

# **Bharat Heavy Electricals Limited**

**High Pressure Boiler Plant**

**Tiruchirappalli – 620 014. India**

**Civil Engineering Department (Factory)**

## **TENDER DOCUMENT (PRICE BID)**

**Name of work** : AMC in HPBP, SSTP, Unit II, etc. and connected peripheral area in the entire Factory complex of BHEL, Tiruchy

**Value of work** : Rs. 600.00 Lakh

**Tender Notice No.** : 02/12-13

**Tender Schedule No.** : 04/12-13

**Period of Contract** : 15 Months

**Issued to** :

**BHARAT HEAVY ELECTRICALS LIMITED  
TIRUCHIRAPALLI - 620 014**

**SCHEDULE - A**

**NAME OF WORK :**        **AMC in HPBP, SSTP, Unit II, etc. and connected peripheral area in the entire Factory complex of BHEL, Tiruchy**

I / We \_\_\_\_\_ have read the condition of tender attached hereto and agree to abide by such conditions. I/We offer to execute the works in **T.S No. 04/12-13 for a period of 15 months** at the percentage below / at par / above the rates contained in BHEL Schedule of Rates 2008-09 quoted in the schedule appended below:

I / We further agree to sign an Agreement Bond to abide by the General Conditions of Contract and to carryout all works according to the specifications for materials and works of Bharat Heavy Electricals Limited, Tiruchirapalli-620 014. In case of acceptance of the tender by the BHEL, I/We bind myself/ourselves to execute the contract documents within 7 days after notice that my/our tender has been accepted and this contract has been awarded to me/us and thus failing which I/We shall have no objection to the forfeiture of the Earnest Money amount to **Rs.2,00,000/-** lodged with Bharat Heavy Electricals Limited, Tiruchirapalli-620 014.

I / We further agree to include all tools & plants and consumables required for the work in my / our scope but required power and water will be provided at one point by BHEL at free of cost and based on this, we have quoted our percentage.

Sl. No.	Approx. Value of work	Below (- %) / At par (0%) / Above (+ %) of the rates provided in BHEL Schedules of Rates 2008-09	
		In Figures	In Words
(1)	(2)	(3)	(4)
1.	<b>Rs.600 Lakh</b>		

CONTRACTOR'S ADDRESS:

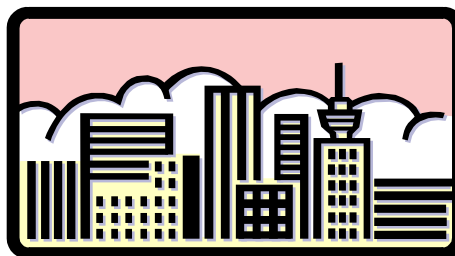
**BHARAT HEAVY ELECTRICALS LIMITED**

**TIRUCHIRAPPALLI – 620 014**

**CIVIL ENGINEERING DEPARTMENT**

**BHEL  
SCHEDULE OF RATES  
2008-09**

**BASED ON CPWD ANALYSIS OF RATES**



## PREFACE

1. BHEL Schedule of Rates 2008-09 has been prepared based on CPWD Analysis of rates & for the items which does not finds place the rates are arrived based on BHEL data.
2. Materials cost and labour wage are as per State PWD Schedule of Rates, Tiruchi Circle and cost for materials which does not finds place, competitive local market rates are taken. Hire charges for road machineries are as per Highways Department Schedule of Rates.
3. Cement, Reinforcement Steel & Structural Steel required for the works will be issued by BHEL at Stores at free of cost.
4. Water required for the works will be provided by this organization at free of cost at only one point, subject to availability. In case of failure of water supply, contractor has to make his own arrangements for water without any extra claim.
5. All the item rates in this S.R includes :-
  - i) 13.61% of labour wage towards contractor's contribution for P.F.
  - ii) 4.75% of labour wage towards contractor's contribution for ESI.
  - iii) 10 % towards contractor's profit & overheads.
6. A floor means a floor of maximum height of 4.50 metre.
7. Items of work not finds place in this Schedule of Rates and if required later will be included as and when necessary.
8. This Schedule of Rates 2008-09 has the financial concurrence and approval of competent authority.

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## I - EARTH WORK

Item No.	Description	UNIT	RATE (Rs.P)
0101	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.		
A	All kinds of soil except rock	CUM	90.60
B	Ordinary rock	CUM	141.95
C	Hard rock (requiring blasting)	CUM	242.90
D	Hard rock (blasting prohibited)	CUM	291.40
0102	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. <u>Rate also includes bailing or pumping out water during excavation due to subsoil water, rain etc.</u>		
A	All kinds of soil except rock	CUM	99.65
B	Ordinary rock	CUM	156.15
C	Hard rock (requiring blasting)	CUM	267.20
D	Hard rock (blasting prohibited)	CUM	320.55
0103	Earth work for surface 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.		

Item No.	Description	UNIT	RATE (Rs.P)
A	All kinds of soil except rock	CUM	89.30
B	Ordinary rock	CUM	133.45
C	Hard rock (requiring blasting)	CUM	224.30
D	Hard rock (blasting prohibited)	CUM	285.35
0104	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.	SQM	4.30
0105	Open timbering in trenches including strutting and shoring complete. (Measurements to be taken of the face area timbered)		
A	Depth not exceeding 1.5 metre	SQM	33.40
B	Depth exceeding 1.5 metre but not exceeding 3 metre	SQM	34.85
C	Depth exceeding 3 metre but not exceeding 4.5 metre	SQM	37.30
0106	Extra rate for quantities of works executed.		
A	In or under water and/ or liquid mud, including pumping out water as required.	Metre Depth	20 %
B	In or under foul position, including pumping out water as required.	Metre Depth	25 %
	Note :- The extra percentage is applicable in respect of each item, but limited to quantities of work done in these difficult conditions. The unit, namely , metre depth, to be considered for payment, shall be the depth measured from the sub soil water level upto the centre of gravity of the quantity executed in difficult conditions. The depth shall be reckoned correct to 0.10 metre, 0.05 metre or more shall be taken as 0.10 metre and less than 0.05 metre ignored.		
0107	Extra for every additional lift of 1.5 metre or part thereof in :		
A	All kinds of soil excluding rock.	CUM	15.90
B	Ordinary or hard rock	CUM	28.55
0108	Extra for every additional lead of 10 metre or part thereof over the initial lead for all kinds of soil.	CUM	15.90
0109	Supply and filling with river sand in foundation, plinth, under floor etc. including watering, ramming, consolidating and dressing complete.	CUM	267.95

Item No.	Description	UNIT	RATE (Rs.P)
0111	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.	CUM	38.70
0112	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.	CUM	45.70
0113	Ploughing the existing ground in all kinds of soil to a depth of 15 to 25 cm and watering the same.	SQM	4.35
0114	Labour charges for breaking clods, consolidating, sectioning etc.	CUM	2.40
0115	Forming turfing in slopes with initial watering, all as per instructions of Engineer-in-charge.	SQM	13.15
0116	Extra rate for consolidation of bunds etc. by means of the following, including watering.		
A	Hand roller	CUM	7.90
B	Power roller including hire charges.	CUM	13.15
0117	Benching hard rock upto an average 10 cm depth	SQM	257.80
0118	Drilling holes in hard granite/RCC structure:		
A	45 mm dia	R.M	84.70
B	50 mm dia	R.M	101.05
C	75mm dia	R.M	114.95
0119	Bailing or pumping out water from trenches, foundations etc., at all depths wherever necessary as per standard specifications.	HP/Hr	41.25
0120	Clearing grass and removal of rubbish upto a distance of 50 metre.	SQM	1.15
0121	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.	SQM	2.20

Item No.	Description	UNIT	RATE (Rs.P)
0122	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.		
A	Beyond 30 cm girth upto and including 60 cm girth	Tree	68.75
B	Beyond 60 cm girth upto and including 120 cm girth	Tree	301.85
C	Beyond 120 cm girth upto and including 240 cm girth	Tree	1389.55
D	Above 240 cm girth	Tree	2791.00
0123	Supplying Chlorpyrifos / Lindane emulsifiable concentrate of 20 % (chemical emulsion) in sealed containers at site of work.	Litre	174.30
0124	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 around 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). Requirement of qty of chemical emulsion for 9 SQM of plinth area: Chlorpyrifos/Lindane E.C 20 % with 1 % concentration - 17.10 litre	SQM	74.30
0125	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. Requirement of quantity of chemical emulsion for 10 RM : Chlorpyrifos/Lindane E.C 20 % with 1 % concentration - 1.125 litre		
A	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 & rodding etc. complete.	R.M	5.85
B	Along the external wall below concrete or masonry apron using chemical emulsion @ 2.25 litres per linear metre including drilling and plugging holes etc.	R.M	9.20

Item No.	Description	UNIT	RATE (Rs.P)
C	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)	SQM	45.30
D	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)	R.M	6.95
E	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)	R.M	79.85
0126	Hire charges for engaging earth moving machinery (pockline) 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.	Hour	660.00

## II - CONCRETE WORKS

Item No.	Description	UNIT	RATE (Rs.P)
0201	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 centering and shuttering.		
A	1:1:2 with graded stone aggregate 20 mm nominal size.  CEMENT CONSUMPTION - 610.00 K.G/CUM	CUM	1305.50
B	1:1.5:3 with graded stone aggregate 20 mm nominal size.  CEMENT CONSUMPTION - 400.00 K.G/CUM	CUM	1250.20
C	1:2:4 with graded stone aggregate 20 mm nominal size.  CEMENT CONSUMPTION - 320.00 K.G/CUM	CUM	1293.30
D	1:2:4 with graded stone aggregate 40 mm nominal size.  CEMENT CONSUMPTION - 320.00 K.G/CUM	CUM	1161.25
E	1:3:6 with graded stone aggregate 40 mm nominal size.  CEMENT CONSUMPTION - 220.00 K.G/CUM	CUM	1184.40
F	1:4:8 with graded stone aggregate 40 mm nominal size.  CEMENT CONSUMPTION - 170.00 K.G/CUM	CUM	1175.85
G	1:5:10 with graded stone aggregate 40 mm nominal size.  CEMENT CONSUMPTION - 130.00 K.G/CUM	CUM	1168.95
0202	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.		
A	1:1:2 with graded stone aggregate 20 mm nominal size - All works upto plinth level.  CEMENT CONSUMPTION - 610.00 K.G/CUM	CUM	1399.60

Item No.	Description	UNIT	RATE (Rs.P)
B	1:1.5:3 with graded stone aggregate 20 mm nominal size - All works upto plinth level.  CEMENT CONSUMPTION - 400.00 K.G/CUM	CUM	1344.35
C	1:2:4 with graded stone aggregate 20 mm nominal size - All works upto plinth level.  CEMENT CONSUMPTION - 320.00 K.G/CUM	CUM	1387.45
D	1:1:2 with graded stone aggregate 20 mm nominal size - Above plinth to floor five level.  CEMENT CONSUMPTION - 610.00 K.G/CUM	CUM	1707.65
E	1:1.5:3 with graded stone aggregate 20 mm nominal size - Above plinth to floor five level.  CEMENT CONSUMPTION - 400.00 K.G/CUM	CUM	1652.35
F	1:2:4 with graded stone aggregate 20 mm nominal size - Above plinth to floor five level.  CEMENT CONSUMPTION - 320.00 K.G/CUM	CUM	1695.45
0203	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.	M.T	3873.85
0204	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.		
A	Foundations, footings, bases of columns, equipment foundations, precast slabs, kerbs etc. for mass concrete.	SQM	113.15
B	Walls (any thickness) including attached pilasters, plinth, stairs, chimney, shafts and string courses etc.	SQM	172.65
C	Suspended floors, roofs, landings, balconies, access platform and sunshades.	SQM	178.40
D	Lintels, beams, plinth beams, girders, bressumers and cantilevers	SQM	154.85
E	Columns, pillars, piers, abutments, posts and struts.	SQM	226.50
F	Arches, domes, vaults upto 6 m span	SQM	517.55

Item No.	Description	UNIT	RATE (Rs.P)
G	Well steining	SQM	309.20
H	Extra for shuttering in circular work 20 % of the respective centring and shuttering items		
I	Pockets or holes in foundations for holding down bolts.	SQM	444.95
0205	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 thereof. For suspended floors, roofs, landing, beams & balconies (Plan area to be measured)	SQM	100.95
0206	Providing and laying in position machine batched, machine mixed and machine vibrated design mix of reinforced cement concrete of specified grade for structural 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.  CEMENT CONSUMPTION - 383.00 K.G PER CUM	CUM	1680.40
0207	Add or deduct for providing richer or leaner mixes respectively at foundation, basement and upto Floor V level.		
A	Providing M-25 grade concrete instead of M-20 grade	CUM	9.10
B	Providing M-30 grade concrete instead of M-20 grade	CUM	12.45
C	Providing M-35 grade concrete instead of M-20 grade	CUM	15.15
	M 20 - CEMENT CONSUMPTION - 383.00 K.G PER CUM		
	M 25 - CEMENT CONSUMPTION - 410.00 K.G PER CUM		
	M 30 - CEMENT CONSUMPTION - 420.00 K.G PER CUM		
	M 35 - CEMENT CONSUMPTION - 428.00 K.G PER CUM		
0208	Extra for laying plain / reinforced concrete in or under foul conditions.	CUM	61.50

Item No.	Description	UNIT	RATE (Rs.P)
0209	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.		
A	75mm thick CEMENT CONSUMPTION - 24.76 K.G PER SQM	SQM	437.00
B	60 mm thick CEMENT CONSUMPTION - 20.68 K.G PER SQM	SQM	428.90
0210	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. CEMENT CONSUMPTION - 320.00 K.G PER CUM	CUM	4229.90
0211	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 & finishing with neat cement punning on exposed surfaces but excluding pointing. CEMENT CONSUMPTION - 320.00 K.G PER CUM	CUM	3896.75
0212	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.	CUM	338.40
0213	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 & fabrication charges.		
A	50 mm thick CEMENT CONSUMPTION - 12.80 K.G PER SQM	SQM	289.60
B	40 mm thick CEMENT CONSUMPTION - 10.24 K.G PER SQM	SQM	248.85

Item No.	Description	UNIT	RATE (Rs.P)
0214	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 & fabrication charges.		
A	75 mm thick CEMENT CONSUMPTION - 19.84 K.G PER SQM	SQM	177.00
B	50 mm thick CEMENT CONSUMPTION - 12.80 K.G PER SQM	SQM	111.45
0215	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. CEMENT CONSUMPTION - 34.73 K.G PER SQM	SQM	452.55
0216	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.		
A	69mm thick slab CEMENT CONSUMPTION - 26.03 K.G PER SQM	SQM	352.75
B	150mm thick slab CEMENT CONSUMPTION - 52.00 K.G PER SQM	SQM	476.95

Item No.	Description	UNIT	RATE (Rs.P)
0217	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 & fabrication charges.	CUM	2690.50
0218	CEMENT CONSUMPTION - 320.00 K.G PER CUM 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. CEMENT CONSUMPTION - 32.92 K.G PER SQM	SQM	545.65
0219	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.	SQM	241.75
0220	Providing and fixing in position of copper plate as per design for expansion joints.	K.G	219.05
0221	Providing and filling in position of blown bitumen in expansion joints.	CM DEPTH/ CM WIDTH/ METRE	3.80
0222	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.	CM DEPTH/ CM WIDTH/ METRE	1.10
0223	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.	CM DEPTH/ METRE	3.20
0224	Extra for providing and mixing water proofing material 'Impermo' or equivalent in cement concrete work at 1 Kg per 50 Kg of cement.	BAG OF 50 K.G OF CEMENT	26.00
0225	Labour charges for attending to spalling of concrete in ceiling of buildings. Scope of step by step activities are given:- i) Removing the loose concrete / plaster by knocking with a 2 lbs hammer, scrapping with steel wire brush and exposing the sound concrete. ii) Removing the rust in reinforcement by scraping with steel brush.	SQM	103.75

Item No.	Description	UNIT	RATE (Rs.P)
	<p>iii) Washing the concrete surface and reinforcement. (By jetting water)</p> <p>iv) Applying passivator coat (2 K.G cement &amp; 1 Lit. Roff bond repair) on rusted reinforcement and bond coat using CM 1:3 &amp; Roff bond repair (5 K.G cement &amp; 1 Lit. Roff bond repair) in layers of 6 mm thick to match with the existing surface. Roff bond repair mix shall be prepared in the proportion as directed by Engineer-in-charge.</p> <p style="text-align: center;">OR</p> <p>Applying rust primer on the steel and maricrete mix to the surface to be attended to by adding water in proportion as directed by Engineer-in-charge in layers of 6 mm thick to match with the existing surface.</p> <p>v) Finishing the surface with clean trowel.</p> <p>Note:-</p> <p>I) Cement &amp; the said chemicals will be supplied by BHEL at Stores at free of cost.</p> <p>ii) Rate includes scaffolding, tools, labour, incidentals etc. complete.</p>		
0226	<p>Providing and placing in position PVC water stops serrated with central bulb, 225 mm wide &amp; 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.</p>	R.M	365.85

### III - MASONRY WORKS

Item No.	Description	UNIT	RATE (Rs.P)
0301	Random rubble masonry in foundation and basement in the mix given below including simultaneous flush pointing, all as per standard specifications.		
A	Cement mortar 1:5 Cement consumption 102.30 K.G/CUM	CUM	1017.80
B	In cement mortar 1:6 Cement consumption 82.50 K.G/CUM	CUM	1014.40
0302	Coursed rubble masonry (second sort) with hard stone in foundation and plinth with Cement mortar 1:6. Cement consumption 75.00 K.G/CUM	CUM	1147.90
0303	Extra for random rubble masonry with hard stone curved on plan for a mean radius not exceeding 6 metre.	CUM	158.60
0304	Extra for random rubble and coursed rubble masonry with hard stone in superstructure above plinth level and upto floor five level.	CUM	329.60
0305	Extra for laying stone work in or under foul position.	CUM	61.50
0306	Labour charges for providing random rubble masonry in foundation & basement in the mixes specified including simultaneous flush pointing, all as per standard specifications. Rough stones & bond stones will be supplied by BHEL at free of cost, at site of work. <b><u>Deduction to be made from the rate of item No. 0301 A &amp; B</u></b>	CUM	388.25
0307	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.	CUM	718.55
0308	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.	CUM	436.15
0309	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. Average cement consumption 23.77 K.G/CUM	CUM	2072.80

Item No.	Description	UNIT	RATE (Rs.P)
0310	Brick work with F.P.S bricks (second class ground moulded chamber bricks) of class designation 50/75 in foundation and plinth in:		
A	Cement mortar 1:3 Cement consumption 127.50 K.G/CUM	CUM	2021.60
B	Cement mortar 1:4 Cement consumption 95.00 K.G/CUM	CUM	2016.05
C	Cement mortar 1:5 Cement consumption 77.50 K.G/CUM	CUM	2013.05
D	Cement mortar 1:6 Cement consumption 62.50 K.G/CUM	CUM	2010.45
0311	Brick work with modular bricks (second class table moulded chamber bricks) of class designation 50/75 in foundation and plinth in:		
A	Cement mortar 1:3 Cement consumption 112.20 K.G/CUM	CUM	2129.20
B	Cement mortar 1:4 Cement consumption 83.60 K.G/CUM	CUM	2124.30
C	Cement mortar 1:5 Cement consumption 68.20 K.G/CUM	CUM	2121.65
D	Cement mortar 1:6 Cement consumption 55.00 K.G/CUM	CUM	2119.40
0312	Extra for Brick work in superstructure above plinth upto floor three level in all shapes and sizes.	CUM	139.70
0313	Extra for brick work with bricks curved on plan upto a mean radius not exceeding 6 metre.	CUM	246.35
0314	Extra charges for providing half brick masonry, brick on edge walls, fins, balustrade etc. over and above the brick work rates of 0310 & 0311.	CUM	148.40
0315	Honey-comb brick work 10 / 11.40 cm thick with FPS bricks of class designation 50 in cement mortar 1:4. Cement consumption 6.56 K.G/SQM	SQM	181.05
0316	Extra for laying brick work in or under foul position.	CUM	61.50
0317	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.	CUM	509.65

<b>Item No.</b>	<b>Description</b>	<b>UNIT</b>	<b>RATE (Rs.P)</b>
0318	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.	SQM	93.30
0319	Same as per item No. 0318 but includes providing chickenmesh before applying plastering.	SQM	123.30

#### IV - WOOD WORKS

Item No.	Description	UNIT	RATE (Rs.P)
0401	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.		
A	In Teak wood	CUM	82486.35
B	In Country wood	CUM	32883.70
0402	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.		
A	In Teak wood	CUM	87947.70
B	In Country wood	CUM	29215.20
0403	Labour charges for wrought and put up in position for all kinds of frames including fixing of holdfasts etc. complete. Rate excludes cost of wood and holdfasts.	CUM	4838.50
0404	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 & fitting charges.		
A	In Teak wood	SQM	3693.80
B	In Country wood	SQM	1687.40
0405	Manufacture, supply and fixing in position of 35 mm thick fully panelled best wooden door shutters. All as per standard specifications & drawings. (Excluding door frame) Rate excludes furniture fittings.		
A	In Teak wood (single leaved shutter)	SQM	2607.05
B	In Teak wood (double leaved shutter)	SQM	2531.55
C	In Country wood (single leaved shutter)	SQM	1195.40
D	In Country wood (double leaved shutter)	SQM	1170.65
0406	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)		

Item No.	Description	UNIT	RATE (Rs.P)
A	Single leaved shutter	SQM	2074.35
B	Double leaved shutter	SQM	2184.40
0407	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 & drawings.	SQM	1202.30
0408	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.		
A	In Teak wood. 35 mm thick shutter with 4 mm plain glass panes.	SQM	4643.95
B	In Teak wood. 35 mm thick shutter with 4 mm pin headed glass panes.	SQM	4607.00
C	In Teak wood. 35 mm thick shutter with 3 mm pin headed glass panes.	SQM	4595.15
D	In Teak wood. 35 mm thick shutter with 16 mm teak panels.	SQM	5076.90
E	In Teak wood. 35 mm thick shutter with partly panelled and partly glazed. (16 mm panels and 4 mm plain glass panes)	SQM	4887.70
F	In Country wood. 35 mm thick shutter with 4 mm plain glass panes.	SQM	2198.55
G	In Country wood. 35 mm thick shutter with 4 mm pin headed glass panes.	SQM	2161.60
H	In Country wood. 35 mm thick shutter with 3 mm pin headed glass panes.	SQM	2149.70
I	In Country wood. 35 mm thick shutter with 16 mm country wood panels.	SQM	2318.65
J	In Country wood. 35 mm thick shutter with partly panelled and partly glazed. (16 mm country wood panels and 4 mm plain glass panes)	SQM	2263.55

Item No.	Description	UNIT	RATE (Rs.P)
0409	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 & drawings. (Excluding window frame) Rate excludes window frame and furniture fittings.		
A	In Teak wood. 35 mm thick shutter with 4 mm plain glass panes.	SQM	2313.35
B	In Teak wood. 35 mm thick shutter with 4 mm pin headed glass panes.	SQM	2263.00
C	In Teak wood. 35 mm thick shutter with 3 mm pin headed glass panes.	SQM	2246.85
D	In Teak wood. 35 mm thick shutter with 16 mm teak panels.	SQM	2902.95
E	In Teak wood. 35 mm thick shutter with partly panelled and partly glazed. (16 mm teak wood panels and 4 mm plain glass panes)	SQM	2645.30
F	In Country wood. 35 mm thick shutter with 4 mm plain glass panes.	SQM	1339.60
G	In Country wood. 35 mm thick shutter with 4 mm pin headed glass panes.	SQM	1289.30
H	In Country wood. 35 mm thick shutter with 3 mm pin headed glass panes.	SQM	1273.10
I	In Country wood. 35 mm thick shutter with 16 mm country wood panels.	SQM	1503.15
J	In Country wood. 35 mm thick shutter with partly panelled and partly glazed. (16 mm country wood panels and 4 mm plain glass panes)	SQM	1428.10
0410	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.)		
A	In Teak wood with 4 mm plain glass panes for shutter.	SQM	3711.80
B	In Teak wood with 3 mm pin headed glass panes for shutter.	SQM	3651.85
C	In Country wood with 4 mm plain glass panes for shutter.	SQM	1757.65

Item No.	Description	UNIT	RATE (Rs.P)
D	In Country wood with 3 mm pin headed glass panes for shutter.	SQM	1697.70
0411	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.		
A	In Teak wood with 4 mm plain glass panes for shutter.	SQM	4233.70
B	In Teak wood with 3 mm pin headed glass panes for shutter.	SQM	4180.95
C	In Country wood with 4 mm plain glass panes for shutter.	SQM	1920.50
D	In Country wood with 3 mm pin headed glass panes for shutter.	SQM	1867.75
0412	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.		
A	In Teak wood	SQM	3268.75
B	In Country wood	SQM	1522.10
0413	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.		
A	In Teak wood with 4 mm plain glass panes for shutter.	SQM	1728.80
B	In Teak wood with 3 mm pin headed glass panes for shutter.	SQM	1647.25
C	In Country wood with 4 mm plain glass panes for shutter.	SQM	1062.75
D	In Country wood with 3 mm pin headed glass panes for shutter.	SQM	981.20
0414	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.		
A	Fully panelled door shutter / window shutter (excluding door / window frame)	SQM	402.60

Item No.	Description	UNIT	RATE (Rs.P)
B	Partly glazed and partly panelled door shutter / window shutter/ fully glazed window shutter (excluding door / window frame)	SQM	372.35
C	Fully glazed shutter/shutter with frame for ventilator (excluding ventilator frame)	SQM	338.80
0415	Labour charges for fixing doors, windows and ventilators including frames and shutters in position etc. complete.(wood or steel)	SQM	82.30
0416	Labour charges for fixing the following in proper position.		
A	Shutter only for doors, windows, ventilators etc.	SQM	16.45
B	Frame only for doors, windows, ventilators etc.	EACH	118.50
0417	Cutting to size and fixing M.S rods/bars in window and ventilator frames and other petty works. (labour only)	K.G	8.50
0418	Supply and fixing M.S grills for windows, ventilators and also wherever necessary including a priming coat. All according to our design and specification.	K.G	50.80
0419	Supply of MS round or square bars at site of work for windows, ventilators, other petty works etc.	K.G	47.30
0420	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 prelaminate particle board (exterior grade) as flush shutters etc., complete, all as per standard specifications and drawings. Rate includes holdfasts but excludes furniture fittings.	SQM	1717.45
0421	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.	SQM	1761.75
0422	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)	R.M	330.20

Item No.	Description	UNIT	RATE (Rs.P)
0423	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)	R.M	224.10
0424	Providing and fixing curtain rods of the following. Rate includes cost of rods, cutting to required lengths, fixing in position etc. complete.		
A	MS pipe nickel plated 20 mm dia (HD) with nickel plated brackets.	R.M	66.20
B	Anodised aluminium tube of 20 mm dia with suitable brackets.	R.M	43.45
0425	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.	R.M	64.40
0426	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 & drawings.	R.M	1360.45
0427	Supply & fixing the following furniture fittings of approved brand & quality (ISI marked) in the appropriate position of doors, windows, ventilators, cupboards etc. with appropriate screws, nails etc., all as per standard specifications & instructions of Engineer in charge.		
A	Hydraulic door closer - universal type (Medium duty)	EACH	896.50
B	Hydraulic door closer - universal type ( Heavy duty)	EACH	1397.00
C	Brass Mortice lock 100 mm, 6 levers and a pair of brass lever handles	EACH	325.65
D	D type Anodised Aluminium handle - 75 mm	EACH	15.10
E	D type Anodised Aluminium handle - 100 mm	EACH	22.15
F	D type Anodised Aluminium handle - 125 mm	EACH	34.05
G	250 x 12 mm Anodised Aluminium aldrip	EACH	159.45
H	250 x 16 mm Anodised Aluminium aldrip	EACH	282.10
I	300 x 16 mm Anodised Aluminium aldrip	EACH	297.40

<b>Item No.</b>	<b>Description</b>	<b>UNIT</b>	<b>RATE (Rs.P)</b>
J	50 x 11/12 mm Anodized Aluminium tower bolt	EACH	57.20
K	75 x 11/12 mm Anodized Aluminium tower bolt	EACH	77.35
L	100 x 11/12 mm Anodized Aluminium tower bolt	EACH	84.30
M	150 x 11/12 mm Anodized Aluminium tower bolt	EACH	108.80
N	200 x 11/12 mm Anodized Aluminium tower bolt	EACH	126.85
O	250 x 11/12 mm Anodized Aluminium tower bolt	EACH	147.40
P	300 x 11/12 mm Anodized Aluminium tower bolt	EACH	172.30
Q	50 mm oxidised iron butt hinges (Heavy duty)	EACH	8.25
R	125 mm oxidised iron butt hinges (Heavy duty)	EACH	23.65
S	150 mm oxidised iron butt hinges (Heavy duty)	EACH	29.15
T	125 mm oxidised iron parliamentary hinges (Heavy duty)	EACH	62.70
U	150 x100 mm oxidised iron parliamentary hinges (Heavy duty)	EACH	73.70
V	50 mm oxidised iron tower bolt (Heavy duty)	EACH	16.50
W	100 mm oxidised iron tower bolt (Heavy duty)	EACH	26.40
X	150 mm oxidised iron tower bolt (Heavy duty)	EACH	36.30
Y	250 mm oxidised iron tower bolt (Heavy duty)	EACH	55.00
Z	300 mm oxidised iron tower bolt (Heavy duty)	EACH	63.80
A1	250 x 16 mm oxidised iron Aldrop (Heavy duty)	EACH	110.00
B1	300 x 16 mm oxidised iron Aldrop (Heavy duty)	EACH	140.80
C1	200 mm oxidised iron hook and eye	EACH	9.90
D1	250 mm oxidised iron hook and eye	EACH	12.65
E1	Hanging type door stopper	EACH	37.40
0428	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 & 12 mm thick with necessary screws, nickle plated bright finished M.S piano hinges etc. complete.	SQM	1109.15

Item No.	Description	UNIT	RATE (Rs.P)
0429	Providing and fixing cupboard shutter 25 mm thick particle board with teak veneering on one side & 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 & 12 mm thick with necessary screws, nickle plated bright finished M.S piano hinges, etc. complete.	SQM	933.15
0430	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 & 12mm thick with necessary screws, black enamelled M.S butt hinges, etc. complete.	SQM	1070.60
0431	<p>Supply and fixing SINTEX (superior variety) or equivalent 40 mm thick polymer door with frame, all as detailed below:-</p> <p>Supply and fixing of polymer doors of required overall size (single leaf) with polymer door frame and polymer shutter (superior variety). The door frame of 60 mm thick made out of superior quality polymeric material to IS: 10151-1982. The door frame is made of Rigid Thermo Vinyl Polymer extruded section having overall dimension of 60 x 50 mm with wall thickness not less than 2.5 mm. Corners of door frame to be mitre cut and mechanically fastened or thermally welded. The corners of the door frame shall be reinforced with special polymeric 'L' corners in case of mechanically fastened the hardware position shall be reinforced with special polymeric rods of suitable size special EPDM gaskets shall be provided along with the frame. The door shutter of 40 mm thick made out of one – piece moulded superior quality Rigid Thermo Vinyl Polymer Extruded sections with overall thickness of 40 mm conforming to IS 10151-1982. The door shutter is made out polymeric extruded sections in the configuration of 'C' and the overall dimension of the same is 25 x 40 mm with a wall thickness not less than 2.0 mm.</p> <p>The shutter frame is mitred and joined at the corners by means of high quality stainless steel / aluminium screws. All the corners of the shutter frames were being reinforced by high quality polymeric reinforcement to avoid any type of corrosion (or) rusting. The infill of the door shutter is consist of a seamless one piece multi chamber hollow extruded Rigid Thermo Vinyl Polymer section of size 762 x 35 mm or less as per requirement with an average wall thickness not less than 1.0 mm. The infill panel to further has a specific pre-laminated finish on either side with glass and to have all polymeric reinforcement</p>	SQM	2475.00

Item No.	Description	UNIT	RATE (Rs.P)
	<p>of the size 32 x 19 x 252 mm at the position of lock rail. The door should be pre-laminated in different teak wood prelam / mat wood finish / gray colour as per the department's requirement. The entire door shutter should have stainless steel / aluminium screws at appropriate places for rust free quality.</p> <p>Stickers indicating the places of hardware to be used shall be pasted at appropriate places. The shutter shall be provided with 3 Nos. of 4" aluminium / SS butt hinges, 2 Nos. of 4" aluminium / stainless steel handles, 3 Nos. of 6" aluminium / stainless steel tower bolts with required stainless steel / aluminium screws including labour charges for fixing the shutter frame, shutter and furniture fittings in position and finished smooth with template etc. complete, all as directed by the Engineer-in charge. Fittings provided shall bear ISI mark if available. The quality and brand of door shutter and furniture fittings should be got approved by the Engineer-in-charge before use.</p>		
0432	<p>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 &amp; length 775 mm and covered with supply &amp; fixing of 28 gauge G.I sheet at the bottom on both sides of shutter to a width &amp; height of 775 mm &amp; 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.</p>	EACH	574.65
0433	<p>Providing and fixing 30 mm thick factory made solid panel PVC rigid foam door shutters with frames of Rajshri / Sintex Fomura / Plasopan / Echon / Qute / Gtex or equivalent but as per the specification, all as detailed below.</p> <p>The door shutter shall consist frame made out of 19 Gauge 19 mm M.S. square tube for styles, 15 mm for top &amp; bottom rails, all frames covered with 5 mm thick heat moulded PVC- C channel to form 30 x 50 mm wide styles &amp; 75 mm wide top, lock &amp; bottom rail on either side &amp; 10 mm thick (2x 5mm) 20 mm wide cross PVC sheet as gap insert for top &amp; bottom rail including paneling of 5 mm thick PVC sheet fitted in the MS frame welded / sealed to the styles and rails with 5 mm thick 30 mm wide PVC beading on either side and joined together with solvent cement adhesive etc. An additional 5 mm thick PVC strip of 20 mm wide width is to be stuck on the interior side of the C-Channel</p>		

Item No.	Description	UNIT	RATE (Rs.P)
	<p>using solvent cement etc., complete all as per manufacturer's specification and direction of Engineer in charge. The door frame shall be of size 50 x 47mm made out of 5 mm thick extruded rigid PVC foam sheet mitre at corners, joined perfectly and inserted with 2 Nos. of 150 mm long L shape brackets made of 15 mm MS square tube. The vertical door profile is to be reinforced with 19 Gauge 19 mm MS square tube, all weather sealed throughout the frame. The shutter shall be provided with powder coated 6" tower bolt - 3 Nos., 4" handle - 2 Nos. and 4" SS hinge - 3 Nos. Frame shall have to be rigidly fixed with wall by means of 100 mm SS screws driven at least not less than 10 places.</p>		
<b>A</b>	Door with frame	SQM	2149.95
<b>B</b>	Door shutter without frame	SQM	1797.95

## V - STEEL WORKS

Item No.	Description	UNIT	RATE (Rs.P)
0501	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.	M.T	9186.80
0502	Same as 0501, but excluding all consumables which will be supplied by BHEL at Stores at free of cost.	M.T	4950.55
0503	Same as 0501, but fabrication using ERW/seamless steel tubes with necessary plates etc. instead of structural steel sections for columns, trusses, purlins, tie runners etc. (all tubular). Rate excludes ERW/seamless steel tubes, plates etc. which will be supplied by BHEL at stores at free of cost.	M.T	10105.50
0504	Same as 0503, but excluding all consumables which will be supplied by BHEL at Stores at free of cost. (Also excludes energy charges)	M.T	5445.60
0505	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 & 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.	M.T	3566.55
0506	Same as 0505 but excluding all consumables such as electrodes, bolts, nuts, washers etc. which will be supplied by BHEL at Stores at free of cost.	M.T	3251.15
0507	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.	M.T	4927.65

Item No.	Description	UNIT	RATE (Rs.P)
0508	Same as 0507 but excluding all consumables such as electrodes which will be supplied by BHEL at Stores at free of cost. (Also excludes energy charges)	M.T	3821.80
0509	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.	M.T	4850.65
0510	Same as 0509 but excluding all consumables which will be supplied by BHEL at Stores at free of cost. (Also excludes energy charges)	M.T	3894.95
0511	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.	K.G	16.45
0512	Same as 0511 but excluding all consumables which will be supplied by BHEL at Stores at free of cost. (Also excludes energy charges)	K.G	14.00
0513	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.	SQM	160.00
0514	Same as 0513 but excluding all consumables which will be supplied by BHEL at Stores at free of cost.	SQM	113.60

Item No.	Description	UNIT	RATE (Rs.P)
0515	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.	SQM	80.50
0516	Same as 0515 but excluding all consumables which will be supplied by BHEL at Stores at free of cost.	SQM	68.30
0517	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.	M.T	9186.80
0518	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.	M.T	2392.50
0519	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.	K.G	49.40
A	In M.S rounds including washer plates.		
B	Bolts including nuts & washers etc.complete in all sizes & lengths.	K.G	59.25
0520	Conveying all types & 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.	K.G	11.95
0521	Providing and fixing in position of M.S rivets of required sizes at site of work.	K.G	68.95
0522	Welding by gas plant or electric plant including transportation of plant to site of work, cost of consumables, labour charges etc. complete.	C.M LENGTH	1.40
0523	Tightening of loosened bolts & 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.	SQM	6.20

Item No.	Description	UNIT	RATE (Rs.P)
0524	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.	EACH	14.30
0525	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.	EACH	89.30
0526	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.	SQM	2.65
0527	Supply and fixing rolling shutters of approved make, made of required size of M.S laths 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.		
A	80 x1.25 mm M.S laths with 1.25 mm thick top cover	SQM	1153.40
0528	Providing and fixing ball bearing for rolling shutters.	SQM	337.60
0529	Extra for providing mechanical device chain and crank operation for operating rolling shutters.		
A	Exceeding 10.00 SQM and up to 16.80 SQM in area.	SQM	454.85
B	Exceeding 16.80 SQM in area.	SQM	509.85
0530	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 including side brackets, gear box, lubricating the bearings etc., complete and making it fit for operation. Labour charges only.	SQM	138.10

Item No.	Description	UNIT	RATE (Rs.P)
0531	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.	SQM	2515.05
0531 A	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 in weight basis for the replaced new M.S sections.	K.G	85.20
0531 B	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.		
i	Wheel 50 mm dia and below	Wheel	83.25
ii	Wheel above 50 mm dia	Wheel	120.00
0532	Providing and fixing factory made ISI marked steel glazed doors, windows and ventilators side/top/centre hung with beading etc., complete of standard rolled steel sections, joints mitred and flash butt and sash bars tenoned and rivetted with 15 x 3 mm lugs, 10 cm long, embedded in cement concrete blocks 15 x10 x 10 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 providing and fixing of hinges, pivots, 4 mm plain glass panes with glazing clips and special metal-sash putty of approved make, handles, pegstays etc., complete including a priming coat of approved steel primer excluding the cost of metal beading and other fittings. Rate includes dismantling the masonry and making good all damages etc., complete.	SQM	2029.00
0533	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)	SQM	215.35

Item No.	Description	UNIT	RATE (Rs.P)
0534	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.		
A	3 mm pin headed glass panes.	SQM	298.75
B	4 mm plain glass panes.	SQM	406.95
0535	Providing putty for glass panes. Rate includes removal of old putty, supply & applying new putty in a proper manner & required quantity at site of work, all as per instructions of Engineer in charge.	R.M	9.65
0536	Providing and fixing in proper position of fan hook using 10 mm FSICHER SLM-N heavy duty ANCHOR fastener with clamp & bolts in the existing RCC roof slab. Rate includes cost of fan hook (fastener), drilling with power drilling machine to the required dia & depth in the RCC roof slab, inserting and fixing the fan hook in proper position, all labour and all other incidentals etc. complete.	EACH	308.00
0537	Providing and fixing oxidised M.S handle with necessary screws etc., complete.		
A	100 mm size	EACH	7.65
B	125 mm size	EACH	9.95
0538	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.		
A	Non reflective Type - Regular grade	SQM	242.65
B	Non reflective Type - Premium Grade with Scratch Resisting Coating	SQM	597.70
0539	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 & drawing and erecting/fixing the same in proper alignment/position, level including site welding and or bolting/rievetting 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.	M.T	60179.25

Item No.	Description	UNIT	RATE (Rs.P)
0540	Providing and fixing in position of ISI marked steel paneled doors and windows of standard rolled steel sections, joints mitered and welded with 15 x 3 mm lugs, 10 cm long, embedded in cement concrete blocks 15 x 10 x 10 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 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.	SQM	2164.30
0541	Conveying the Gantrail MKVII 122 mm wide steel reinforced vulcanized rubber pad from BHEL stores to site of work and lifting the same to EOT crane girder level, laying, aligning and fixing in proper position along the top of crane girder at 8.00 m from floor level including sizing and correct to alignment by using chisel and filing the edges to match with the adjoining pad. Rate includes all labour, tools & plants and all other incidentals etc., complete.	R.M	67.50
0542	Conveying the Gantrail weldable base type 9116/10/32 adjustable crane rail clip including captive bolts, nuts, washers and integral vulcanized rubber nose from BHEL stores to site of work, lifting to EOT crane girder level and fixing them by welding using special electrodes to hold the EOT crane rail in correct level and alignment. Rate includes all labour, scaffolding, tools & plants, tightening the clamps after rail erection etc., complete and all other incidentals. Special electrodes and power will be supplied by BHEL at free of cost.	SET	101.25
0543	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 & 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	137.90
0544	Removing the old rigidly welded rail clamp and bolt by gauging the welded joint without damaging the bolt. Rate includes labour, consumables, tools & plants and making good all damages by welding and grinding the top surfaces of girder.	SET	38.50

<b>Item No.</b>	<b>Description</b>	<b>UNIT</b>	<b>RATE (Rs.P)</b>
0545	Lifting the gantry rails up to 200 mm and packing the rails/sleepers with ballast metal /shim. Plates true to span, alignment and level including oiling and tightening the fish bolts and sleepers, fasteners and fixing new fasteners for the missing and sectioning the formation to the required profile, all as per the instructions of Engineer-in-charge. (Ballast metal, shim, oil, new fasteners etc. will be supplied by BHEL at stores at free of cost) Payment will be made per metre length of single rail.	R.M	19.70
0546	Supply and fixing cup type rail clamp with fittings over the insert plate which is embeded in the concrete. Rate includes welding including cost of consumables, all labour and other incidentals etc. complete, all as per instructions of Engineer-in-charge.	EACH	191.75
0547	Unloading the rails from trailer/lorry using cranes which will be provided by BHEL at free of charges and stacking the rails at the specified places, all as directed by the Engineer-in-charge. (Labour charges only)	M.T	28.95

## VI - FLOORING

Item No.	Description	UNIT	RATE (Rs.P)
0601	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) Consumption of cement- 11.70 K.G /SQM	SQM	99.75
0602	Same as 0601 but including mixed well with red oxide powder of approved quality of weight equal to one tenth of the weight of cement used. Consumption of cement -11.70 K.G/SQM	SQM	215.60
0603	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. (Ellis pattern flooring) Consumption of cement -14.60 K.G/SQM	SQM	121.10
0604	Same as 0603 but including mixed well with red oxide powder of approved quality of weight equal to one tenth of the weight of cement used. Consumption of cement -14.60 K.G/SQM	SQM	265.65
0605	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. Consumption of cement - 7.35 K.G/SQM	SQM	90.75
0606	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. Cement consumption - 320.00 K.G/CUM	CUM	1213.70
0607	Floor finish with 40 mm thick granolithic 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. Cement consumption - 40 K.G/SQM	SQM	231.30

Item No.	Description	UNIT	RATE (Rs.P)
0608	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. Cement consumption - 57.60 K.G/SQM	SQM	178.50
0609	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.)		
A	For gray colour Cement consumption - 12.90 K.G/SQM	SQM	322.00
B	For colours other than gray Cement consumption - 12.90 K.G/SQM	SQM	377.00
0610	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.		
A	Gray colour Cement consumption - 5.11 K.G/SQM	SQM	317.80
B	For colours other than gray Cement consumption - 5.11 K.G/SQM	SQM	372.80
0611	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.	SQM	54.60
0612	Providing and laying glazed tiles of required sizes and minimum thickness of 5 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.		

Item No.	Description	UNIT	RATE (Rs.P)
A	For white glazed tiles Cement consumption - 9.42 K.G/SQM	SQM	528.00
B	For colour glazed tiles Cement consumption - 9.42 K.G/SQM	SQM	534.20
0613	Providing and laying glazed tiles of required sizes and minimum thickness of 5 mm in skirting, walls, risers of steps, dado etc. 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 etc., complete, all as per standard specifications.		
A	For white glazed tiles Cement consumption - 10.44 K.G/SQM	SQM	554.50
B	For colour glazed tiles Cement consumption - 10.44 K.G/SQM	SQM	560.70
0614	Providing and laying 7 mm thick (approximate) 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 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. Cement consumption - 12.42 K.G/SQM	SQM	446.20
0615	Providing and laying 7mm thick (approximate) ceramic glazed wall tiles 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. Cement consumption - 10.44 K.G/SQM	SQM	482.30
0616	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.	SQM	222.60
0617	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.		

<b>Item No.</b>	<b>Description</b>	<b>UNIT</b>	<b>RATE (Rs.P)</b>
A	Kota stone slabs 20 to 25 mm thick polished Cement consumption - 14.91 K.G/SQM	SQM	818.65
B	Cuddappah slabs 20 to 25 mm thick single side polished Cement consumption - 14.91 K.G/SQM	SQM	624.15
C	Shahabad slabs 20 to 25 mm thick, single side polished - Tandur gray Cement consumption - 14.91 K.G/SQM	SQM	637.75
D	Shahabad slabs 20 to 25 mm thick, single side polished - Tandur green Cement consumption - 14.91 K.G/SQM	SQM	653.10
E	Marble slabs 16 to 18 mm thick, polished - Rajnagar plain white Cement consumption - 13.51 K.G/SQM	SQM	1366.45
F	Marble slabs 16 to 18 mm thick, polished - Green (Udaipur) colour Cement consumption - 13.51 K.G/SQM	SQM	1007.10
G	Marble slabs 16 to 18 mm thick, polished - Pink colour Cement consumption - 13.51 K.G/SQM	SQM	932.60
H	Marble slabs 16 to 18 mm thick, polished - Black (Zebra/Galaxy) Cement consumption - 13.51 K.G/SQM	SQM	1101.05
I	Granite slabs 16 to 18 mm thick, polished - S.White/Rosy Pink colour Cement consumption - 13.51 K.G/SQM	SQM	1392.00
J	Granite slabs 16 to 18 mm thick, polished - Black (Andhra) colour Cement consumption - 13.51 K.G/SQM	SQM	1927.90
K	Granite slabs 16 to 18 mm thick, polished - Gray colour Cement consumption - 13.51 K.G/SQM	SQM	1468.55
L	Granite slabs 16 to 18 mm thick, polished - Green colour Cement consumption - 13.51 K.G/SQM	SQM	1672.70
M	Granite slabs 16 to 18 mm thick, polished - Sweet Green colour/Red (Gem) colour Cement consumption - 13.51 K.G/SQM	SQM	2217.15
N	Granite slabs 16 to 18 mm thick, polished - Blue (Lavender) colour Cement consumption - 13.51 K.G/SQM	SQM	2081.05

Item No.	Description	UNIT	RATE (Rs.P)
O	Marbonite tiles or equivalent, 8.50 mm thick (approx.) & 60 x 60 cm size (cement slurry is 3.30 Kg/SQM instead of 4.40 Kg/SQM) Cement consumption - 12.42 K.G/SQM	SQM	731.30
P	Eurocon tiles (RIVIERA/REGALIA variety) of size 33 x 33 cm or thereabouts (cement slurry is 3.30 Kg/SQM instead of 4.40 Kg/SQM) Cement consumption - 12.42 K.G/SQM	SQM	565.50
0618	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.		
A	Marble tiles (polished), 8 mm thick (approx.) - Rajnagar plain white Cement consumption - 12.42 K.G/SQM	SQM	931.50
B	Marble tiles (polished), 8 mm thick (approx.) - Green (Udaipur) / Black (Zebra) Cement consumption - 12.42 K.G/SQM	SQM	749.50
C	Granite tiles (polished), 8 to 10 mm thick (approx.) - P White Cement consumption - 12.42 K.G/SQM	SQM	893.60
D	Granite tiles (polished), 8 to 10 mm thick (approx.) - Gray (Steel) colour Cement consumption - 12.42 K.G/SQM	SQM	688.85
E	Granite tiles (polished), 8 to 10 mm thick (approx.) - Red (Gem) colour Cement consumption - 12.42 K.G/SQM	SQM	931.50
F	Granite tiles (polished), 8 to 10 mm thick (approx.) - Green colour Cement consumption - 12.42 K.G/SQM	SQM	810.20
G	Granite tiles (polished), 8 to 10 mm thick (approx.) - Sweet green colour Cement consumption - 12.42 K.G/SQM	SQM	992.15
H	Granite tiles (polished), 8 to 10 mm thick (approx.) - Black (Galaxy) colour Cement consumption - 12.42 K.G/SQM	SQM	870.85
0619	Mirror polishing on marble work/granite work/stone work wherever required to give high gloss finish etc., complete.	SQM	83.90

Item No.	Description	UNIT	RATE (Rs.P)
0620	Extra for prefinished nosing to treads of steps of marble stones.	R.M	108.70
0621	Extra for prefinished nosing in treads of steps of kota stones.	R.M	34.95
0622	Supply and fixing homogeneous PVC sheets / tiles of approved brand, pattern, colour, shade & 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.		
A	1.5 / 1.6 mm thick	SQM	263.40
B	2 mm thick	SQM	482.95
0623	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.	CUM	3191.35
0624	Providing and laying 7 mm 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 dado etc., laid 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 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.	SQM	532.75
0625	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 tile 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 polishing wherever necessary 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.		

<b>Item No.</b>	<b>Description</b>	<b>UNIT</b>	<b>RATE (Rs.P)</b>
A	Marble slabs 16 to 18 mm thick, polished - Rajnagar plain white	SQM	1436.50
B	Marble slabs 16 to 18 mm thick, polished - Green (Udaipur) colour	SQM	1077.15
C	Marble slabs 16 to 18 mm thick, polished - Pink colour	SQM	1002.65
D	Marble slabs 16 to 18 mm thick, polished - Black (Zebra) colour	SQM	1171.10
E	Granite slabs 16 to 18 mm thick, polished - S.White/Pink(Rosy)colour	SQM	1307.00
F	Granite slabs 16 to 18 mm thick, polished - Black (Andhra) colour	SQM	1796.30
G	Granite slabs 16 to 18 mm thick, polished - Gray colour	SQM	1376.90
H	Granite slabs 16 to 18 mm thick, polished - Green colour	SQM	1563.30
I	Granite slabs 16 to 18 mm thick, polished - Sweet Green colour/Red (Gem) colour	SQM	2060.40
J	Granite slabs 16 to 18 mm thick, polished - Blue (Lavender) colour	SQM	1936.15
K	Marbonite tiles or equivalent,8.50mm thick(approx) & 60 x 60 cm size	SQM	836.05
L	Marble tiles (polished), 8 mm thick (approx.) - Rajnagar plain white	SQM	1017.80
M	Marble tiles (polished), 8 mm thick (approx.) - Green (Udaipur) / Black (Zebra)	SQM	835.80
N	Granite tiles (polished), 8 to 10 mm thick (approx.) - P White	SQM	979.85
O	Granite tiles (polished), 8 to 10 mm thick (approx.) - Gray	SQM	775.15
P	Granite tiles (polished), 8 to 10 mm thick (approx.) - Red (Gem) colour	SQM	1017.80
Q	Granite tiles (polished), 8 to 10 mm thick (approx.) - Green colour	SQM	896.45
R	Granite tiles(polished),8 to10 mm thick (approx.) - Sweet green colour	SQM	1078.45
S	Granite tiles(polished),8 to10 mm thick (approx)- Black(Galaxy) colour	SQM	957.10

**VII - ROOFING**

<b>Item No.</b>	<b>Description</b>	<b>UNIT</b>	<b>RATE (Rs.P)</b>
0701	Supply of 6 mm thick A.C corrugated sheets at site of work, sizing as required, hoisting and fixing in proper position for roofing, side sheeting etc. with necessary G.I crank bolts, hook bolts with nuts, G.I and bitumen washers etc., complete, all as per drawings, specifications and instructions of Engineer-in-charge. Rate includes cost of all materials, labour, incidentals etc. complete. (Payment will be based on the laid area of roof and side cladding). Rate excludes cost & laying charges of AC accessories such as ridge pieces, ridge finials, barge boards, curves etc.	SQM	203.90
0702	Conveying from BHEL stores to site of work, sizing as required, hoisting and fixing in position of 6 mm thick A.C corrugated sheets / G.I or Aluminium sheets with accessories such as ridge pieces, barge boards, curves etc., for roofing, side cladding etc. and fixing them in proper position with necessary G.I hook bolts, crank bolts with nuts, G.I and bitumen washers etc., complete, all as per drawings, specifications and instructions of Engineer-in-charge. Rate includes cost of G.I bolts, nuts, washers, and labour charges but excluding cost of A.C / G.I / Aluminium sheets and its accessories such as ridge pieces, barge boards, curves etc. which will be supplied by BHEL at Stores at free of cost.	SQM	37.30
0703	Conveying from BHEL stores to site of work, sizing as required, hoisting and fixing in position of 6 mm thick A.C corrugated sheets / G.I or Aluminium sheets with accessories such as ridge pieces, barge boards, curves etc., for roofing, side cladding etc. and fixing them in proper position with G.I hook bolts, crank bolts with nuts, G.I and bitumen washers etc., complete, all as per specifications and instructions of Engineer-in-charge. Rate includes conveyance of materials and labour charges but excludes cost of A.C / G.I / Aluminium sheets and its accessories such as ridge pieces, barge boards, curves, G.I bolts, nuts, washers etc. which will be supplied by BHEL at Stores at free of cost.	SQM	20.35
0704	Extra charges for cutting in A.C corrugated, semi corrugated 6 mm thick sheet roofing for making opening of area exceeding 40 Sqdm for chimney stacks, skylights etc.		
A	Straight cutting	METRE OF PERI- PHERY	14.45
B	Circular cutting	METRE OF PERI- PHERY	39.85

Item No.	Description	UNIT	RATE (Rs.P)
0705	Supply and fixing the following A.C roofing accessories at site of work in proper position with galvanised iron J or L hooks, bolts and nuts and or G.I seam bolts and nuts, G.I plain and bitumen washers etc., complete.		
A	Serrated or plain wing adjustable ridges	R.M	171.00
B	Apron flashing pieces.	R.M	137.45
C	North light and ventilator curves.	R.M	226.95
D	Barge boards.	R.M	147.90
E	Curved barge boards for north light curves.	EACH	181.85
F	Ridge finials	PAIR	91.85
G	S type louvers	R.M	124.85
0706	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.		
A	FRP Sheet 1 mm thick	SQM	218.55
B	FRP Sheet 2 mm thick	SQM	399.85
0707	Supply and fixing in position of galvanised iron plain sheets of 1.20 to 1.25 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.	SQM	767.75
0708	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.	SQM	223.75
0709	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.	SQM	491.50
0710	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.	SQM	52.75

Item No.	Description	UNIT	RATE (Rs.P)
0711	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.	CUM	1812.60
0712	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 & 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. Cement consumption - 9.13 K.G/SQM	SQM	207.35
0713	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.)	SQM	71.20
0714	Same as per item No. 0713, but excluding application of Mendo non tar plast cement.	SQM	63.50
0715	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 & 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.	R.M	105.15
0716	Same as per item No. 0715 but including cost of tiles. (i.e) Cement & bitumen compound only will be supplied by BHEL at Stores, at free of cost.	R.M	121.20
0717	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 & 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.	SQM	228.40

Item No.	Description	UNIT	RATE (Rs.P)
0718	Same as per item No. 0717 but required tiles will also be supplied by BHEL at Stores at free of cost.	SQM	43.70
0719	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.		
A	1 to 5 tiles at one spot.	1 to 5 TILES	24.55
B	Beyond 5 but upto 10 tiles at one spot.	BEYOND 5 UPTO 10 TILES	38.10
0720	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.	SQM	52.50
0721	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 & Roff plaster master liquid will be supplied by BHEL at Stores at free of cost.	R.M	28.60

Item No.	Description	UNIT	RATE (Rs.P)
0722	Supply and fixing colour coated Aluminium - zinc Alloy coated steel (Aluminium - around 55 % & Zinc - 43 %) rib profile sheets of 0.47 to 0.50 mm thick (TCT) zinc coating 120 gsm as per IS 277 (yield strength - 550 Mpa) as per ASTM A792 at site of work, sizing as required, hoisting and fixing in proper position for roofing, side sheeting etc. with necessary self drilling/self tapping screws of size 5.50 x 55 mm with EPDM seal or with polymer coated J or L hooks, bolts & nuts 8 mm dia with bitumen and G.I limpet washers filled with white lead complete up to any pitch in horizontal/vertical or curved surfaces all as per drawings, specifications and instructions of Engineer-in-charge. Rate includes cost of all materials, labour, incidentals etc. complete. (Payment will be based on the laid area of roof and side cladding). Rate excludes cost & laying charges of accessories such as ridge pieces, ridge finials, barge boards, curves etc.	SQM	361.15
0723	Conveying from BHEL stores to site of work, sizing as required, hoisting and fixing in proper position of Aluminium-Zinc Alloy coated rib profile sheets with accessories such as ridge pieces, barge boards, curves etc., for roofing, side cladding etc. with necessary self drilling/self tapping screws of size 5.50 x 55 mm with EPDM seal or with polymer coated J or L hooks, bolts & nuts 8 mm dia with bitumen and G.I limpet washers filled with white lead complete up to any pitch in horizontal/vertical or curved surfaces with necessary G.I hook bolts, crank bolts with nuts, G.I and bitumen washers etc., complete, all as per drawings, specifications and instructions of Engineer-in-charge. Rate excludes cost of Aluminium-Zinc Alloy sheets and its accessories such as ridge pieces, barge boards, curves etc. which will be supplied by BHEL at Stores at free of cost.	SQM	32.45
0724	Supply and fixing colour coated Aluminium - zinc Alloy coated steel sheet roofing accessories of 0.47 to 0.50 mm thick (TCT) zinc coating 120 gsm as per IS 277 (yield strength - 550 Mpa) as per ASTM A792 at site of work, sizing as required, hoisting and fixing in proper position with necessary self drilling/self tapping screws or with polymer coated J or L hooks, bolts & nuts and or G.I seam bolts and nuts, G.I plain and bitumen washers etc. complete.		
A	Ridges plain (500-600 mm)	R.M	337.85
B	Flashing/Aprons (Up to 600 mm)	R.M	328.30
C	North light curves	SQM	394.60
D	Barge board	R.M	306.15
E	Gutter (600 mm overall girth)	R.M	570.80

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**VIII – FINISHING**

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<b>Item No.</b>	<b>Description</b>	<b>UNIT</b>	<b>RATE (Rs.P)</b>
0801	Plastering with cement mortar as per standard specifications.		
A	In cement mortar 1:3, 12mm thick Consumption of Cement - 7.35 K.G/SQM	SQM	47.40
B	In cement mortar 1:4, 12mm thick Consumption of Cement - 5.47 K.G/SQM	SQM	47.10
C	In Cement mortar 1:5, 12mm thick Consumption of Cement - 4.46 K.G/SQM	SQM	46.90
D	In cement mortar 1:6, 12mm thick Consumption of Cement - 3.60 K.G/SQM	SQM	46.75
E	In cement mortar 1:3, 15mm thick Consumption of Cement - 8.77 K.G/SQM	SQM	54.55
F	In Cement mortar 1:4, 15mm thick Consumption of Cement - 6.54 K.G/SQM	SQM	54.15
G	In Cement mortar 1:5, 15mm thick Consumption of Cement - 5.33 K.G/SQM	SQM	53.95
H	In Cement mortar 1:6, 15mm thick Consumption of Cement - 4.30 K.G/SQM	SQM	53.80
I	In Cement mortar 1:3, 20mm thick Consumption of Cement - 11.42 K.G/SQM	SQM	63.80
J	In Cement Mortar 1:4, 20mm thick Consumption of Cement - 8.51 K.G/SQM	SQM	63.30
K	In Cement mortar 1:5, 20mm thick Consumption of Cement - 6.94 K.G/SQM	SQM	63.05
L	In Cement mortar 1:6, 20mm Consumption of Cement - 5.60 K.G/SQM	SQM	62.80
0802	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. Consumption of Cement - 7.35 K.G/SQM	SQM	58.55
0803	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. Consumption of Cement - 11.42 K.G/SQM	SQM	81.10

Item No.	Description	UNIT	RATE (Rs.P)
0804	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. Consumption of Cement - 7.35 K.G/SQM	SQM	52.35
0805	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. Consumption of Cement - 11.42 K.G/SQM	SQM	71.55
0806	Ceiling plastering with cement mortar 1:3, 6mm thick as per standard specifications. Consumption of Cement - 3.67 K.G/SQM	SQM	41.50
0807	Plain cement mortar bands of 12 mm thick in cement mortar 1:4 to the specified width as per standard specifications. Consumption of Cement - 5.32 K.G/SQM	SQM	113.90
0808	Stucco plastering 12 mm thick with cement mortar 1:3 (1 cement & 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) Consumption of Cement - 7.30 K.G/SQM	SQM	52.40
0809	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 specifications. Consumption of Cement - 7.30 K.G/SQM	SQM	68.20
0810	Finishing the plastered surfaces with a floating coat of cement (punning), all as per standard specifications. Consumption of Cement - 2. 20 K.G/SQM	SQM	11.10
0811	Flush/Ruled pointing on stone work with cement mortar 1:3 as per standard specifications. Consumption of Cement 1.17 K.G/SQM	SQM	56.70
0812	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. Consumption of Cement 1.84 K.G/SQM	SQM	32.05
0813	Flush pointing with cement mortar 1:3 for stone slab pavement or precast slab pavement or tiling works etc., all as per standard specifications. Consumption of Cement 2.35 K.G/SQM	SQM	48.35

Item No.	Description	UNIT	RATE (Rs.P)
0814	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. Consumption of Cement 13.20 K.G/SQM	SQM	214.85
0815	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.		
A	Three or more coats	SQM	5.50
B	Two coats	SQM	3.35
C	One coat	SQM	2.20
0816	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.		
A	Three coats	SQM	6.05
B	Two coats	SQM	3.75
C	One coat	SQM	2.30
0817	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.		
A	Two or more coats with a base coat of white washing with lime	SQM	7.05
B	Two coats	SQM	4.30
C	One coat	SQM	2.60
0818	Removing white or colour wash by scraping, sand papering and preparing the surfaces smooth including necessary repairs to scratches etc. complete.	SQM	2.80
0819	Applying one coat of cement primer of approved brand and manufacturer on wall surfaces.	SQM	16.45

Item No.	Description	UNIT	RATE (Rs.P)
0820	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.		
A	Three coats ( A priming coat of cement primer & two coats of water proofing cement paint )	SQM	43.80
B	Two coats	SQM	27.35
C	One coat	SQM	17.55
0821	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.		
A	Three coats (A priming coat of approved cement primer and two coats of sandtex matt)	SQM	77.75
B	Two coats	SQM	61.30
C	One coat	SQM	36.40
0822	Applying one coat of distemper primer of approved brand and manufacture on wall surfaces.	SQM	17.10
0823	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.		
A	Three coats (A priming coat with approved primer and two coats of distempering).	SQM	40.45
B	Two coats	SQM	23.35
C	One coat	SQM	15.45
0824	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.		
A	Three coats (A priming coat with approved primer and two coats of plastic emulsion paint).	SQM	56.70
B	Two coats	SQM	39.65
C	One coat	SQM	25.95

Item No.	Description	UNIT	RATE (Rs.P)
0825	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.		
A	Three coats (A priming coat with approved primer and two coats of synthetic enamel paint).	SQM	52.10
B	Two coats	SQM	35.00
C	One coat	SQM	22.55
0826	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.	SQM	3.70
0827	Varnishing with varnish of approved brand and manufacture to give an even shade, all as per standard specifications.		
A	Three coats (An under coat with flattening varnish and two coats of copal varnish)	SQM	50.95
B	Two coats	SQM	35.35
C	One coat	SQM	22.55
0828	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.		
A	Two coats	SQM	92.10
B	One coat	SQM	48.15
C	Providing melamine polishing on wood work (One or more coats)	SQM	38.95
0829	Painting with aluminium paint of approved brand and manufacture on surfaces to give an even shade, all as per standard specifications.		
A	Two coats.	SQM	34.35
B	One coat	SQM	21.70
0830	Painting with black anti corrosive bitumastic paint of approved brand and manufacture on surfaces to give an even shade, all as per standard specifications.		
A	Two coats.	SQM	28.35
B	One coat	SQM	18.70

Item No.	Description	UNIT	RATE (Rs.P)
0831	Painting with black board paint of approved brand and manufacture on surfaces to give an even shade, all as per standard specifications.		
A	Two coats.	SQM	29.40
B	One coat	SQM	19.35
0832	Lettering with paint of approved brand, shade and manufacture.		
A	In synthetic enamel paint	LETTER OF 1 CM HEIGHT	0.95
B	In black japan paint	LETTER OF 1 CM HEIGHT	0.90
0833	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.		
A	Zinc Chromate primer	SQM	16.20
B	Red oxide primer	SQM	12.65
0834	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.		
A	Zinc Chromate primer	M.T	559.25
B	Red oxide primer	M.T	384.80
0835	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.		
A	Two coats	M.T	841.05
B	One coat	M.T	501.20

Item No.	Description	UNIT	RATE (Rs.P)
0836	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.		
A	Two coats	M.T	859.15
B	One coat	M.T	514.25
0837	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 around in cement mortar 1:3, neatly rounded etc. complete. Consumption of Cement 13.20 K.G/SQM	SQM	126.40
0838	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. Consumption of Cement 6.95 K.G/SQM	SQM	73.30
0839	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.	EACH QUART- ERS	52.60
0840	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.		
A	Two coats	SQM	35.00
B	One coat	SQM	22.45
0841	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.		

Item No.	Description	UNIT	RATE (Rs.P)
A	Two coats	SQM	43.35
B	One coat	SQM	28.00
0842	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.		
A	On steel work	SQM	70.75
B	On concrete work	SQM	73.10
0843	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.	SQM	16.35
0844	Extra charges for plastering to spherical ceiling.	SQM	28.50
0845	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.		
A	For one priming coat with primer	SQM	11.20
B	For three coats (A priming coat & two coats of painting or directly three coats of painting)	SQM	29.65
C	For Two coats of painting	SQM	18.50
D	For one coat of painting	SQM	13.20

**IX - ROAD WORKS**

<b>Item No.</b>	<b>Description</b>	<b>UNIT</b>	<b>RATE (Rs.P)</b>
0901	Supply and stacking the following to standard gauge at site of work, all as per instructions of Engineer-in-Charge.		
A	Soling stones 15 cm average thickness (measured in stacks will be reduced by 15 % for payment)	CUM	188.30
B	53 mm IRC size metal (measured in stacks will be reduced by 7.5 % for payment)	CUM	548.40
C	37.50 mm IRC size metal (measured in stacks will be reduced by 7.5 % for payment)	CUM	736.30
D	22.40 mm IRC size metal (No voids)	CUM	919.80
E	11.20 mm IRC size metal (No voids)	CUM	593.10
F	6 mm IRC size metal (No voids)	CUM	451.20
G	River sand (No voids)	CUM	242.25
H	Gravel / Red earth (No voids)	CUM	144.25
I	Earth ( measured in stacks will be reduced by 20 % for payment )	CUM	158.55
J	Cattle manure ( measured in stacks will be reduced by 8 % for payment )	CUM	281.45
K	IRC graded stone aggregate of size range from 90 to 45 mm (measured in stacks will be reduced by 7.5 % for payment)	CUM	365.80
L	IRC graded stone aggregate of size range from 63 to 45 mm (measured in stacks will be reduced by 7.5 % for payment)	CUM	471.35
M	IRC graded stone aggregate of size range from 53 to 22.4 mm (measured in stacks will be reduced by 7.5 % for payment)	CUM	660.40
0902	Providing and laying granular sub base as per table Nos. 400-1/400-2 and grading 1 of MORT & H - Revision IV with sand, gravel and crushed stone or quarry fines in the proportion of 1 : 0.75 : 0.25 and combination these of for specified thick to give a CBR of not less than 30 on prepared sub grade in accordance with the requirements of the specifications. Rate includes cost of all materials to site of work, mixing in the required proportion, spreading, watering, compacting, rolling with contractor's power roller, all labour, other incidentals etc., complete. Payment will be made only for the finished (compacted) quantum of work.	CUM	360.65

Item No.	Description	UNIT	RATE (Rs.P)
0903	Providing and laying sub base with sand & gravel in the proportion of 1 : 0.75 for specified thick on prepared sub grade in accordance with the requirements of the specifications. Rate includes cost of all materials to site of work, mixing in the required proportion, spreading, compacting, rolling with contractor's power roller, all labour, other incidentals etc., complete. Payment will be made only for the finished (compacted) quantum of work. (without quarry dust)	CUM	339.35
0904	Providing and laying sub base with gravel for specified thick on prepared sub grade in accordance with the requirements of the specifications. Rate includes cost of gravel to site of work, spreading, watering, compacting, rolling with contractor's power roller, all labour, other incidentals etc., complete. Payment will be made only for the finished (compacted) quantum of work.	CUM	196.60
0905	Carrying from stacks and laying in position to proper line, level and camber and hand packing of granite stones for soling of 150 mm thick including wedging and packing of the stones in position with sufficient spalls, so as to fill in voids as completely as possible (spalls required for wedging shall be produced by sledging the soling stones) and including carrying from stacks and spreading gravel (20 % by volume of soling stones) for filling up voids, watering and consolidating with power roller etc. including all incidental charges such as preparing the subbase and shoulder, all leads and lifts for materials, water as per site conditions etc., complete. Rate excludes cost of materials but includes hire charges for contractor's road roller.	SQM	16.00
0906	Supply and laying in position to proper line, level and camber and hand packing of granite stones for soling of 150 mm thick including wedging and packing of the stones in position with sufficient spalls, so as to fill in voids as completely as possible (spalls required for wedging shall be produced by sledging the soling stones) and including supply and spreading gravel (20 % by volume of soling stones) for filling up voids, watering and consolidating with power roller etc., including all incidental charges such as preparing the subbase and shoulder, all leads and lifts for materials, water as per site conditions etc. complete. Rate includes cost of all materials, labour, contractor's road roller charges etc., complete.	SQM	43.00

Item No.	Description	UNIT	RATE (Rs.P)
0907	Carrying from stacks and spreading to proper line, level, camber and grade of granite stones of IRC 53 / 37.50 mm or IRC 63 to 45 mm or IRC 53 to 22.4 mm size for first layer or second layer of metaling for a thickness of 75 mm including sectioning to camber, rolling dry with power roller, also carrying from stacks and spreading gravel 25 mm thick for blindage, watering and consolidating the surface with power roller, etc., all as per standard specifications. Rate excludes cost of all materials but includes hire charges for contractor's power roller.	SQM	18.90
0908	Supply, spreading and laying to proper line, level, camber and grade with granite stones of following sizes for first or second layer of metaling for a thickness of 75 mm including sectioning to camber, rolling dry with power roller, also supply and spreading gravel 25 mm thick for blindage, watering and consolidating the surface with power roller etc., all as per standard specifications. Rate includes cost of all materials, labour, contractor's power roller charges, etc., complete.		
A	53 mm IRC size metal	SQM	59.80
B	37.50 mm IRC size metal	SQM	72.85
C	IRC graded stone aggregates of size range from 63 to 45 mm	SQM	54.25
D	IRC graded stone aggregates of size range from 53 to 22.4 mm	SQM	67.30
0909	Surface dressing 20 mm finished thickness over WBM surface with precoated chips using 10 Kg. of bitumen per 10 SQM as tack coat and 0.27 CUM of 11.20 mm IRC size hard broken granite stone jelly for 10 SQM mixed with bitumen at 44 Kg/CUM of jelly including surface preparation, heating bitumen, mixing, laying and consolidation by contractor's power roller, hire and running charges for all tools and plants, diversion of traffic, barricading arrangements, labour and all other incidental charges etc. complete.		
A	Rate includes cost of metal, bitumen and hire & running charges for contractor's road roller.	SQM	116.25
B	Rate includes cost of metal, bitumen and hire & running charges for contractor's road roller. (thickness may vary)	CUM	5812.30
C	Rate includes only cost of bitumen and hire & running charges for contractor's road roller but excludes cost of metal.	SQM	100.45

Item No.	Description	UNIT	RATE (Rs.P)
D	Rate includes only cost of bitumen. and hire & running charges for contractor's road roller but excludes cost of metal. (thickness may vary)	CUM	5022.65
E	Rate includes only hire and running charges for contractor's road roller but excludes cost of metal and bitumen.	SQM	30.10
F	Rate includes only hire and running charges for contractor's road roller but excludes cost of metal and bitumen. (thickness may vary)	CUM	1505.50
0910	Providing wearing coat 20 mm finished thickness over existing bituminous road with precoated chips using 5 Kg. of bitumen as tack coat and 0.25 CUM of 12 mm IRC size hard broken granite stone chips per 10 SQM premixed with 44 Kg. of bitumen per CUM of chips including surface preparation, heating bitumen, mixing, laying and consolidation by power roller, hire and running charges for all tools and plants, diversion of traffic, barricading arrangements, labour and all other incidentals etc. complete.		
A	Rate includes cost of metal, bitumen and hire & running charges for contractor's road roller.	SQM	88.90
B	Rate includes cost of metal, bitumen and hire & running charges for contractor's road roller. (thickness may vary)	CUM	4445.85
C	Rate includes only cost of bitumen and hire & running charges for contractor's road roller but excludes cost of metal.	SQM	74.30
D	Rate includes only cost of bitumen. and hire & running charges for contractor's road roller but excludes cost of metal. (thickness may vary)	CUM	3714.70
E	Rate includes only hire and running charges for contractor's road roller but excludes cost of metal and bitumen.	SQM	22.90
F	Rate includes only hire and running. charges for contractor's road roller but excludes cost of metal and bitumen. (thickness may vary)	CUM	1145.10
0911	Seal coat over existing B.T surface with 9.10 Kg of bitumen and 0.08 CUM of 6 mm IRC size chips per 10 SQM, rolling and consolidation with power roller, hire and running charges for all tools and plants, diversion of traffic, barricading arrangements, labour and all other incidentals etc., complete.		
A	Rate includes cost of metal, bitumen and hire & running charges for contractor's road roller.	SQM	61.50

Item No.	Description	UNIT	RATE (Rs.P)
B	Rate includes only cost of bitumen and hire & running charges for contractor's road roller but excludes cost of metal.	SQM	57.95
C	Rate includes only hire and running charges for contractor's road roller but excludes cost of metal and bitumen.	SQM	28.70
0912	Laying coated macadam over WBM Surface 75 mm finished thickness using 0.823 CUM of 40 mm and 0.275 CUM of 20 mm IRC metals and 10 Kg of bitumen for 10 SQM as tack coat, using 56 Kg of bitumen per CUM of metal including hire and running charges for tools and plants, consolidation with power roller, diversion of traffic, barricading arrangements, labour and all other incidentals etc., complete.		
A	Rate includes cost of metal, bitumen and hire & running charges for contractor's road roller.	SQM	420.65
B	Rate includes cost of metal, bitumen and hire & running charges for contractor's road roller. (thickness may vary)	CUM	5608.70
C	Rate includes only cost of bitumen and hire & running charges for contractor's road roller but excludes cost of metal.	SQM	340.20
D	Rate includes only cost of bitumen and hire & running charges for contractor's road roller but excludes cost of metal.(thickness may vary)	CUM	4536.15
E	Rate includes only hire and running charges for contractor's road roller but excludes cost of metal and bitumen.	SQM	110.60
F	Rate includes only hire and running charges for contractor's road roller but excludes cost of metal and bitumen. (thickness may vary)	CUM	1474.45
0913	Laying coated maccadam over bituminous surface 75 mm finished thickness using 0.823 CUM of 37.50 mm & 0.275 CUM of 22.40 mm IRC size metals and 5 Kg of bitumen for 10 SQM as tack coat, using 56 Kg of bitumen per CUM of metal, including hire and running charges for tools and plants, consolidation with power roller, diversion of traffic, barricading arrangements, labour and all other incidentals etc., complete.		
A	Rate includes cost of metal, bitumen and hire & running charges for contractor's road roller.	SQM	397.55

Item No.	Description	UNIT	RATE (Rs.P)
B	Rate includes cost of metal, bitumen and hire & running charges for contractor's road roller. (thickness may vary)	CUM	5300.40
C	Rate includes only cost of bitumen and hire & running charges for contractor's road roller but excludes cost of metal.	SQM	317.10
D	Rate includes only cost of bitumen and hire & running charges for contractor's road roller but excludes cost of metal. (thickness may vary)	CUM	4227.65
E	Rate includes only hire and running charges for contractor's road roller but excludes cost of metal and bitumen.	SQM	103.50
F	Rate includes only hire and running charges for contractor's road roller but excludes cost of metal and bitumen.( thickness may vary)	CUM	1380.15
0914	<p>Providing 50 mm consolidated thick bituminous macadam over bituminous surface using IRC grade metal of 0.35 CUM of 25 to 11.20 mm, 0.21 CUM of 11.20 to 6 mm &amp; 0.14 CUM of 6 mm and below for 10 SQM with 40 kg of bitumen for premixing, including handling charges at CMP site, labour for loading the bitumen in bitumen tank and metal to feed units, labour for attending to paver site, heating &amp; mixing the bitumen and metal to the required temperature in the central hot mix plant, conveying the mix by tipper to paver site, spreading the mix in required temperature &amp; thickness with mechanical paver to the specified grade and cross section, consolidation by power roller to get the required density, including hire charges for CMP, paver finisher, tipper, power roller, bitumen boiler, all other tools and plants, incidental charges such as barricading, provision of danger lights etc., complete.</p> <p>Rate includes cost of metal, bitumen, hire and running charges for tools and plants and all other incidentals etc., complete. Payment will be made on pre level &amp; post level measurements.</p>	CUM	4998.70
0915	<p>Providing semidense carpet of 40 mm consolidated thickness using machine crushed IRC size HBG metal 0.16 CUM of 13.20 mm, 0.256 CUM of 11.20 mm and 0.176 CUM of 5.60 mm &amp; below for 10 SQM with 49.60 kg of bitumen for premixing for 10 SQM of 40 mm consolidated thickness of semidense carpet, including cost of bitumen, handling charges, labour for loading the bitumen in bitumen tanks and metal in feeder units, labour for attending paver units, heating &amp; mixing the bitumen and metal to the required temperature in the central hot mix plant, conveying the mix from CMP site</p>	CUM	6567.20

Item No.	Description	UNIT	RATE (Rs.P)
	to work site by tipper, spreading by the paver finisher to the required grade and cross profile and consolidation by power roller, including hire and running charges for CMP, paver finisher, tipper, power roller, bitumen boiler and all other tools and plants and all other incidental charges etc., complete.		
	Rate includes cost of metal, bitumen, labour, hire & running charges of tools & plants, barricading, providing of danger lights etc.. complete. Payment will be made based on pre level & post level measurements.		
0916	Providing semidense carpet of 25 mm consolidated thickness using machine crushed IRC size HBG metal 0.10 CUM of 13.2 mm, 0.16 CUM of 11.2 mm and 0.11 CUM of 5.60 mm and below for 10 SQM with 31 kg of bitumen for premixing for 10 SQM of 25 mm consolidated thickness of semidense carpet including cost of bitumen, handling charges, labour for loading the bitumen in bitumen tanks and metal in feeder unit, labour for attending paver units, heating & mixing the bitumen and metal to the required temperature in the central hot mix plant, conveying the mix from CMP site to work site by tipper, spreading by the paver finisher to the required grade and cross profile and consolidation by power roller, hire and running charges for CMP, paver finisher, tipper, power roller, bitumen boiler and all other tools and plants etc., complete. Rate includes cost of metal, bitumen, labour, hire and running charges of tools & plants, barricading arrangements, danger lights etc., complete. Payment will be made based on pre level & post level measurements.	CUM	6639.40
0917	Providing and applying tack coat including heating the bitumen in boiler, labour for preparing the surface, spraying the bitumen as tack coat, hire & running charges for all tools & plants & all other incidentals etc. complete.		
a	Over bituminous surface using 5 K.G of bitumen (grade 80/100) per 10 SQM area.	SQM	19.90
b	Over bituminous surface using 2.50 K.G of bitumen emulsion per 10 SQM area.	SQM	11.15
c	Over WBM surface using 4 K.G of bitumen emulsion per 10 SQM area.	SQM	16.15
d	Over WBM surface using 10 K.G of bitumen (grade 80/100) per 10 SQM area.	SQM	36.00
0918	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.	SQM	20.65

Item No.	Description	UNIT	RATE (Rs.P)
0919	Hire and running charges for power roller of 8 to 10 T capacity for the following item of works.		
A	Water Bound Macadam - 75 mm thick (Single layer)	SQM	3.45
B	Soling - 150 mm thick	SQM	2.60
C	Surface dressing / Wearing coat / Premix carpet - 20 mm thick	SQM	3.10
D	Coated macadam - 75 mm thick	SQM	6.95
E	Seal coat - 6 mm thick	SQM	1.55
0920	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.		
A	150 mm dia Consumption of cement - 0.60 KG/ R.M	R.M	306.50
B	250 mm dia Consumption of cement - 0.90 KG/ R.M	R.M	505.35
C	300 mm dia Consumption of cement - 1.10 KG/ R.M	R.M	573.70
D	450 mm dia Consumption of cement - 2.40 KG/ R.M	R.M	973.30
E	600 mm dia Consumption of cement - 2.95 KG/ R.M	R.M	1219.60
F	750 mm dia Consumption of cement - 3.90 KG/ R.M	R.M	1581.40
G	900 mm dia Consumption of cement - 4.50 KG/ R.M	R.M	1873.30
H	1200 mm dia Consumption of cement - 6.30 KG/ R.M	R.M	4745.15

## X - DISMANTLING AND DEMOLITION

Item No.	Description	UNIT	RATE (Rs.P)
1001	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.		
A1	Brick work in cement mortar	CUM	260.45
A2	Stone rubble masonry in cement mortar	CUM	310.70
A3	Old plastering / skirting raking out joints / chipping the concrete and roughening the surface.	SQM	6.95
A4	Plain Cement Concrete.	CUM	190.20
A5	RCC works including stacking of steel bars.	CUM	450.85
A6	RCC or PCC (Using jack hammer for pockets / cable trenches / industrial heavy duty flooring)	CUM	942.20
A7	Precast concrete or stone slabs in walls, partition walls etc.		
i	Thickness upto 40 mm	SQM	38.55
ii	Thickness above 40 mm upto 75 mm	SQM	57.70
A8	RCC louvers / RCC jally	SQM	76.05
A9	Ellis pattern finish / Insitu mosaic.	SQM	13.85
A10	Tile work in floors and roofs laid in cement mortar.	SQM	13.75
A11	Brick jelly lime concrete	CUM	107.65
A12	Doors / Windows / Ventilators (steel or wood) including frame and shutters, holdfasts, hinges, fastenings etc. of area 3 sqm & below.	EACH	54.60
A13	Only shutters of Doors / Windows / Ventilators (steel or wood) including hinges, fastenings etc.	SQM	10.00
A14	IWC with 'P' trap & foot rests	EACH	118.50
A15	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.	EACH	71.10

Item No.	Description	UNIT	RATE (Rs.P)
A16	Flushing cistern of any size	EACH	136.60
A17	G.I / PVC pipe lines of various dia including all specials.	R.M	5.30
A18	A.C / C.I rain water pipes upto 150 mm dia with fittings and clamps.	R.M	9.95
A19	S.W pipe lines upto 225 mm dia.	R.M	14.90
A20	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.		
I	Upto 150 mm dia	R.M	54.60
ii	Above 150 upto 300 mm dia	R.M	74.95
iii	Above 300 mm dia	R.M	99.50
A21	C.I sluice valve		
I	Upto 150 mm dia	EACH	50.75
ii	Above 150 mm dia	EACH	172.35
A22	A.C sheets from roofs and side cladding including ridges, valleys, gutters etc.	SQM	11.35
A23	G.I / Aluminium sheets from roofs and side cladding including ridges, valleys, gutters etc.	SQM	24.30
A24	Steel structures / steel works in built up sections including bolts, nuts, cutting rivets, welding, dismembering, preparation of DODL etc.	M.T	768.35
A25	Steel partitions including bolts, nuts, cutting rivets, welding etc. and dismembering	SQM	36.80
A26	North light glasses at various levels ranging from 9 to 24 metre	SQM	38.35
A27	False ceiling / partitions / fixed glazing, all in A.C sheet or hard board or aluminium or gypsum or other materials including connected frame works .	SQM	8.70
A28	Rough stone dry packing for apron, revetments etc.	CUM	108.90
A29	R.C.C fencing post including all earthwork, dismantling base concrete etc.	EACH	47.55
A30	Barbed wire / flexible wire rope in fencing.	K.G	4.65
A31	R.C.C pipes upto 450 mm dia	R.M	89.85
A32	Kerb stone	R.M	8.75
A33	Bituminous road.	CUM	186.30
A34	W.B.M road.	CUM	116.15

**XI - WATER SUPPLY AND SANITARY ITEMS**

<b>Item No.</b>	<b>Description</b>	<b>UNIT</b>	<b>RATE (Rs.P)</b>
1101	Providing and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings and clamps on walls & floors, including cutting and making good the walls & floors etc. complete. (Internal work - exposed on walls)		
A	15 mm dia nominal bore.	R.M	133.05
B	20 mm dia nominal bore.	R.M	156.90
C	25 mm dia nominal bore.	R.M	222.65
D	32 mm dia nominal bore.	R.M	276.75
E	40 mm dia nominal bore.	R.M	329.55
F	50 mm dia nominal bore.	R.M	415.10
G	65 mm dia nominal bore.	R.M	528.85
H	80 mm dia nominal bore.	R.M	704.45
I	100 mm dia nominal bore.	R.M	970.30
J	125 mm dia nominal bore.	R.M	1314.00
K	150 mm dia nominal bore.	R.M	1440.10
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.	R.M	29.40
1103	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.		
A	15 mm dia nominal bore.	R.M	96.60
B	20 mm dia nominal bore.	R.M	115.10
C	25 mm dia nominal bore.	R.M	172.70
D	32 mm dia nominal bore.	R.M	217.00
E	40 mm dia nominal bore.	R.M	256.40
F	50 mm dia nominal bore.	R.M	322.85

Item No.	Description	UNIT	RATE (Rs.P)
G	65 mm dia nominal bore.	R.M	420.50
H	80 mm dia nominal bore.	R.M	569.00
I	100 mm dia nominal bore.	R.M	804.55
J	125 mm dia nominal bore.	R.M	1099.60
K	150 mm dia nominal bore.	R.M	1216.50
1104	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)		
A	PVC Pipe 18/20 mm OD (10 kg/Sq.cm)	R.M	36.35
B	PVC Pipe 25 mm OD (10 kg/Sq.cm)	R.M	47.50
C	PVC Pipe 32 mm OD (10 kg/Sq.cm)	R.M	57.90
D	PVC Pipe 40 mm OD ( 6 kg/Sq.cm)	R.M	69.35
E	PVC Pipe 50 mm OD ( 6 kg/Sq.cm)	R.M	91.80
1105	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.		
A	PVC Pipe 18/20 mm OD (10 kg/Sq.cm)	R.M	14.40
B	PVC Pipe 25 mm OD (10 kg/Sq.cm)	R.M	21.20
C	PVC Pipe 32 mm OD (10 kg/Sq.cm)	R.M	30.05
D	PVC Pipe 40 mm OD (6 kg/Sq.cm)	R.M	32.35
E	PVC Pipe 50 mm OD (6 kg/Sq.cm)	R.M	46.05
F	PVC Pipe 63 mm OD (6 kg/Sq.cm)	R.M	73.70
G	PVC Pipe 75 mm OD (6 kg/Sq.cm)	R.M	100.85
H	PVC Pipe 90 mm OD (6 kg/Sq.cm)	R.M	140.70
I	PVC Pipe 110 mm OD (6 kg/Sq.cm)	R.M	194.85
J	PVC Pipe 140 mm OD (6 kg/Sq.cm)	R.M	310.00

Item No.	Description	UNIT	RATE (Rs.P)
K	PVC Pipe 160 mm OD (6 kg/Sq.cm)	R.M	402.35
L	PVC Pipe 180 mm OD (6 kg/Sq.cm)	R.M	508.45
M	PVC Pipe 200 mm OD (6 kg/Sq.cm)	R.M	626.90
1106	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.		
A	PVC Pipe 75 mm OD	R.M	84.30
B	PVC Pipe 110 mm OD	R.M	149.05
C	PVC Pipe 160 mm OD	R.M	293.25
1107	Providing and fixing PVC moulded fittings / accessories on walls for rain water pipes conforming to IS13592 Type A including joining with seal rings conforming to IS 5382 and proper adhesive as suggested by manufacturers etc., complete.		
A	75 x75 x 75 mm single tee with door.	EACH	113.50
B	110 x 110 x 110 mm single tee with door.	EACH	180.75
C	75 x75 x 75 mm single tee without door.	EACH	103.80
D	110 x110 x 110 mm single tee without door.	EACH	154.70
E	75 mm shoe	EACH	53.85
F	110 mm shoe	EACH	79.35
G	160 mm shoe	EACH	123.75
H	75 mm bend	EACH	72.70
I	110 mm bend	EACH	115.30
1108	Providing and fixing in position of brass wheel valve / gate valve of approved brand with C.I wheel etc. complete. (ISI marked)		
A	15 to 25 mm nominal bore	EACH	270.35
B	32 mm nominal bore	EACH	339.05
C	40 mm nominal bore	EACH	377.85
D	50 mm nominal bore	EACH	547.60
E	80 mm nominal bore	EACH	1296.75
F	100 mm nominal bore	EACH	2552.00

Item No.	Description	UNIT	RATE (Rs.P)
1109	Providing and fixing in position brass bib cock / stop cock (Medium Duty) of approved brand (ISI marked)		
A	15 mm nominal bore.	EACH	181.55
B	20 mm nominal bore.	EACH	222.75
C	25 mm nominal bore.	EACH	342.10
1110	Providing and fixing in position 15 mm nominal bore C.P brass long nose bibcock / C.P brass stop cock (concealed) of approved brand (ISI marked)	EACH	299.10
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)	EACH	329.25
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.	EACH	38.25
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 waste pipe etc. complete, including cutting and making good the walls wherever required.	EACH	1023.30
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.	R.M	672.70
1115	Providing and fixing in position of PTMT towel rail 600 mm complete with brackets fixed to wooden cleats with CP brass screws with concealed fitting arrangement of approved quality & 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)	EACH	298.80

Item No.	Description	UNIT	RATE (Rs.P)
1116	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.	EACH	363.00
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.	EACH	142.50
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.	EACH	776.90
1119	Providing and fixing in position of ready made sink including PVC waste pipe of 32 mm dia with necessary coupling etc. complete.		
A	Cudappa sink of size 23" x 17" x 9"/10" or thereabouts (outer dimensions) - 12 mm thick.	EACH	740.45
B	Cuddappah sink of size 23" x 23" x 9"/10" or thereabouts (outer dimensions) - 12 mm thick.	EACH	828.45
C	Marble (white) sink of size 23" x 17" x 9"/10" or thereabouts (outer dimensions) - 12 mm thick.	EACH	1268.45
D	Marble (white) sink of size 23" x 23" x 9"/10" or thereabouts (outer dimensions) - 12 mm thick.	EACH	1543.45
E	Granite (black) sink of size 23" x 17" x 9"/10" or thereabouts (outer dimensions) - 12 mm thick.	EACH	1708.45
F	Granite (black) sink of size 23" x 23" x 9"/10" or thereabouts (outer dimensions) - 12 mm thick.	EACH	1983.45
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.	EACH	322.45
1121	Providing and fixing in position of 100 x 75 mm Nahani trap with PVC grating, all as per standard specifications.	EACH	129.05

Item No.	Description	UNIT	RATE (Rs.P)
1122	Providing and fixing in position of 150 mm SW gully trap with HCl grating, all as per standard specifications.	EACH	173.85
1123	Providing and fixing in position of brass ball valve of approved brand with plastic float fitted with brass rod etc. complete.		
A	20mm nominal bore	EACH	315.60
B	25mm nominal bore	EACH	365.45
1124	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.		
A	580 mm size	EACH	1461.05
B	500 mm size	EACH	1435.10
1125	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.		
A	580 mm size (White) (Parryware/Neycer/Cera)	EACH	1242.70
B	500 mm size (White) (Parryware/Neycer/Cera)	EACH	1213.00
C	580 mm size (colour)	EACH	1395.60
D	500 mm size ( colour)	EACH	1340.60
E	580 mm size Deluxe model ( colour)	EACH	1857.05
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.	EACH	1452.00
1127	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 & brackets, cutting and making good the walls and floors wherever required etc. complete.		
A	White glazed	EACH	3196.05
B	Colour glazed with colour seat and lid	EACH	3538.15

Item No.	Description	UNIT	RATE (Rs.P)
1128	Providing and fixing in position of 10 litre low level PVC flushing cistern of approved make with fittings and flush pipe etc. complete.	EACH	564.50
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.	EACH	448.05
1130	Providing and fixing in position of white glazed earthenware flat back angular lipped urinal of 430 x 230 x 350 mm of approved brand with teakwood plugs and screws/clamps, including providing and fixing a pair of white glazed earthenware foot rest for each urinal, PVC waste pipe, cutting of floor and walls and making good all damages and finishing to match with the existing work etc., complete.	EACH	878.40
1131	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.		
A	100 mm dia S.W Pipes Cement consumption 0.64 Kg / R.M	R.M	99.30
B	150 mm dia S.W Pipes Cement consumption 1.20 Kg / R.M	R.M	141.25
C	200 mm dia S.W Pipes Cement consumption 1.77 Kg / R.M	R.M	229.60
D	225 mm dia S.W Pipes Cement consumption 2.17 Kg / R.M	R.M	249.80
1132	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.		

Item No.	Description	UNIT	RATE (Rs.P)
A	Upto 0.90 m depth (Rectangular) Cement consumption 128.00 Kg / Each	EACH	2348.80
B	Above 0.90 and upto 1.20 m depth (Rectangular) Cement consumption 278.01 Kg / Each	EACH	3793.45
C	Above 1.20 and upto 1.50 m depth (Rectangular) Cement consumption 320.31 Kg / Each	EACH	4770.65
D	Above 1.50 and upto 1.80 m depth (Rectangular) Cement consumption 332.10 Kg / Each	EACH	5267.15
E	Above 1.80 and upto 2.10 m depth (Rectangular) Cement consumption 367.94 Kg / Each	EACH	6089.95
F	Above 2.10 and upto 2.40 m depth (Rectangular) Cement consumption 403.63 Kg / Each	EACH	7091.75
G	Above 2.40 and upto 2.70 m depth (Rectangular) Cement consumption 594.62 Kg / Each	EACH	8920.30
H	Above 2.70 and upto 3.00 m depth (Rectangular) Cement consumption 618.57 Kg / Each	EACH	9571.70
I	Above 3.00 and upto 3.30 m depth (Rectangular) Cement consumption 654.69 Kg / Each	EACH	10605.75
J	Above 3.30 and upto 3.60 m depth (Rectangular) Cement consumption 690.82 Kg / Each	EACH	11612.00
1133	Supply and fixing C.I cover with/without frame for manholes/gully traps.		
A	500 mm dia C.I cover only (Without frame) (Medium duty) Weight of the cover to be not less than 58 K.G.	EACH	2372.50
B	500 mm dia C.I cover with frame (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)	EACH	4767.40
C	560 mm dia C.I cover only. (Without frame) (Heavy duty) Weight of cover to be not less than 108 K.G.	EACH	4063.90
D	560 mm dia C.I cover with frame. (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)	EACH	8542.60
E	300 x 300 mm C.I cover without frame for gully trap (standard pattern) The weight of cover to be not less than 4.50 K.G.	EACH	193.90

Item No.	Description	UNIT	RATE (Rs.P)
1134	Labour charges for laying centrifugally C.I pipes (S&S or flanged pipes) in trenches to proper grade and alignment. Rate excludes cost of pipes.	M.T	505.20
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.	M.T	968.95
1136	Labour charges for cutting C.I pipes true to axis and filing smoothly and finishing the ends complete.		
A	80 mm dia C.I pipe.	Each cut	22.15
B	100 mm dia C.I pipe.	Each cut	29.90
C	125 mm dia C.I pipe.	Each cut	41.80
D	150 mm dia C.I pipe.	Each cut	56.25
E	200 mm dia C.I pipe.	Each cut	75.05
F	250 mm dia C.I pipe.	Each cut	92.85
G	300 mm dia C.I pipe.	Each cut	111.65
H	350 mm dia C.I pipe.	Each cut	129.45
I	400 mm dia C.I pipe.	Each cut	148.10
J	450 mm dia C.I pipe.	Each cut	166.05
1137	Providing lead caulked joints to C.I pipes and specials including testing of joints but excluding cost of pig lead.		
A	80 / 100 mm dia pipe.	Each joint	81.65
B	125 / 150 mm dia pipe.	Each joint	120.25
C	200 / 250 mm dia pipe.	Each joint	182.50
D	300 / 350 mm dia pipe.	Each joint	249.15
E	400 / 450 mm dia pipe.	Each joint	349.15
1138	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.		
A	100 / 125 mm dia pipe.	Each joint	107.60
B	150 / 200 mm dia pipe.	Each joint	151.60
C	250 / 300 mm dia pipe.	Each joint	229.25
D	350 / 400 mm dia pipe.	Each joint	426.85
E	450 / 500 mm dia pipe.	Each joint	702.85

Item No.	Description	UNIT	RATE (Rs.P)
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 operated pumps with power/diesel and fresh water will be supplied by BHEL at free of charges.	SQM	3.00
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)	SQM	3.25
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.	EACH	2420.00
1142	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 & 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.		
A	580 mm size (White)	EACH	1782.00
B	580 mm size (White), but with 20 mm thick insitu mosaic floor finish as per usual practice instead of ellis pattern finish.	EACH	1963.50

Item No.	Description	UNIT	RATE (Rs.P)
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 & lid. Rate includes dismantling the damaged water closet, providing new EWC, fixing, all labour etc. complete.	EACH	1274.50
1144	Labour charges for dismantling the trap alone without damaging the water closet & refixing with new trap supplied by BHEL at stores at free of cost & making good all damages and finishing to match with the existing one etc., complete.	EACH	211.75
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.	EACH	330.00
1146	Providing 32 mm dia PVC waste pipe to sink with necessary coupling etc complete.	EACH	190.45
1147	Cleaning & complete removal of all the obstructions/blockage accumulated such as silt, sand, debris, all other wastes etc. from manhole & disposing the same in the near by low level areas. Scope includes opening the manhole cover, removing all the blockage such as silt, sand, debris, all other wastes etc., lifting, disposing the same in the near by low level areas, all labour, tools, repositioning the manhole cover after finishing the job etc., complete.		
A	Manhole upto 1.50 metre depth	EACH	83.05
B	Manhole beyond 1.50 but upto 3.30 metre depth	EACH	186.20
1148	Cleaning the sewer line in all depths between manhole to manhole & complete removal of all the obstructions/blockage accumulated such as silt, sand, debris, all other wastes etc. by means of blockage removal machine attached with sewer cleaning rod etc. & disposing the same in the near by low level areas. Scope includes opening the manhole cover, removing all the blockage such as silt, sand, debris, all other wastes etc., lifting, disposing the same in the near by low level areas, all labour, tools, repositioning the manhole cover after finishing the job etc.complete. Blockage removal machine attached with sewer cleaning rod for the job will be issued by BHEL at stores at free of cost.	R.M	8.25

Item No.	Description	UNIT	RATE (Rs.P)
1149	Labour charges for laying and fixing G.I pipes and specials with G.I fittings and clamps on walls & floors, including cutting and making good the walls & 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.		
A	15 mm dia nominal bore.	R.M	29.05
B	20 mm dia nominal bore.	R.M	32.10
C	25 mm dia nominal bore.	R.M	35.35
D	32 mm dia nominal bore.	R.M	39.60
E	40 mm dia nominal bore.	R.M	50.50
F	50 mm dia nominal bore.	R.M	61.15
G	65 mm dia nominal bore.	R.M	72.15
H	80 mm dia nominal bore.	R.M	80.40
I	100 mm dia nominal bore.	R.M	88.65
J	125 mm dia nominal bore.	R.M	99.65
K	150 mm dia nominal bore.	R.M	107.90
1150	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.		
A	15 mm diameter pipe	R.M	4.70
B	20 mm diameter pipe	R.M	5.50
C	25 mm diameter pipe	R.M	7.30
D	32 mm diameter pipe	R.M	8.60
E	40 mm diameter pipe	R.M	10.20
F	50 mm diameter pipe	R.M	12.00
1151	Conveying polyethylene cylindrical 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 & all specials will be issued by BHEL at stores at free of cost.		
A	Up to 500 litre	EACH	99.00
B	Above 500 but up to 1000 litre	EACH	123.20
C	Above 1000 but up to 2000 litre	EACH	198.00
1152	Labour charges for removing the blockage in the gully trap and cleaning it completely, all as per the instructions of Engineer-in-charge.	EACH	15.85

**XII - ALUMINIUM WORKS, FALSE CEILING ETC.**

<b>Item No.</b>	<b>Description</b>	<b>UNIT</b>	<b>RATE (Rs.P)</b>
1201	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 & 1285, fixed with rawl plugs & 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 required including cleat angle, aluminium snap beading for glazing / panelling, C.P brass / stainless steel screws, all complete as per architectural drawings and instructions of Engineer-in-charge. (Glazing and panelling to be paid for separately)		
A	For fixed portion - Anodised aluminium (anodised transparent or dyed to required shade according to IS 1868, minimum anodic coating of grade AC 15)	K.G	275.40
B	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 transparent or dyed to required shade according to IS 1868, minimum anodic coating of grade AC 15)	K.G	294.45
1202	Same as per Item Nos.1201 A & B & 1208, but for powder coated aluminium (minimum thickness of powder coating 50 micron) sections instead of anodised aluminium sections. Extra rate to be added over & above Item Nos.1201 A & B & 1208.	K.G	14.30
1203	Same as per Item Nos.1201 A & B & 1208, but for polyester powder coated aluminium (minimum thickness of polyester powder coating 50 micron) sections instead of anodised aluminium sections. Extra rate to be added over & above Item Nos.1201 A & B & 1208.	K.G	19.80
1204	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.)		
A	With float glass panes of 4 mm thick	SQM	533.70
B	With float glass panes of 5.50 mm thick	SQM	646.00

Item No.	Description	UNIT	RATE (Rs.P)
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.	EACH	1645.45
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)	K.G	362.25
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.	EACH	68.10
1208	Providing and fixing machine moulded anodised aluminium (anodised transparent 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.	K.G	320.00
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 & 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	SQM	490.45

Item No.	Description	UNIT	RATE (Rs.P)
1210	<p>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.</p> <p>Providing BISON panel false ceiling with NCL seccolor exposed T &amp; L grid system at the required heights above floor level, all as per standard specifications and instructions of Engineer-in-charge.</p> <p>FRAME WORK: The frame work will consists of NCL Seccolor or any other equivalent approved brand of exposed grid system using roll formed hot dipped galvanised steel sections, exposed surfaces chemically cleaned, capping pre-finished in baked polyester paint of approved shade of T section 25 x 38 mm, 1.20 mm thick and L section 25 x 25 mm, 0.80 mm thick. The frame grid shall be of size 610 x 610 mm. Grids are to be suspended by 6 mm M.S rods or GI wire from the RCC roof or trusses at suitable intervals (not more than 1200 mm) or as per manufacturer's recommendation. The suspenders along with spring steel 'U' clip allowing final level adjustment are to be fixed in the RCC roof or trusses by using metal fasteners, etc. Suitable T / wall angles are to be used wherever necessary such as near walls, columns, light fixtures, A.C. grills etc.</p> <p>CEILING: The ceiling board / tile is of 600 x 600 x 4 mm BISON panel cement bonded particle boards painted with one coat of primer on both sides. Panels shall be placed in position and held by suitable spring clips, headless nails with the G.I. grid frames. Wherever light fixtures and A.C. grills / diffusers are flush to the ceiling, the ceiling board has to be cut accordingly.</p> <p>Rate includes cost of all materials, labour, tools, scaffolding, taxes, duties etc., complete. Payment will be made based on the actual surface area of work done.</p>	SQM	451.00

Item No.	Description	UNIT	RATE (Rs.P)
1211	<p>Providing DECOCEIL boards false ceiling with NCL seccolor exposed T &amp; L grid system at the required heights above floor level, all as per standard specifications and instructions of Engineer-in-charge.</p> <p>FRAME WORK: The frame work will consists of NCL Seccolor or any other equivalent approved brand of exposed grid system using roll formed hot dipped galvanised steel sections, exposed surfaces chemically cleaned, capping pre-finished in baked polyester paint of approved shade of T section 25 x 38 mm, 1.20 mm thick and L section 25 x 25 mm, 0.80 mm thick. The frame grid shall be of size 610 x 610 mm. Grids are to be suspended by 6 mm M.S rods or GI wire from the RCC roof or trusses at suitable intervals (not more than 1200 mm) or as per manufacturer's recommendation. The suspenders along with spring steel 'U' clip allowing final level adjustment are to be fixed in the RCC roof or trusses by using metal fasteners, etc. Suitable T / wall angles are to be used wherever necessary such as near walls, columns, light fixtures, A.C. grills etc.</p> <p>CEILING: The DECOCEIL ceiling board of 3.20 mm thick with required patterns and sizes, painted with one coat of primer on both sides. Panels shall be placed in position and held by suitable spring clips, headless nails with the G.I. grid frames. Wherever light fixtures and A.C. grills / diffusers are flush to the ceiling, the ceiling board has to be cut accordingly.</p> <p>Rate includes cost of all materials, labour, tools, scaffolding, taxes, duties etc., complete. Payment will be made based on the actual surface area of work done.</p>	SQM	495.00
1212	<p>Providing 10 mm thick plaster of paris (Gypsum anhydrous) ceiling upto a height of 5 metre above floor level over first class 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)</p>		
A	Flat surfaces	SQM	403.80
B	Curved surfaces	SQM	458.30
1213	Extra for any sunk or raised mouldings in the plaster of paris (Gypsum anhydrous) ceiling.	SQM	108.85
1214	Extra for providing plaster of paris (Gypsum anhydrous) ceiling above 5 metre height from floor level. (Height beyond 5 metre to be measured for extra payment)	SQM/ METRE HEIGHT	41.60
1215	Providing and fixing 100 mm brass lock (mortise latch & lock with six levers) for aluminium doors including necessary cutting and making good etc.complete.	EACH	207.95

Item No.	Description	UNIT	RATE (Rs.P)
1216	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.	EACH	43.30
1217	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.	EACH	47.70
1218	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.	EACH	49.90
1219	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 & fixing with necessary nails/screws, all labour etc. complete. (Frame work will be paid separately)		
A	12 mm flat pressed 3 layer medium density particle boards - Grade - I	SQM	407.20
B	6 mm thick plain multi purpose cement board with suitable fibre cement screws.	SQM	329.45
C	12 mm thick plain/semi perforated or with design ceiling tiles of BWP type phenol formoldehyde synthetic resin bonded pressed conforming to IS 3087.	SQM	203.90
D	3 mm thick translucent white acrylic plastic sheets.	SQM	718.15
E	20 mm thick thermocole boards. (22 K.G/CUM)	SQM	58.85
F	DECOCEIL Boards of size 2' x 2' or 4' x 2' or 4' x 4' , all 3.20 mm thick in the required patterns.	SQM	207.45
1220	Supply and fixing the following boards/sheets of approved brand & 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.		
A1	MDF Boards or equivalent of 6 mm thick (Regular grade)	SQM	203.60
A2	MDF Boards or equivalent of 18 mm thick (Regular grade)	SQM	477.35

<b>Item No.</b>	<b>Description</b>	<b>UNIT</b>	<b>RATE (Rs.P)</b>
A3	Commercial plywood 6 mm thick - M.R Grade - (Anchor/Swati or equivalent)	SQM	360.10
A4	Commercial plywood 12 mm thick - M.R Grade- (Anchor/Swati or equivalent)	SQM	462.10
A5	Commercial plywood 6 mm thick-Synthetic resin bonded - (Anchor/Swati or equivalent)	SQM	409.80
A6	Commercial plywood 12 mm thick-Synthetic resin bonded- (Anchor/Swati or equivalent)	SQM	524.25
A7	Cement bonded particle boards - 6 mm thick (Bison panel)	SQM	275.80
A8	Cement bonded particle boards - 10 mm thick (Bison panel)	SQM	350.40
A9	Cement bonded particle boards - 12 mm thick (Bison panel)	SQM	400.10
A10	Cement bonded particle boards - 16 mm thick (Bison panel)	SQM	514.60
A11	Both sides pre laminated Cement bonded particle boards - 6 mm thick (Bison panel)	SQM	508.90
A12	Both sides pre laminated Cement bonded particle boards - 8 mm thick (Bison panel)	SQM	549.30
A13	Both sides pre laminated Cement bonded particle boards - 10 mm thick (Bison panel)	SQM	586.60
A14	Both sides pre laminated Cement bonded particle boards - 12 mm thick (Bison panel)	SQM	639.45
A15	Both sides pre laminated Cement bonded particle boards - 16 mm thick (Bison panel)	SQM	713.55
A16	Plain particle boards- 9 mm thick-Regular Grade- (Novapan-Prime or equivalent)	SQM	250.85
A17	Plain particle boards- 12mm thick-Regular Grade- (Novapan-Prime or equivalent)	SQM	288.15
A18	Plain particle boards- 18mm thick-Regular Grade- (Novapan-Prime or equivalent)	SQM	352.90
A19	Plain particle boards- 25mm thick-Regular Grade- (Novapan-Prime or equivalent)	SQM	528.80

Item No.	Description	UNIT	RATE (Rs.P)
A20	Plain particle boards- 35mm thick-Regular Grade- (Novapan-Prime or equivalent)	SQM	745.15
A21	Plain particle boards- 9 mm thick-Exterior Grade- (Novapan-Prime or equivalent)	SQM	300.55
A22	Plain particle boards- 12mm thick-Exterior Grade- (Novapan-Prime or equivalent)	SQM	350.25
A23	Plain particle boards- 18mm thick-Exterior Grade- (Novapan-Prime or equivalent)	SQM	464.75
A24	Plain particle boards- 25mm thick-Exterior Grade- (Novapan-Prime or equivalent)	SQM	628.25
A25	Plain particle boards- 35mm thick-Exterior Grade- (Novapan-Prime or equivalent)	SQM	794.85
A26	Pre laminated (one side) particle boards - 9 mm thick - (Novapan-Standard or equivalent)	SQM	362.70
A27	Pre laminated (both sides) particle boards - 9 mm thick - (Novapan-Standard or equivalent)	SQM	367.75
A28	Pre laminated (one side) particle boards - 12 mm thick - (Novapan-Standard or equivalent)	SQM	424.85
A29	Pre laminated (both sides) particle boards - 12 mm thick - (Novapan-Standard or equivalent)	SQM	429.90
A30	Pre laminated (one side) particle boards - 18 mm thick - (Novapan-Standard or equivalent)	SQM	489.60
A31	Pre laminated (both sides) particle boards - 18 mm thick - (Novapan-Standard or equivalent)	SQM	494.65
A32	Pre laminated (one side) particle boards - 25 mm thick - (Novapan-Standard or equivalent)	SQM	615.80
A33	Pre laminated (both sides) particle boards - 25 mm thick - (Novapan-Standard or equivalent)	SQM	620.90
1221	Providing silver anodized aluminium alloy grills (DECOGRILLE) of following design and fixing in proper position in windows/ventilators/balconies/partitions/fences/racks etc. with necessary appropriate type, material, brand & quality screws as per manufacturers recommendation etc., complete, all as per the instructions of Engineer-in-charge.		
A	DECOGRILLE Design No.DG 202 with 7.50 mm plates	SQM	1393.75

<b>Item No.</b>	<b>Description</b>	<b>UNIT</b>	<b>RATE (Rs.P)</b>
B	DECOGRILLE Design No.DG 902 with 7.50 mm plates	SQM	1213.85
C	DECOGRILLE Design No.DG 202 with 10.00 mm plates	SQM	1521.55
1222	Additional charges for other colours for the DECOGRILLE. Rate to be added over and above the rate of Item No.1221.		
A	For Champagne & black - DECOGRILLE Design No.DG 202 & 902 with 7.50 mm plates	SQM	120.60
B	For Dark Bronze/Medium Bronze/Gold & Powder coated shades - DECOGRILLE Design No.DG 202 & 902 with 7.50 mm plates	SQM	150.55
C	For Champagne & black - DECOGRILLE Design No.DG 202 with 10.00 mm plates	SQM	140.25
D	For Dark Bronze/Medium Bronze/Gold & Powder coated shades - DECOGRILLE Design No.DG 202 with 10.00 mm plates	SQM	160.80

### XIII - PILE WORKS

Item No.	Description	UNIT	RATE (Rs.P)
1301	Boring, providing and installing cast in situ single under reamed vertical piles of specified diametre & required length below grade beam/pile cap in M 35 cement concrete piles using 20 mm & down grade hard broken granite stone jelly with necessary reinforcement including bailing out water, mobilisation of necessary plants, equipments, materials etc. complete. Rate also includes cost of boring with bentonite solution, chisseling, cutting the pile to the required cut off level, leaving necessary dowel to grade beam/pile cap etc. all as per standard specifications and as directed by the Engineer-in -charge. (Length of pile for payment shall be measured upto the bottom of grade beam/pile cap. Rate excludes cost of cement, reinforcement steel & fabrication charges for reinforcement)		
A	300 mm dia piles	R.M	1335.55
B	400 mm dia piles	R.M	1451.40
C	450 mm dia piles	R.M	1517.35

#### XIV – HORTICULTURE

Item No.	Description	UNIT	RATE (Rs.P)
1401	Labour charges for carrying out the following. Scope includes all labour, relevant tools & 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.		
A	Mowing of lawns neatly to uniform levels. (By means of blade/ mower)	SQM	1.15
B	Cutting all types of hedges to the required & uniform height and width.	R.M	1.90
C	Cutting & trimming topiary work for various shrubs, domes etc. to the required sizes, shapes etc. complete.	EACH	7.40
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.	EACH	2.20
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 & 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 & plants will be issued by BHEL at Stores or Nursery at free of cost. Contractor has to transport the same to site of works.	EACH PER MONTH	1.35
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, disposing 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 & plants will be issued by BHEL at Stores or Nursery at free of cost. Contractor has to transport the same to site of works.	EACH PER MONTH	13.35

Item No.	Description	UNIT	RATE (Rs.P)
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 & cutting, pruning, trimming the hedges once in a month, cleaning the areas, disposing 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.	R.M PER MONTH	0.80
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 & 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 & plants will be issued by BHEL at Stores or Nursery at free of cost. Contractor has to transport the same to site of works.	SQM PER MONTH	1.10
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, disposing 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 & grass will be issued by BHEL at Stores or Nursery at free of cost. Contractor has to transport the same to site of works.	SQM PER MONTH	0.80

<b>Item No.</b>	<b>Description</b>	<b>UNIT</b>	<b>RATE (Rs.P)</b>
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 & 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 & plants will be issued by BHEL at Stores or Nursery at free of cost. Contractor has to transport the same to site of works.	EACH PER MONTH	3.35
1409	Maintaining the potted plants available at Nursery & 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 & 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 & plants will be issued by BHEL at Stores or Nursery at free of cost.	EACH PER MONTH	1.35

**XV – MISCELLANEOUS**

<b>Item No.</b>	<b>Description</b>	<b>UNIT</b>	<b>RATE (Rs.P)</b>
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.  Cement consumption - 1020.00 K.G/CUM	CUM	8169.15
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 20/40 or Pidigrout 5M/10M or Flogrout 40/60 or Conbextra GP1/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.	CUM	23861.30
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.  Cement consumption - 8.64 K.G/ Each	EACH	121.00
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.  Cement consumption - 10.56 K.G/ Each	EACH	143.50

Item No.	Description	UNIT	RATE (Rs.P)
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.	EACH	589.60
	Cement consumption - 40.32 K.G/ Each		
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.	EACH	24.55
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.	R.M	12.20
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.	R.M	0.70
1509	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.		
A	0 - 1 Km	CUM	93.00
B	Beyond 1 Km but upto 2 Km	CUM	99.35

Item No.	Description	UNIT	RATE (Rs.P)
C	Beyond 2 Km but upto 3 Km	CUM	105.65
D	Beyond 3 Km but upto 4 Km	CUM	112.00
E	Beyond 4 Km but upto 5 Km	CUM	118.30
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, segregation of bio-degradable & non-bio-degradable waste at respective dust bins itself, collection, loading, all lead, unloading, hire & 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 & 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.	PER TRIP OF 300 CFT	573.15
1511	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.		
A	0-1 K.M	PER TRIP OF 300 CFT	437.90
B	1-2 K.M	PER TRIP OF 300 CFT	467.10
C	2-3 K.M	PER TRIP OF 300 CFT	496.30

Item No.	Description	UNIT	RATE (Rs.P)
1512	Sweeping roads, drains, platforms, open spaces, surrounding areas of buildings, shops, parks, gardens, sides & back spaces in between bolcks, roof terrace of buildings at a maximum elevated level of 6 metre and other areas as identified & instructed by Engineer in charge. Rate includes labour, tools, brooms, malard, baskets etc., sweeping, hand picking of debris, collecting & 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.	SQM	0.06
1513	Cleaning & 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 & 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.	SQM	0.08
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.	ONE OPERA TION	373.00
1515	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.		
A	At Quarters of Kailasapuram / Kamarajapuram Township.	EACH	154.70
B	At Quarters of Nehru Nagar/ burial ground	EACH	204.70
1516	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.		

Item No.	Description	UNIT	RATE (Rs.P)
A	40' X 40'	ONE OPERA TION	872.90
B	40' X 20'	ONE OPERA TION	579.10
C	20' X 12'	ONE OPERA TION	296.25
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.	EACH	36.30
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.	SQM	23.70
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.	EACH	12.70
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.	SQM	5.30
1521	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.		
A	For stage of size 32' x 20'	ONE OPERA TION	812.00
B	For stage of size 20' x 20' or 20' x 18'	ONE OPERA TION	642.00
C	For stage of size 20' x 12'	ONE OPERA TION	477.50

Item No.	Description	UNIT	RATE (Rs.P)
1522	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.		
A	PVC moulded chair	EACH	4.35
B	Wooden chair with cushion	EACH	10.95
1523	If the transportation (to & 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 & unloading charges, instead of transporting by the contractor, then the rate for :		
A	Item No.1516 A	ONE OPERA TION	696.90
B	Item No. 1516 B	ONE OPERA TION	447.10
C	Item No. 1516 C	ONE OPERA TION	197.25
D	Item No.1518	SQM	15.80
E	Item No.1519	EACH	8.30
F	Item No. 1520	SQM	0.55
G	Item No. 1521 A	ONE OPERA TION	526.00
H	Item No. 1521 B	ONE OPERA TION	394.50
I	Item No. 1521 C	ONE OPERA TION	263.00
J	Item No.1522 A	EACH	0.40
K	Item No.1522 B	EACH	1.05

Item No.	Description	UNIT	RATE (Rs.P)
1524	Maintenance of BG tracks of BHEL siding, ensuring perfect level, cant, alignment, straightness etc. Scope includes tightening of fish plates, oiling & greasing of fish plates, driving the spikes, beating the steel keys and cotters, checking the tie bars to keep the rails in position and gauge, packing the ballast (murrum/stone), maintaining the width of earthen embankment, cutting of unwanted trees/tree branches on either sides of tracks, clearing off the jungle & bushes to a maximum width of 4.00 m along the track and handing over the cut woods to stores etc. complete, all as per standard railway practices and also taking periodic gauge/super elevation/curve readings and submission of records. Payment will be made for the length of track for which maintenance works attended to. Tools, oil, spares etc. required for the work will be supplied by BHEL at stores at free of charges.	R.M PER ONE TIME	25.05
1525	Maintenance of point & crossing 1 in 8 ½ in BG by thorough packing and consolidation of ballast. Scope of work includes to bring the track to correct longitudinal and cross levels, super elevation on curve, boxing and tidying up the track to prescribed parameters with tolerance as allowed as per IRPWM, cleaning of fish plates, switches, point level, box assembling, oiling and greasing of joint / fish plates, moveable / sliding portion, cutting of unwanted trees/tree branches, clearing off jungle, bushes in & along the point & crossing area and handing over the cut woods to stores and taking periodic reading for maintaining the point & crossing register and submission of record, all as per standards of Indian Railways. Tools, oil, spares etc. required for the work will be supplied by BHEL at stores at free of charges.	ONE SET OF POINT & CRO SSING PER ONE TIME	1792.15
1526	Cutting 90/105 lbs rail with hacksaw blade to the correct square in laid condition/free condition. Rate includes labour, tools, consumables, lead, lift etc. complete, all as directed by the Engineer-in-charge.	ONE CUT	70.25
1527	Drilling 32 mm dia hole in 90/105 lbs rails to match with the fish plate holes in laid condition / free condition. Rate includes labour, tools, consumables, lead, lift etc. complete, all as directed by the Engineer-in-charge.	ONE HOLE	29.20
1528	Removing the ballasts (metal/murrum), earth etc., around the sleepers and replacing to the existing unserviceable sleepers of various lengths from the BG track and relaying with new sleepers in the same place by duly fixing the sleepers with the rail and its fittings and packing the sleepers completely with ballasts (metal/murrum) to correct level, cant, alignment etc., complete. For replacement, sleepers (Wooden/PSC/CST-9/Pot sleepers) and other connected accessories, ballasts etc. will be supplied by BHEL at stores at free of cost.	ONE SLEEPER	157.70

Item No.	Description	UNIT	RATE (Rs.P)
1529	Carrying from stacks, leading and spreading of 40/50 mm size metal/ gravel/murram at any section of the BG track, all as per instructions of Engineer-in-charge. Rate includes all labour, incidentals etc. complete.	CUM	51.05
1530	Removing and replacing with 90/105 lbs rails for the track, all as per standard specifications. Removed rails and other materials shall be stacked properly at the locations 'or' conveyed and handed over at stores, all as directed by the Engineer-in-charge. 90/105 lbs rails & connected required materials will be supplied at free of cost at RPS/Civil Stores/Stack yard. Rate includes conveyance, handling, straightening, drilling holes in rails to suit fish plates, hacksaw cutting the rail if required, all labour for removing the existing and replacing with new one in correct position, alignment, all other incidentals etc., complete.	M.T	1966.55
1531	Cleaning & removing all the unwanted things from the rain water gutters available at an elevation of 12 to 20 m from FFL and making the gutter free from all accumulations, all as per instructions of Engineer-in-charge. Scope includes thorough cleaning off all dirt, dust, silt, leaves, other foreign matters etc. complete from the gutters using wire brush without damaging to the existing treatment given in the gutters, collecting the wastes in bags, lowering and conveying the same to the floor & dumping in the low lying areas. Rate includes all labour, tools, other incidentals etc. complete. Since the work is to be carried out at elevated levels/DSL EOT crane areas, the contractor is required to take all safety precautions during working and obtain work permit from the concerned departments. Working hour is restricted as it depends on shut down by the Production department that may not be more than 4 hour at a stretch and only intermittent.	SQM	5.85
1532	Removing beehive of any size carefully in all levels at stage beams, columns, slabs, ladders etc., in the overhead tank or other buildings/structures etc. While removing beehive, the contractor should follow all safety rules & regulations, all as per instructions of Engineer-in-charge.	EACH	275.00
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 & 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.	SQM	9.90