instructions of Engineer-in-charge. Payment for conveyance of earth will be made based on pit measurement and for other items based on stack measurements. Beyond 3 Km but upto 4 Km | M3 | 193.46 |
| 903 | 1509E | Conveyance of earth, sand, gravel, rough stone, broken stone, brick bats (debris) etc. by contractor's own lorry including loading, leading, unloading, stacking or spreading, all as per instructions of Engineer-in-charge. Payment for conveyance of earth will be made based on pit measurement and for other items based on stack measurements. Beyond 4 Km but upto 5 Km | M3 | 205.44 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
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| 904 | 1510 | Transporting the garbage, horticulture waste etc., collected from houses, dustbins and other places by lorry having a capacity of minimum 300 cft covering with suitable net to avoid spilling during transport and unloading at the earmarked place on the eastern side of MHD. (Nearly 5 KM from the centre point of Kailasapuram) Rate also includes topping the dust bins, seggregation of bio-degradable and non-bio-degradable waste at respective dust bins itself, collection, loading, all lead, unloading, hire and running charges of lorry, tools required, all labour and all other incidentals etc.complete and as directed by the department. Trip sheet is to be maintained for each load that will be certified by the concerned official and by the security at the gate which will form the basis for making payment. Each load would exit only through the main entrance of Township or as directed by the Engineer in charge. Rate to be quoted for one trip of lorry load of 300 cft garbage. | EA | 1413.4 |
| 905 | 1511A | Conveyance of debris generated by dismantling and other modification works by various departments, factory wastes discarded cotton waste, slag, cut tree branches, dried leaves, abandoned broken glass, water closets, urinals, flush tanks, broken furniture, broken refractory bricks, AC materials, hedge cuttings and all other debris and waste materials from various places of factory premises where they are stacked / accumulated and transporting the same by contractor's lorry and disposing off at the specified places, all as per the instructions of Engineer-in-charge. Rate includes labour for collection of the said debris from various places, loading, leading, unloading, spreading, leveling etc. complete. Rate also includes for safe burning of dried leaves, cut pieces of tree branches, wood, waste paper etc., all by following safety precautions. Payment will be made on trip basis with a lorry load of minimum 300 cft./Trip. 0-1 K.M | EA | 818.53 |
| 906 | 1511B | Conveyance of debris generated by dismantling and other modification works by various departments, factory wastes discarded cotton waste, slag, cut tree branches, dried leaves, abandoned broken glass, water closets, urinals, flush tanks, broken furniture, broken refractory bricks, AC materials, hedge cuttings and all other debris and waste materials from various places of factory premises where they are stacked / accumulated and transporting the same by contractor's lorry and disposing off at the specified places, all as per the instructions of Engineer-in-charge. Rate includes labour for collection of the said debris from various places, loading, leading, unloading, spreading, leveling etc. complete. Rate also includes for safe burning of dried leaves, cut pieces of tree branches, wood, waste paper etc., all by following safety precautions. Payment will be made on trip basis with a lorry load of minimum 300 cft./Trip. 1-2 K.M | EA | 873.09 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 907 | 1511C | Conveyance of debris generated by dismantling and other modification works by various departments, factory wastes discarded cotton waste, slag, cut tree branches, dried leaves, abandoned broken glass, water closets, urinals, flush tanks, broken furniture, broken refractory bricks, AC materials, hedge cuttings and all other debris and waste materials from various places of factory premises where they are stacked / accumulated and transporting the same by contractor's lorry and disposing off at the specified places, all as per the instructions of Engineer-in-charge. Rate includes labour for collection of the said debris from various places, loading, leading, unloading, spreading, leveling etc. complete. Rate also includes for safe burning of dried leaves, cut pieces of tree branches, wood, waste paper etc., all by following safety precautions. Payment will be made on trip basis with a lorry load of minimum 300 cft./Trip. 2-3 K.M | EA | 927.72 |
| 908 | 1512 | Sweeping roads, drains, platforms, open spaces, surrounding areas of buildings, shops, parks, gardens, sides and back spaces in between bolcks, roof terrace of buildings at a maximum elevated level of 6 metre and other areas as identified and instructed by Engineer in charge. Rate includes labour, tools, brooms, malard, baskets etc., sweeping, hand picking of debris, collecting and dumping the debris in the near by dust bins/earmarked areas etc.complete. Sweeping has to be done only as and when necessary. Payment will be made only for the areas where sweeping was done. | HM2 | 18.11 |
| 909 | 1513 | Cleaning and removing all unwanted things from the roof terrace of various buildings at an elevated level of 12 to 20 metre from FFL. Rate includes labour, tools, wire brush, brooms, baskets etc., sweeping and clearing off all dirt, silt, dust, leaves and other foreign matters etc. without damaging the terrace treatment and thereby collecting all the wastes in bags/baskets, lowering to ground floor without affecting the working environment and dumping the same in the near by dust bins/earmarked areas/low lying areas etc.complete. Sweeping has to be done only as and when necessary. Payment will be made only for the areas where actually the job was carried out. | HM2 | 15.01 |
| 910 | 1514 | Labour charges for providing tarpaulin pandal to an area upto 25 Sq.m in ground floor / first floor and removing the same after the function is over. All materials such as tarpaulin, posts etc. will be supplied by BHEL at Stores at free of charges. Rate includes to and fro transportation of materials. | EA | 900.95 |
| 911 | 1515A | Labour charges for conveying 200 litre capacity drum and pouring with full of water for function and handing over the empty drum to Stores after function is over. Drum will be supplied by BHEL at Stores at free of charges. Water has to be collected either from Township water tanks or Equalising Reservoir. Rate includes to and fro transportation. At Quarters of Kailasapuram / Kamarajapuram Township. | EA | 368.05 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 912 | 1515B | Labour charges for conveying 200 litre capacity drum and pouring with full of water for function and handing over the empty drum to Stores after function is over. Drum will be supplied by BHEL at Stores at free of charges. Water has to be collected either from Township water tanks or Equalising Reservoir. Rate includes to and fro transportation. At Quarters of Nehru Nagar/ burial ground | EA | 437.73 |
| 913 | 1516A | Labour charges for providing Shamiana of following sizes and removing the same after the function is over. Necessary shamiana, posts etc. will be supplied by BHEL at Stores at free of charges. Rate includes to and fro transportation. 40' X 40' | EA | 1687.78 |
| 914 | 1516B | Labour charges for providing Shamiana of following sizes and removing the same after the function is over. Necessary shamiana, posts etc. will be supplied by BHEL at Stores at free of charges. Rate includes to and fro transportation. 40' X 20' | EA | 1102.9 |
| 915 | 1516C | Labour charges for providing Shamiana of following sizes and removing the same after the function is over. Necessary shamiana, posts etc. will be supplied by BHEL at Stores at free of charges. Rate includes to and fro transportation. 20' X 12' | EA | 698.72 |
| 916 | 1517 | Hire charges for providing 4 ' 40 watts tube light fitting with tube, necessary wire, plug etc. in the tarpaulin pandal / shamiana at G.F / F.F and removing the same after the function is over. | EA | 50.59 |
| 917 | 1518 | Labour charges for providing stage for functions and removing the same and handing over to Stores after the programme. Necessary stage materials will be supplied by BHEL at Stores at free of charges. Rate includes to and fro transportation. | M2 | 42.38 |
| 918 | 1519 | Labour charges for erection of flag post and tying the flag. Rate includes digging hole, erection of post and removing the same after the function is over including refilling the hole and handing over the flag post, flag etc. to Stores after the programme. Necessary flag post and flag will be supplied by BHEL at Stores at free of charges. Rate includes to and fro transportation. | EA | 22.5 |
| 919 | 1520 | Labour charges for spreading coir mat and removing the same after the function is over. Rate includes to and fro transportation, labour etc. complete. Coir mat will be issued by BHEL at Stores at free of charges. | M2 | 6.21 |
| 920 | 1521A | Labour charges for erection in position of column trusses and other accessories and spreading of shamiana, back drops etc. and removing and returning the same after the function is over. Column trusses, shamiana etc. will be issued by BHEL at Stores at free of charges. Rate includes to and fro transportation of materials. For stage of size 32' x 20' | EA | 1893.91 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 921 | 1521B | Labour charges for erection in position of column trusses and other accessories and spreading of shamiana, back drops etc. and removing and returning the same after the function is over. Column trusses, shamiana etc. will be issued by BHEL at Stores at free of charges. Rate includes to and fro transportation of materials. For stage of size 20' x 20' or 20' x 18' | EA | 1466.44 |
| 922 | 1521C | Labour charges for erection in position of column trusses and other accessories and spreading of shamiana, back drops etc. and removing and returning the same after the function is over. Column trusses, shamiana etc. will be issued by BHEL at Stores at free of charges. Rate includes to and fro transportation of materials. For stage of size 20' x 12' | EA | 1046.6 |
| 923 | 1522A | Carrying the following from BHEL Stores to site of work and returning the same after the function is over. Rate includes labour, to and fro transportation etc. PVC moulded chair | EA | 6.68 |
| 924 | 1522B | Carrying the following from BHEL Stores to site of work and returning the same after the function is over. Rate includes labour, to and fro transportation etc. Wooden chair with cushion | EA | 16.72 |
| 925 | 1523A | Labour charges for providing Shamiana of size 40' X 40' and removing the same after the function is over. Necessary shamiana, posts etc. will be supplied by BHEL at Stores at free of charges. Rate includes loading and unloading charges but transportation (to and fro) will be arranged by BHEL for all the required materials such as shamiana, bamboo posts, coir mat, stage materials, flag posts, chairs etc. | EA | 1501.77 |
| 926 | 1523B | Labour charges for providing Shamiana of size 40' X 20' and removing the same after the function is over. Necessary shamiana, posts etc. will be supplied by BHEL at Stores at free of charges. Rate includes loading and unloading charges but transportation (to and fro) will be arranged by BHEL for all the required materials such as shamiana, bamboo posts, coir mat, stage materials, flag posts, chairs etc. | EA | 963.43 |
| 927 | 1523C | Labour charges for providing Shamiana of size 20' X 12' and removing the same after the function is over. Necessary shamiana, posts etc. will be supplied by BHEL at Stores at free of charges. Rate includes loading and unloading charges but transportation (to and fro) will be arranged by BHEL for all the required materials such as shamiana, bamboo posts, coir mat, stage materials, flag posts, chairs etc. | EA | 560.74 |
| 928 | 1523D | Labour charges for providing stage for functions and removing the same and handing over to Stores after the programme. Necessary stage materials will be supplied by BHEL at Stores at free of charges transportation (to and fro) will be arranged by BHEL for all the required materials such as shamiana, bamboo posts, coir mat, stage materials, flag posts, chairs etc. but including loading and unloading charges, instead of transporting by the contractor. | M2 | 34.01 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
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| 929 | 1523E | Labour charges for loading, unloading and erection of flag post and tying the flag. Rate includes digging hole, erection of post and removing the same after the function is over including refilling the hole and handing over the flag post, flag etc. to Stores after the programme. Necessary flag post and flag will be supplied by BHEL at Stores at free of charges and transportation (to and fro) will be arranged by BHEL for all the required materials such as shamiana, bamboo posts, coir mat, stage materials, flag posts, chairs etc. | EA | 17.87 |
| 930 | 1523F | Labour charges for loading, unloading and spreading coir mat and removing the same after the function is over Coir mat will be issued by BHEL at Stores at free of charges. | M2 | 1.15 |
| 931 | 1523G | Labour charges for erection in position of column trusses and other accessories and spreading of shamiana, back drops etc. and removing and returning the same after the function is over. Column trusses, shamiana etc. will be issued by BHEL at Stores at free of charges. Rate excludes to and fro transportation of materials but includes loading and unloading charges . For stage of size 32' x 20' | EA | 1495.29 |
| 932 | 1523H | Labour charges for erection in position of column trusses and other accessories and spreading of shamiana, back drops etc. and removing and returning the same after the function is over. Column trusses, shamiana etc. will be issued by BHEL at Stores at free of charges. Rate excludes to and fro transportation of materials but includes loading and unloading charges . For stage of size 20' x 20' or 20' x 18' | EA | 1121.46 |
| 933 | 1523I | Labour charges for erection in position of column trusses and other accessories and spreading of shamiana, back drops etc. and removing and returning the same after the function is over. Column trusses, shamiana etc. will be issued by BHEL at Stores at free of charges. Rate excludes to and fro transportation of materials but includes loading and unloading charges . For stage of size 20' x 12' | EA | 747.64 |
| 934 | 1523J | Carrying the PVC moulded chair from BHEL Stores to site of work and returning the same after the function is over. Rate includes labour, loading and unloading charges but excludes to and fro transportation etc. | EA | 1.18 |
| 935 | 1523K | Carrying the Wooden chair with cushion from BHEL Stores to site of work and returning the same after the function is over. Rate includes labour, loading and unloading charges but excludes to and fro transportation etc. | EA | 2.92 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 936 | 1533 | Carrying from BHEL stores to site of work and fixing GI chainlink mesh for fencing including unwinding the roll and fixing in proper position, tension and alignment by means of MS flat as stiffeners, drilled with necessary holes or as the case may be and fixed with RCC / MS fencing posts by bolts, nuts, washers etc., complete. Payment will be made based on the laid area of chainlink mesh only. Rate includes cost of labour, tools and plants and all other incidentals etc., complete but excludes cost of chain link mesh, MS flats, bolts, nuts and washers which will be supplied by BHEL at stores at free of cost. Fabrication charges for MS flats including drilling holes etc. will be paid under separate item. | M2 | 17.45 |
| 937 | 1534A | Providing and fixing G.I. chain link fabric fencing of required width in mesh size 50x50 mm including strengthening with 2 mm dia wire or nuts, bolts and washers as required complete as per the direction of Engineer-in-charge. Made of G.I. wire of dia 4 mm. | M2 | 502 |
| 938 | 1534B | Providing and fixing G.I. chain link fabric fencing of required width in mesh size 50x50 mm including strengthening with 2 mm dia wire or nuts, bolts and washers as required complete as per the direction of Engineer-in-charge. Made of G.I. wire of dia 4 mm, PVC coated to achieve outer dia. not less than 5 mm in required colour and shade. | M2 | 534.97 |
| 939 | 1535 | Providing and fixing G.I. chain link fabric fencing of required width in mesh size 25x25 mm made of G.I. wire of dia 3 mm including strengthening with 2 mm dia. wire or nuts, bolts and washers as required complete as per the direction of Engineer-in-Charge. | M2 | 602.11 |
| 940 | 1536A | Drilling holes for the following diameter in Industrial Reinforced cement concrete floor or in machine foundation using power drilling machine in proper manner to a maximum depth of 200 mm as per standard specification and fixing the anchor bolts through the holes provided in the machine with the drilled holes in the shop floor as per the instructions of Engineer in charge. The power and compressed air required for drilling holes will be supplied by BHEL at free of cost. The quoted rate shall include all labour charges for drilling holes only and also include hire and running charges for machineries, tools and plants , loading, leading , conveyance and cleaning the debris etc complete. 10- 14 mm diameter | EA | 90.6 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 941 | 1536B | Drilling holes for the following diameter in Industrial Reinforced cement concrete floor or in machine foundation using power drilling machine in proper manner to a maximum depth of 200 mm as per standard specification and fixing the anchor bolts through the holes provided in the machine with the drilled holes in the shop floor as per the instructions of Engineer in charge. The power and compressed air required for drilling holes will be supplied by BHEL at free of cost. The quoted rate shall include all labour charges for drilling holes only and also include hire and running charges for machineries, tools and plants , loading, leading , conveyance and cleaning the debris etc complete. 15 – 18 mm diameter | EA | 107.1 |
| 942 | 1536C | Drilling holes for the following diameter in Industrial Reinforced cement concrete floor or in machine foundation using power drilling machine in proper manner to a maximum depth of 200 mm as per standard specification and fixing the anchor bolts through the holes provided in the machine with the drilled holes in the shop floor as per the instructions of Engineer in charge. The power and compressed air required for drilling holes will be supplied by BHEL at free of cost. The quoted rate shall include all labour charges for drilling holes only and also include hire and running charges for machineries, tools and plants , loading, leading , conveyance and cleaning the debris etc complete. 19 – 23 mm diameter | EA | 123.63 |
| 943 | 1536D | Drilling holes for the following diameter in Industrial Reinforced cement concrete floor or in machine foundation using power drilling machine in proper manner to a maximum depth of 200 mm as per standard specification and fixing the anchor bolts through the holes provided in the machine with the drilled holes in the shop floor as per the instructions of Engineer in charge. The power and compressed air required for drilling holes will be supplied by BHEL at free of cost. The quoted rate shall include all labour charges for drilling holes only and also include hire and running charges for machineries, tools and plants , loading, leading , conveyance and cleaning the debris etc complete. 24 – 28 mm diameter | EA | 140.08 |
| 944 | 1537 | Cleaning of Septic tanks including removal of all sludge/waste material with septic tank cleaning vehicle of tank capacity of 7000 litres and conveying the waste to all leads and disposal off.Rate includes hire and running charges for the septic tank cleaning vehicle with driver and labour for cleaning the septic tank, cost of tools and plants, all incidental charges, leading disposing off the sewage and wastages etc as per the instructions of Engineer in Charge. Payment will be made for one trip up to a maximum of 7000 litres quantity of sewage | EA | 3547.33 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 945 | 1538 | Attending to leak at roof slab and wall joint. The scope of work includes clearing the tiled terrace surfaces to be free of dust, loose particles, algae growth and atmospheric deposits, filling small blow holes if any with CERAFIL 45/ TEC TILE 12/ Sika Grout/NACC Tile Grout/Dr. Fixit Crack-X and providing primer and top coat of CERAFLEX/TEC WAVE 3000/Sika Raingard/NACC High Flex single component/Dr. Fixit New Coat highly flexible membrane coating including curing adequately .All as per manufacture's recommendation/ standard specifications and instructions of Engineer-in-charge. Rate quoted includes cost of all materiasl, labour charges, conveyance,tools and all other incidental charges etc.complete -for In accessible areas One Primer and one top coat | M2 | 322.67 |
| 946 | 1539 | Attending to leak at roof slab and wall joint. The scope of work includes clearing the tiled terrace surfaces to be free of dust, loose particles, algae growth and atmospheric deposits, filling small blow holes if any with CERAFIL 45/ TEC TILE 12/ Sika Grout/NACC Tile Grout/Dr. Fixit Crack-X and providing primer and top coat of CERAFLEX/TEC WAVE 3000/Sika Raingard/NACC High Flex single component/Dr. Fixit New Coat highly flexible membrane coating including curing adequately .All as per manufacture's recommendation/ standard specifications and instructions of Engineer-in-charge. Rate quoted includes cost of all materiasl, labour charges, conveyance,tools and all other incidental charges etc.complete -for In accessible areas. One primer and two top coats. | M2 | 498.46 |
| 947 | 1540 | Providing two coats of CERALASTIC/TEC WAVE 2000/Sika raingard/NACC roof coating /Dr. FIXIT PIDIFIN 2K water proofing membrane coating followed by one bond coat of CERA BOND SBR/TEC BOND SBR/Sika latex/NACC Latex / Dr. FIXIT PIDICRETE URP SBR LATEX over the membrane coating and providing cement plastering 6mm thick in CM 1:4 admixed with general purpose water proofing compound of respective products and curing adequately.All as per manufacturer's recommendation / standard specifications and instructions of Engneer-in-charge.The scope of work includes dismantling the existing damaged weathering course and tiles to expose to the RCC slab and finsihing to match with the existing weathering course.. Rate quoted includes cost of all materials except cement which will be issued free of cost at BHEL stores, labour charges, conveyance, tools and all other incidental charges etc., complete. Replacing the damaged tiles and re-pointing where ever required which will be paid under separate item.- for-accessible areas. | M2 | 325.31 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 948 | 1541 | Attending crack filling at parapet level with pressure grouting: The scope of work includes routing out the cracks with a mechanically operated groove cutter and sealing the groove with flexible sealant - CERA CRACK FILLER/TEC KRACK FILLER/Sika CRACK SEAL/NACC CRACK FILLER/Dr. FIXIT CRACK-X PASTE and allowing the sealant to set overnight, driving grouting nozzles at intervals of 1M and grouting neat cement slurry admixed with expansive grouting additive CERA EXPAN 250/TEC SWELL/Sika INTRA PLAST/NACC EXPAN/Dr. FIXIT PIDICRETE AM 250 and providing two coats of CERAFLEX/TEC WAVE 3000/Sika RAINGARD/NACC HIGH FLEX /Dr. FIXIT NEW COAT roof coating single component flexible membrane for a width of 15cms aligned to the centre of the crack. All as per manufacturers recommendations / standard specifications and instructions of Engineer-in-charge. Rate quoted includes cost of all materiasl, labour charges, conveyance, tools and all other incidental charges etc., complete,but excluding cost of cement which will be issued free of cost at BHEL stores. | M | 145.46 |
| 949 | 1542 | Attending Crack filling at parapet level without pressure gouting. The scope of work includes routing out the cracks with a mechanically operated groove cutter and sealing the groove with flexible sealant - CERA CRACK FILLER/TEC KRACK FILLER/Sika CRACK SEAL/NACC CRACK FILLER/Dr. FIXIT CRACK-X PASTE and providing two coats of CERAFLEX/TEC WAVE 3000/Sika RAIN GARD/NACC ROOF COATING/Dr. FIXIT NEW COAT highly flexible membrane for a width of 10cms aligned to the centre of the crack. All as per manufacturers recommendations/ standard specifications and instructions of Engineer-in-charge. Rate quoted includes cost of all materials, labour charges,conveyance, tools and all other incidental charges ,etc. complete. | RM | 108.43 |
| 950 | 1543 | Drilling pockets and fixing PVC Nipples in position along weak concrete junctions and leakage points in walls/floor and pressure grouting CERA EXPAN 250 / TEC SWELL/Sika INTRA PLAST/NACC EXPAN / Dr. FIXIT PIDICRETE AM 250 expansive grouting additive admixed with cement slurry using hand operated grouting pump. The scope also includes plugging the grout hole with CERA PLUG/TEC STOP / Sika HYDRO PLUG / NACC PLUG / Dr. FIXIT INSTANT LEAK PLUG .All as per manufacturer's recommendations/ standard specifications and instructions of Engineer- in-charge. Rate quoted includes cost of all materials, labour charges, conveyance, tools and all other incidental charges except cement which will be issued free of cost at BHEL stores. | P | 140.16 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 951 | 1544 | Providing one coat of Antifungal coating - tec touch /Cera re-played/Sika Multi guard or Sika gard 67/NACC acrylic/Dr. FIXIT DAMPGAURD - protective and decorative coating system as per manufacturer's recommendations/ standard specifications and instructions of Engineer-in-charge.The scope of work includes surface preparation including cleaning the wall surfaces to be free of previous coatings, dust, loose particles, algae growth and atmospheric deposits, filling small blow holes if any with putty. Rate quoted includes cost of all materials, labour charges, conveyance, tools and all other incidental charges etc., complete. | M2 | 195.43 |
| 952 | 1545 | Arresting leakage through RCC Construction joints The scope of work includes routing out the horizontal cracks along /contruction joints to expose the RCC joint and applying CERA SEAL / TEC POLYSEAL G / Sika Crack Seal / NACC poly seal gun grade polysulphide sealant / Dr.FIXIT PU SEALANT. The scope also includes application of CERAFLEX / TEC WAVE 3000/Sika Rain Gard/NACC Roof Coating / Dr. FIXIT NEW COAT single component flexible membrane with intermediate layer of cloth over the exposed area after allowing the PS(polysulphide sealant) to cure for 72 hours. All as per manufacturers recommendations / standard specifications and instructions of Engineer-in-charge. Rate quoted includes cost of all materials, labour charges, conveyance, tools and all other incidental charges etc., complete. | M2 | 480 |
| 953 | 1546 | Arresting leakage through Masonry consruction joints. The scope of work includes routing out the vertical cracks along construction joints and providing a bond coat of CERA BOND SBR / TEC BOND SBR /Sika Latex Power/NACC latex/ Dr. FIXIT PIDICRETE URP SBR LATEX followed by filling the cracks with repair mortar admixed with CERA EXPAN 250 / TEC SWELL/Sika Intra Plast/NACC Expan/Dr. FIXIT PIDICRETE AM 250. The scope also includes placing of grouting nipples on the neatly finished surface at adequate spacing and grouting cement slurry admixed with CERA EXPAN 250 / TEC SWELL/Sika Intra Plast/NACC Expand/Dr. FIXIT PIDICRETE AM 250 using hand operated grouting pump. The treated surface shall then be finished with two coats of CERAFLEX / TEC WAVE 3000 / Sika Rain gard/NACC Roof Coating/ Dr. FIXIT NEW COAT. All as per manufacturers recommendations / standard specifications and instructions of Engineer-in-charge.Rate quoted includes cost of all materials , labour charges, conveyance, tools and other incidental charges etc.complete but excluding cost of cement which will be issued free of cost at BHEL stores. | RM | 252.16 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 954 | 1547 | Providing aluminum Sheet Flashing. The scope of work includes cutting a neat groove along the brick wall and fixing Aluminum sheet flashing of 1' to 1'6" as required including re-filling the grooves and sealing the joints with CERA SEAL / TEC POLYSEAL G /Sika Polysulphide/NACC poly seal gun grade polysulphide sealant/Dr. FIXIT PU SAEALANT.All as per Manufacturer's recommendations / standard specifications and instructions of Engineer-in-Charge. Rate quoted includes cost of all materials, labour charges, conveyance, tools and other incidental charges etc., complete. | RM | 461.42 |
| 955 | 1160A | Labour charges for fixing PVC water pipes and specials conforming to ISS on walls and floors with clamps at one metre spacings, joining with proper adhesive as suggested by manufacturers, cutting and making good the wall etc. complete. (internal work - exposed on walls). PVC Pipes will be supplied by BHEL stores at free of Cost. PVC Pipe 18/20 mm OD | RM | 70.33 |
| 956 | 1160B | Labour charges for fixing PVC water pipes and specials conforming to ISS on walls and floors with clamps at one metre spacings, joining with proper adhesive as suggested by manufacturers, cutting and making good the wall etc. complete. (internal work - exposed on walls). PVC Pipes will be supplied by BHEL stores at free of Cost. PVC Pipe 25 mm OD | RM | 84.87 |
| 957 | 1160C | Labour charges for fixing PVC water pipes and specials conforming to ISS on walls and floors with clamps at one metre spacings, joining with proper adhesive as suggested by manufacturers, cutting and making good the wall etc. complete. (internal work - exposed on walls). PVC Pipes will be supplied by BHEL stores at free of Cost. PVC Pipe 32 mm OD | RM | 85.9 |
| 958 | 1160D | Labour charges for fixing PVC water pipes and specials conforming to ISS on walls and floors with clamps at one metre spacings, joining with proper adhesive as suggested by manufacturers, cutting and making good the wall etc. complete. (internal work - exposed on walls). PVC Pipes will be supplied by BHEL stores at free of Cost. PVC Pipe 40 mm OD | RM | 120.85 |
| 959 | 1160E | Labour charges for fixing PVC water pipes and specials conforming to ISS on walls and floors with clamps at one metre spacings, joining with proper adhesive as suggested by manufacturers, cutting and making good the wall etc. complete. (internal work - exposed on walls). PVC Pipes will be supplied by BHEL stores at free of Cost. PVC Pipe 50 mm OD | RM | 145.21 |
| 960 | 1161A | Labour charges for laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately. PVC pipes & Specials will be supplied by BHEL at free of cost. PVC Pipe 18/20 mm OD | RM | 11.39 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 961 | 1161B | Labour charges for laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately. PVC pipes & Specials will be supplied by BHEL at free of cost. PVC Pipe 25 mm OD | RM | 14.55 |
| 962 | 1161C | Labour charges for laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately. PVC pipes & Specials will be supplied by BHEL at free of cost. PVC Pipe 32 mm OD | RM | 14.92 |
| 963 | 1161D | Labour charges for laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately. PVC pipes & Specials will be supplied by BHEL at free of cost. PVC Pipe 40 mm OD | RM | 20.76 |
| 964 | 1161E | Labour charges for laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately.PVC pipes & Specials will be supplied by BHEL at free of cost. PVC Pipe 50 mm OD | RM | 23.96 |
| 965 | 1161F | Labour charges for laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately.PVC pipes & Specials will be supplied by BHEL at free of cost. PVC Pipe 63 mm OD | RM | 31.5 |
| 966 | 1161G | Labour charges for laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenchesand refilling will be paid separately.PVC pipes & Specials will be supplied by BHEL at free of cost. PVC Pipe 75 mm OD | RM | 43.14 |
| 967 | 1161H | Labour charges for laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately.PVC pipes & Specials will be supplied by BHEL at free of cost. PVC Pipe 90 mm OD | RM | 53.27 |
| 968 | 1161I | Labour charges for laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately.PVC pipes & Specials will be supplied by BHEL at free of cost. PVC Pipe 110 mm OD | RM | 59.01 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 969 | 1161J | Labour charges for laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately.PVC pipes & Specials will be supplied by BHEL at free of cost. PVC Pipe 140 mm OD | RM | 63.4 |
| 970 | 1161K | Labour charges for laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately.PVC pipes & Specials will be supplied by BHEL at free of cost. PVC Pipe160 mm OD | RM | 78.81 |
| 971 | 1161L | Labour charges for laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately.PVC pipes & Specials will be supplied by BHEL at free of cost. PVC Pipe 180 mm OD | RM | 88.73 |
| 972 | 1161M | Labour charges for laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately.PVC pipes & Specials will be supplied by BHEL at free of cost. PVC Pipe 200 mm OD | RM | 97.65 |
| 973 | 1162A | Labour charges for fixing in position of brass wheel valve / gate valve (G.M) with C.I wheel etc. complete. 15 to 25 mm nominal bore | EA | 31.74 |
| 974 | 1162B | Labour charges for fixing in position of brass wheel valve / gate valve (G.M) with C.I wheel etc. complete. 32 mm nominal bore | EA | 35.9 |
| 975 | 1162C | Labour charges for fixing in position of brass wheel valve / gate valve (G.M) with C.I wheel etc. complete. 40 mm nominal bore | EA | 39.76 |
| 976 | 1162D | Labour charges for fixing in position of brass wheel valve / gate valve (G.M) with C.I wheel etc. complete. 50 mm nominal bore | EA | 43.52 |
| 977 | 1162E | Labour charges for fixing in position of brass wheel valve / gate valve (G.M) with C.I wheel etc. complete. 65 mm nominal bore | EA | 49.5 |
| 978 | 1162F | Labour charges for fixing in position of brass wheel valve / gate valve (G.M) with C.I wheel etc. complete. 80 mm nominal bore | EA | 55.37 |
| 979 | 1162G | Labour charges for fixing in position of brass wheel valve / gate valve (G.M) with C.I wheel etc. complete. 100 mm nominal bore | EA | 34.59 |
| 980 | 1163A | Labour charges for fixing in position C.P brass bib cock / stop cock (Medium Duty) - 15 mm Nominal Bore | EA | 23.65 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 981 | 1163B | Labour charges for fixing in position C.P brass bib cock / stop cock (Medium Duty) - 20 mm Nominal Bore | EA | 27.88 |
| 982 | 1163C | Labour charges for fixing in position C.P brass bib cock / stop cock (Medium Duty) - 25 mm Nominal Bore | EA | 19.03 |
| 983 | 1164A | Labour charges for providing lead caulked joints to C.I pipes and specials including testing of joints but excluding cost of pig lead, Spun yarn, fire wood etc., which will be supplied by BHEL at free of cost. 80/100 mm dia pipe. | EA | 215.14 |
| 984 | 1164B | Labour charges for providing lead caulked joints to C.I pipes and specials including testing of joints but excluding cost of pig lead, Spun yarn, fire wood etc., which will be supplied by BHEL at free of cost. 125 / 150 mm dia pipe | EA | 321.92 |
| 985 | 1164C | Labour charges for providing lead caulked joints to C.I pipes and specials including testing of joints but excluding cost of pig lead, Spun yarn, fire wood etc., which will be supplied by BHEL at free of cost 200 / 250 mm dia pipe. | EA | 485.14 |
| 986 | 1164D | Labour charges for providing lead caulked joints to C.I pipes and specials including testing of joints but excluding cost of pig lead, Spun yarn, fire wood etc., which will be supplied by BHEL at free of cost 300 / 350 mm dia pipe. | EA | 647.79 |
| 987 | 1164E | Labour charges for providing lead caulked joints to C.I pipes and specials including testing of joints but excluding cost of pig lead, Spun yarn, fire wood etc., which will be supplied by BHEL at free of cost 400 / 450 mm dia pipe. | EA | 916.2 |
| 988 | 1165A | Labour charges for providing flanged joints to double flanged C.I pipes and specials including testing of joints. Materials such as 3 mm thick rubber insertions, suitable bolts and nuts etc. will be supplied by BHEL at free of cost. 100 / 125 mm dia. pipe. | EA | 75.19 |
| 989 | 1165B | Labour charges for providing flanged joints to double flanged C.I pipes and specials including testing of joints.Materials such as 3 mm thick rubber insertions, suitable bolts and nuts etc. will be supplied by BHEL at free ofcost. 150 / 200 mm dia. pipe. | EA | 85.8 |
| 990 | 1165C | Labour charges for providing flanged joints to double flanged C.I pipes and specials including testing of joints.Materials such as 3 mm thick rubber insertions, suitable bolts and nuts etc. will be supplied by BHEL at free ofcost. 250 / 300 mm dia. pipe. | EA | 107.26 |
| 991 | 1165D | Labour charges for providing flanged joints to double flanged C.I pipes and specials including testing of joints.Materials such as 3 mm thick rubber insertions, suitable bolts and nuts etc. will be supplied by BHEL at free of cost. 350 / 400 mm dia. pipe. | EA | 128.88 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 992 | 1165E | Labour charges for providing flanged joints to double flanged C.I pipes and specials including testing of joints.Materials such as 3 mm thick rubber insertions, suitable bolts and nuts etc. will be supplied by BHEL at free ofcost. 450 / 500 mm dia pipe. | EA | 156.76 |
| 993 | 322A | Brickwork with Pulverised Fuel Ash – Cement Bricks of Minimum Compressive Strength 5.0 N / MM2, confirming to IS 16720, in foundation and Plinth using Cement Mortar 1:3Cement Consumption 112.20 KG/ CUM | M3 | 3935.8 |
| 994 | 322B | Brickwork with Pulverised Fuel Ash – Cement Bricks of Minimum Compressive Strength 5.0 N / MM2, confirming to IS 16720, in foundation and Plinth using Cement Mortar 1:4 Cement Consumption 83.60 KG/ CUM | M3 | 3932.23 |
| 995 | 322C | Brickwork with Pulverised Fuel Ash – Cement Bricks of Minimum Compressive Strength 5.0 N / MM2, confirming to IS 16720, in foundation and Plinth using Cement Mortar 1:5 Cement Consumption 68.20 KG/ CUM | M3 | 3577.74 |
| 996 | 322D | Brickwork with Pulverised Fuel Ash – Cement Bricks of Minimum Compressive Strength 5.0 N / MM2, confirming to IS 16720, in foundation and Plinth using Cement Mortar 1:6 Cement Consumption 55.00 KG/ CUM | M3 | 3928.63 |
| 997 | 227 | Chipping of unsound/weak concrete material from slabs, beams, columns etc. with manual Chisel and/ or by standard power driven percussion type or of approved make including tapering of all edges, making square shoulders of cavities including cleaning the exposed concrete surface and reinforcement with wire brushes etc. and disposal of debris for all lead and lifts all complete as per direction of Engineer-In-Charge - 75mm average thickness | M2 | 315.94 |
| 998 | 228 | Chipping of unsound/weak concrete material from slabs, beams, columns etc. with manual Chisel and/ or by standard power driven percussion type or of approved make including tapering of all edges, making square shoulders of cavities including cleaning the exposed concrete surface and reinforcement with wire brushes etc. and disposal of debris for all lead and lifts all complete as per direction of Engineer-In-Charge - 50 mm average thickness | M2 | 214.27 |
| 999 | 229 | Chipping of unsound/weak concrete material from slabs, beams, columns etc. with manual Chisel and/ or by standard power driven percussion type or of approved make including tapering of all edges, making square shoulders of cavities including cleaning the exposed concrete surface and reinforcement with wire brushes etc. and disposal of debris for all lead and lifts all complete as per direction of Engineer-In-Charge - 25 mm average thickness | M2 | 105.96 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 1000 | 230 | Cleaning of reinforcement from rust from the reinforcing bars to give it a total rust free steel surface by using alkaline chemical rust remover of approved make with paint brush and removing loose particles after 24 hours of its application with wire brush and thoroughly washing with water and allowing it to dry, all complete as per direction of Engineer-In-Charge-Bars Upto and including 12 mm diameter | M | 6.76 |
| 1001 | 231 | Cleaning of reinforcement from rust from the reinforcing bars to give it a total rust free steel surface by using alkaline chemical rust remover of approved make with paint brush and removing loose particles after 24 hours of its application with wire brush and thoroughly washing with water and allowing it to dry, all complete as per direction of Engineer-In-Charge- Bars above 12 mm diameter | M | 13.5 |
| 1002 | 232 | Drilling suitable holes in reinforced or plain cement concrete with power driven drill machine to a minimum depth of 100mm upto 200mm in RCC beams, lintels, columns and slabs to introduce steel bars for sunshades/balconies including fixing the steel bars in position using epoxy resin anchor grout of approved make but excluding the cost of reinforcement, all complete as per direction of Engineer-In-Charge. - Upto and including 12mm dia | EACH | 123.51 |
| 1003 | 233 | Providing, mixing and applying bonding coat of approved adhesive on chipped portion of RCC as per specifications and direction of Engineer-In-charge complete in all respect. SBR Polymer (@10% of cement weight) modified cementitious bond coat @ 2.2 kg cement per sqm of surface area mixed with specified proportion of approved polymer | M2 | 104.31 |
| 1004 | 234A | Providing, mixing and applying SBR polymer (of approved make) modified Cement mortar in proportion of 1:4 (1 cement: 4 graded coarse sand with polymer minimum 2% by wt. of cement used) as per specifications and directions of Engineer-in-charge. Note: Measurement and payment: The pre-measurement of thickness shall be done just after the surface preparation is completed and Payment under this item shall be made only after proper wet curing has been done and surface has been satisfactorily evaluated by sounding / tapping with a blunt metal instrument and/or the 75mm size cube crushing strength at the end of 28 days to be not less than 30 N/Sqmm2) - 12 mm average thickness. | M2 | 300.19 |

| Sl. No | BHEL SR Ref | Item Description | Unit | Estimate Rate |
|---|---|---|---|---|
| 1005 | 234B | Providing, mixing and applying SBR polymer (of approved make) modified Cement mortar in proportion of 1:4 (1 cement: 4 graded coarse sand with polymer minimum 2% by wt. of cement used) as per specifications and directions of Engineer-in-charge. Note: Measurement and payment: The pre-measurement of thickness shall be done just after the surface preparation is completed and Payment under this item shall be made only after proper wet curing has been done and surface has been satisfactorily evaluated by sounding / tapping with a blunt metal instrument and/or the 75mm size cube crushing strength at the end of 28 days to be not less than 30 N/Sqmm2) - 25 mm average thickness in 2 layers | M2 | 439.75 |
| 1006 | 234C | Providing, mixing and applying SBR polymer (of approved make) modified Cement mortar in proportion of 1:4 (1 cement: 4 graded coarse sand with polymer minimum 2% by wt. of cement used) as per specifications and directions of Engineer-in-charge. Note: Measurement and payment: The pre-measurement of thickness shall be done just after the surface preparation is completed and Payment under this item shall be made only after proper wet curing has been done and surface has been satisfactorily evaluated by sounding / tapping with a blunt metal instrument and/or the 75mm size cube crushing strength at the end of 28 days to be not less than 30 N/Sqmm2) - 50 mm average thickness in 3 layers | M2 | 879.5 |

Note:

1. Mentioned rates excludes GST & BOCW Cess %.
2. Unit M2 means sqm.
3. Unit M3 means cum.