

BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY, DHAKA – 1000

DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING

SERVING THE COUNTRY WITH INNOVATION AND QUALITY IN TESTING & CONSULTANCY



PARTIAL LIST OF TESTING SERVICES

Rates include VAT(15%), University Overhead (30%) & Laboratory Development and Maintenance

Department of EEE reserves the right to change the rates at any time without any prior notice

BRTC-EEE

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BRTC Office Time : Sat to Wed 9:00 AM to 5:00 PM, Thursday 9:00 AM to 2:00 PM

PARTIAL LIST OF TESTING SERVICES

| SI No | Name of the Product | Test Items | Rating | Test Fee | |
|-------|---------------------|---|---|----------|-----------|
| | | | | Combined | Item wise |
| 1 | Transformer | 1. Measurement of Turns Ratio | 3 phase, Upto 100 kVA, 11/0.415 kV | | |
| | | 2. Vector Group Test | | | |
| | | 3. Measurement of Winding Resistance at 75°C | 3 phase, 100 < kVA ≤ 250, 11/0.415 kV | | |
| | | 4. Measurement of Insulation Resistance | 3 phase, 250 < kVA ≤ 500, 11/0.415 kV | | |
| | | 5. Measurement of No-load Loss and No-Load Current | 3 phase, 500 < kVA ≤ 1000 11/0.415 kV | | |
| | | 6. Measurement of Impedance Voltage and Load Loss at 75°C | 3 phase, 1 < MVA ≤ 5 11/0.415 kV | | |
| | | 7. Power Frequency High Voltage Test | 3 phase, 10-13 MVA 11/0.415 kV or 33/0.415 kV at supplier lab | | |
| | | 8. Test of Transformer Oil | 3 phase, 10-26 MVA 11/0.415 kV or 33/0.415 kV at supplier lab | | |
| | | 9. Temperature Rise Test | | | |
| | | | single phase, 10-20 kVA 11/0.415 kV | | |

| Sl No | Name of the Product | Test Items | Rating | Test Fee | |
|-------|-------------------------------|---|----------------------------------|----------|-----------|
| | | | | Combined | Item wise |
| 2 | Cable | 1. Dimensional Test 2. DC Resistance Test 3. Insulation Resistance Test 4. Current carrying capacity Test 5. AC high voltage withstand test | 1.0 rm-10 rm BYA/NYY XLPE | | |
| | | | 10 rm-20 rm BYA/NYY XLPE | | |
| | | | 20 rm-50 rm BYA/NYY XLPE | | |
| | | | 50 rm-120 rm BYA/NYY XLPE | | |
| | | | 120 rm-240 rm BYA/NYY XLPE | | |
| | | | 240 rm-400 rm BYA/NYY XLPE | | |
| | | | 400 rm-630 rm BYA/NYY XLPE | | |
| | | | | | |
| 3 | Circuit Breaker (MCB/MCCB) | 1. Mechanical operation test 2. Insulation resistance test 3. High voltage test 4. Impulse voltage 5. Tripping test 6. Temperature rise | Depending upon rating | | |
| 4 | Circuit Breaker (VCB/ACB) | 1. Mechanical operation test 2. Insulation resistance test 3. High voltage test 4. Impulse voltage 5. Tripping test 6. Temperature rise | Depending upon rating | | |

| Sl No | Name of the Product | Test Items | Rating | Test Fee | |
|-------|--------------------------------|---|-----------------------|----------------|-----------|
| | | | | Combined | Item wise |
| 5 | Instrument Transformer (CT/PT) | 1. Mechanical operation test 2. Insulation resistance test 3. High voltage test 4. Ratio Test 6. Temperature rise | Depending upon rating | | |
| 6 | Overhead conductor | 1. Dimensional Test 2. DC Resistance Test 3. Insulation Resistance Test (if insulated) 4. Current carrying capacity Test 5. AC high voltage withstand test (if insulated) | Depending upon rating | Same as Cables | |
| 7 | LT panel | 1.Mechanism Operation Test 2.Rated Current Test 3.Temperature Rise Test 4.Thermal Overload Test 5.Magnetic Trip Test 6.Insulation Resistance Measurement Test 7.Power Frequency High Voltage Test | | | |
| 8 | Room Air-conditioning Unit | 1.Earthling 2.Insulation Resistance 3.Total Harmonic Distortion | | | |

| Sl No | Name of the Product | Test Items | Rating | Test Fee | |
|-------|---------------------|---|-----------------------|----------|-----------|
| | | | | Combined | Item wise |
| 9 | HT panel | 1. Dimensional 2. Fitment & Alignment 3. Physical Test 4. (Sample) 5. Measurement of IR Value a) Before HV Test b) After HV Test 6. High Voltage test/Dielectric 7. Impulse Test 8. Partial Discharge Test 9. Heat run / 10. Temperature rise test 11. Enclosure Protection Test / Ingress Protection (IP) 12. Calibration 13. Noise & Vibration 14. Operational & functional check 15. Clearance and creepage Distance | Depending upon rating | | |
| 10 | Earth resistivity | 1. Earth Resistivity | | | |
| 11 | Washing machine | 1. Earthing 2. Insulation Resistance 3. Total Harmonic Distortion | | | |

| SI No | Name of the Product | Test Items | Rating | Test Fee | |
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| | | | | Combined | Item wise |
| 12 | PFI plant Test | 1.Discharge rate of the capacitor bank 2.AC voltage test of the capacitor bank between terminals and the casing. 3.Insulation test 4.Performance test at rated voltage of the capacitor banks 5.Operations of the PFI controller, digital display, contactor, fuse and ON/OFF indicators. 6.Auto Mode Operation Sequence and Manual Mode Sequences 7.MCCB test. | Depending upon rating | | |
| 13 | ATS | 1. Mechanical Operation Test Satisfactory 2. Functionality Test Satisfactory 3. Rated Current and Temperature Rise Test Satisfactory 4. Insulation Resistance Test Satisfactory 5. Power Frequency High Voltage Test | Depending upon rating | | |
| 14 | Lift, Escalator, Moving Platform | 1.Control System, 2.Motor Braking System, 3.Sensor and any other opto-electrical component | | | |

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|-------|------------------------------|---|--------|----------|-----------|
| | | | | Combined | Item wise |
| 15 | BUSBAR | 1. Dimensional Test 2. DC Resistance Test 3. Insulation Resistance Test (if insulated) 4. Current carrying capacity Test 5. AC high voltage withstand test (if insulated) | | | |
| 16 | BBT system | 1. Dimensional Test 2. Heat run 3. Insulation Resistance Test 4. Current carrying capacity Test 5. AC high Voltage withstand test | | | |
| 17 | Auto Voltage Regulator (AVR) | 1. AVR Performance Test 2. Efficiency 3. Input Harmonic Distortion 4. Input Power Factor 5. Output Voltage Regulation 6. Load Transfer Test | | | |
| 18 | Capacitor bank | | | | |
| 19 | Insulator | 1. Insulation resistance 2. High voltage width stand | | | |

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| | | | | Combined | Item wise |
| 20 | Pin, dis type insulator | 1. Insulation resistance 2. High voltage width stand | | | |
| 21 | Surge arrester | | | | |
| 22 | Uninterrupted Power Supply (UPS) Integrated Power System (IPS) | 1. UPS Performance Test 2. Efficiency 3. Input Harmonic Distortion 4. Input Power Factor 5. Output Voltage Regulation 6. Load Transfer Test 7. AC Main Input Failure and Return Test 8. Step Load Test 9. Overload Test 10. Voltage Distortion with Balanced Load 11. Voltage Distortion with Unbalanced Load 12. Battery Capacity 13. Protection (Under Voltage, Over voltage, Phase Failure) | | | |

| Sl No | Name of the Product | Test Items | Rating | Test Fee | |
|-------|--------------------------------|--|--------|----------|-----------|
| | | | | Combined | Item wise |
| 23 | Test and calibration of meters | 1. Test of meters for calibration and comparison with standard meter | | | |
| 24 | PA system | | | | |
| 25 | Motor | 1.Efficiency 2. Power factor 3. Torque | | | |
| 26 | Motor starter | 1. Smooth conversion from Wye (START) to Delta (RUN). 2. Protections against single phasing in start condition. 3. Protection against reverse phasing. 4. Initially protection against over load condition was not working satisfactorily due to a mechanical jam in the spring. However when the jam was removed from the spring the thermal overload protection was working satisfactorily. 5. Protection against over voltage 6. Protection against under voltage. | | | |

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| | | | | Combined | Item wise |
| 27 | Variac, current injector | 1) Voltage range test 2) Current capacity test 3) Insulation test | | | |
| 28 | Copper terminals lugs and service ball | | | | |
| 29 | Transformer, Generator sound level | 1. Sound level of transformer | | | |
| 30 | Sound and Noise Test of electrical equipment | | | | |
| 31 | Battery Industrial 2V Battery Block Pb-acid Battery Li-based Battery | | | | |
| 32 | Solar PV Panel | 1. Rated Power/Maximum Power under STC, Pmax (Watts) 2. Open circuit voltage under STC, Voc (Volts) 3. Short circuit current under STC, Isc (Amps) 4. Maximum working voltage at Pmax under STC, Vmp (Volts) 5. Maximum working current at Pmax under STC, Imp (Amps) 6. Cell efficiency 7. Module efficiency 8. Fill factor, FF | | | |

| Sl No | Name of the Product | Test Items | Rating | Test Fee | |
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| | | | | Combined | Item wise |
| 33 | Street Light System consisting of Light, battery, charge controller | 1. Testing of light 2. Testing of battery 3. Testing of charge controller | | | |
| 34 | Inverter | 1. Voltage and current ratings 2. Power ratings 3. Efficiency | | | |
| 35 | Charge Controller | 1. MPPT mechanism 2. Labeling on charge controller casing 3. Rated Voltage 4. High voltage disconnect 5. Low voltage disconnect 6. Low voltage reconnect 7. Maximum current handling capacity 8. Maximum self current drawn 9. Reverse current leakage protection 10. Short-circuit protection 11. Reverse polarity protection 12. Efficiency of the Charge Controller 13. Charging indicator | NA | | |
| 36 | DC - DC Converter with charge controller | 1. Voltage ratio 2. Conversion efficiency 3. Current rating | | | |
| 37 | Solar Pump | 1. Inverter efficiency at different frequency | | | |

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| | | | | Combined | Item wise |
| 38 | Switch/Socket | 1. Mechanical operation test 2. Insulation resistance test 3. High voltage test 4. Ratio Test 5. Temperature rise | NA | | |
| 39 | Fan Dimmer | 1. Insulation resistance test 2. Power frequency High Voltage test 3. Temperature rise test 4. Leakage current test 5. Voltage Drop test 6. Uniformity Test | NA | | |
| 40 | Generator | 1.Rated output 2.Maximum output 3.Power factor 4.Rated voltage 5.Voltage regulation 6.Frequency | | | |
| 41 | Firefighting generator | 1.Rated output 2.Maximum output 3.Power factor 4.Rated voltage 5.Voltage regulation 6.Frequency | | | |
| 42 | Optical Fiber | 1.Dimensional test 2.Attenuation 3.Dispersion | | | |
| 43 | CCTV system | | | | |
| 44 | Incubator | | | | |

| Sl No | Name of the Product | Test Items | Rating | Test Fee | |
|-------|--|--|--------|----------|-----------|
| | | | | Combined | Item wise |
| 45 | Computer Hardware (motherboard, CPU, Speaker, microphone, power supply, webcam) | | | | |
| 46 | Kitchen Appliances (Washing machine, grinder/blender/juicer, dish washer, rice cooker, microwave / electrical oven, kitchen hood etc.) | | | | |
| 47 | Data communication Cables (all electrical tests) | | | | |
| 48 | Wireless Walkie Talkie/ VHF test (repeater test) | | | | |
| 49 | Cable connector | 1. Resistance test | | | |
| 50 | Monitor | 1. All electrical test | | | |
| 51 | LED Light | 1. LED Input Power(W) 2. Color Rendering Index (CRI) 3. Lumen 4. Lumen per Watt 5. PF 6. Correlated Color Temperature (CCT) | | | |
| 52 | Fan | 1. Input voltage, current, power 2. Air flow | | | |

| SI No | Name of the Product | Test Items | Rating | Test Fee | |
|-------|---|--|--------|----------|-----------|
| | | | | Combined | Item wise |
| 53 | CFL | 1. LED Input Power(W) 2. Lumen 3. Lumen per Watt 4. PF 5. Efficiency | | | |
| 54 | Fluorescent lamp | 1. LED Input Power(W) 2. Lumen 3. Lumen per Watt 4. PF 5. Efficiency | | | |
| 55 | Incandescent lamp | 1. LED Input Power(W) 2. Lumen 3. Lumen per Watt 4. PF 5. Efficiency | | | |
| 56 | Personal computer and laptop | 1) motherboard 2) CPU 3) Speaker 4) microphone 5) power supply 6) webcam 7) Earthing 8) Insulation Resistance 9) THD | | | |
| 57 | Router/switch/modem | All electrical test. | | | |
| 58 | Drop out fuse | | | | |
| 59 | Biomedical Equipment | Test related to medical Imaging and instrumentation. | | | |
| 60 | Electrical Safety Test of any kind of equipment and Machinery | Electrical safety test | | | |

| Sl No | Name of the Product | Test Items | Rating | Test Fee | |
|-----------|--------------------------------|--|--------|----------|-----------|
| | | | | Combined | Item wise |
| 61 | Pump-Generator Set | 1. Rated output 2. Maximum output 3. Power factor 4. Rated voltage 5. Voltage regulation 6. Frequency | | | |
| 62 | Power Conditioning Unit | | | | |
| 63 | Fire-Pump Generator Set | 1. Rated output 2. Maximum output 3. Power factor 4. Rated voltage 5. Voltage regulation 6. Frequency | | | |
| 64 | Electric Vehicle | 1. Power train 2. Inverter / Converter 3. Charger 4. Storage (Battery) | | | |