**TECHNICAL SPECIFICATION FOR CT/PT ANALYSER FOR UPPTCL SHAMLI PROJECT**

**General requirements:**

1. **Tests for Current Transformer:**

**a) Excitation curve and parameters test,**

**b) Turns ratio test,**

**c) Ratio and phase error test,**

**d) Polarity mark check,**

**e) Winding resistance measurement,**

**f) Secondary loop burden measurement,**

**g) Error line curve test for protection CT,**

**h) Transient CT parameters test,**

**i) CT nameplate guess,**

**j) Saturation hysteresis loop curve measurement**

1. **Tests for Voltage Transformer:**

**a) Turns ratio and phase angle error test,**

**b) Polarity test,**

**c) Secondary burden test,**

**d) Winding resistance test**

1. **Technical specifications:**
2. **Test standards IEC60044-1, IEC60044-6 , CS7.13,**
3. **AC Voltage Input (V) 220 V ±10%,**
4. **Frequency 50/60Hz ±10%,**
5. **AC Voltage Output( V) 0.1-180,**
6. **RMS Current Output (A) 0.001-5,**
7. **Power Output (VA) 500,**
8. **Maximum Knee Voltage measurement ( KV) 45**
9. **Current measurement Range (A) 0 -10, Current Measurement Error <±0.1%+0.01%FS**
10. **Voltage measurement Range (V) 0 - 200, Voltage Measurement Error < ±0.1%+0.01%FS**
11. **Tums Ratio Measurement Range 1-35000 in 3 ranges of 0-2k, 2k to 5k & 5k to 35k with error of Range 1 <0.05%, Range 2 <0.1% & Range 3 <0.2%**
12. **Phase Measurement Error ±2 min, Phase Measurement Resolution 0.01 min**
13. **Winding resistance Measurement Range (kilo-Ohm) 0-8, Error (% RDG+ % FS (FULL SCALE ) <0.2%RDG+0.02%FS**
14. **Winding resistance measurement max resolution (milli-Ohm) 0.1**
15. **Temperature measurement Range (Deg C) 50-100, Temperature measurement Error (Deg C ) <3**
16. **CT secondary burden range (ohm) 0-160, CT Secondary burden Error (% RDG +% FS (FULL SCALE)) <0.2%RDG+O.02%FS, CT Secondary burden max resolution (ohm) 0.001**
17. **PT secondary burden range (kilo Ohm) 0-80, PT Secondary burden Error (% RDG + % FS (FULL SCALE)) <0.2%RDG+0.02%FS, PT Secondary burden max resolution (ohm) 0.1**
18. **PT ratio measurement Range in 2 ranges of 0-5k & 5k to 35k with error for Range 1 <0.2% & Error for Range 2 <0.5%**
19. **Display (YIN) Yes- Touch screen Coloured**
20. **Memory capacity (group tests results) >1000**
21. **Working Temperature ( DegC) 10-50,Moisture <=90%**
22. **Weight - Light weight**

**The instrument shall be supplied with all standard accessories required for complete working of the equipment.**