**08-July,2024**

**ELECTRICAL AND ELECTRONICS DEPARTMENT**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S/N** | **ITEM** | **QTY** | **RATE** | **TOTAL** |
| 1. **ELECTRICAL AND ELECTRONIC LABORATORY** | | | | |
|  | Frequency generator (Sine, Square Saw-tooth Waveform) | 2 | 255,750 | 511,500 |
|  | Oscilloscope 20MHz  i) Digital Display (2 beams)  ii) Manual (2 beams) | 2  2 | 596,200  596,200 | 119,2400  119,2400 |
|  | Potentiometer | 10 | 38,500 | 385,000 |
|  | Decade Capacitance box | 10 | 187,000 | 1,870,000 |
|  | Decade Resistance box | 10 | 187,000 | 1,870,000 |
|  | Decade Inductance box | 10 | 187,000 | 1,870,000 |
|  | LDC 822A Digital Counter | 2 | 255,750 | 511,500 |
|  | Variable Transformer 2KVA | 1 | 412,500 | 412,500 |
|  | Scopemeter | 1 | 706,530 | 706,530 |
|  | AVO meter | 5 | 41,250 | 206,250 |
|  | Digital Multimeter | 10 | 17,050 | 170,500 |
|  | Analogue Multimeter | 10 | 15,730 | 157,300 |
|  | IC Tester | 1 | 153,450 | 153,450 |
|  | Power Supply DC 0-24V | 2 | 281,325 | 562,650 |
|  | Power Supply DC ±12V | 2 | 246,400 | 492,800 |
|  | Set of Computer (all in one) new | 2 | 545,600 | 1,091,200 |
|  | Megger Insulation Tester | 2 | 93,775 | 187,550 |
|  | Clamp meter | 5 | 136,400 | 682,000 |
|  | Spectrum Analyzer | 1 | 8,184,000 | 8,184,000 |
|  | Watt-meter | 5 | 204,600 | 1,023,000 |
|  | Tool Box (Complete set) | 2 | 127,875 | 255,750 |
|  | Variac 3KVA | 2 | 533,500 | 1,067,000 |
|  | LCR Load Box | 5 | 153,450 | 767,250 |
|  | Tachometer (Digital) | 5 | 204,600 | 1,023,000 |
|  | LCR meter | 2 | 102,300 | 204,600 |
|  | Voltmeter 0-24 Volts DC | 10 | 21,450 | 214,500 |
|  | Voltmeter 0-50 Volt AC | 10 | 25,575 | 255,750 |
|  | Ammeter (0-100A) | 10 | 25,575 | 255,750 |
|  | DC Bridges | 5 | 302,500 | 1,512,500 |
|  | AC Bridges | 5 | 302,500 | 1,512,500 |
|  | Process control system | 3 | 596,750 | 1,790,250 |
|  | Electro-hydraulic servo | 2 | 255,750 | 511,500 |
|  | Voltage Transformer | 1 | 192,500 | 192,500 |
|  | Moving Coil meter | 2 | 24,750 | 49,500 |
|  | Switch gear 60A | 5 | 148,500 | 742,500 |
|  | Distribution Board | 2 | 181,500 | 363,000 |
|  | Contactors | 10 | 34,320 | 343,200 |
|  | Relay | 10 | 17,050 | 170,500 |
|  | Starters | 10 | 217,800 | 2,178,000 |
|  | Electronic Temperature Controller | 10 | 51,150 | 511,500 |
|  | Field Rheostats | 10 | 54,450 | 544,500 |
|  | Shunt-Wound D.C Machines | 2 | 1,155,000 | 2,310,000 |
|  | Compound-wound D.C machines | 2 | 1,155,000 | 2,310,000 |
|  | 3-Phase Squirrel-Cage motor | 2 | 1,155,000 | 2,310,000 |
|  | 3-Phase Starter | 5 | 217,800 | 1,089,000 |
|  | Load Resistive Unit | 10 | 495,000 | 4,950,000 |
|  | Capacitance Load | 10 | 574,200 | 5,742,000 |
|  | 3-Phase Synchronous generator | 2 | 1,155,000 | 2,310,000 |
|  | 3-phase slip ring motors | 2 | 1,155,000 | 2,310,000 |
|  | 3-phase salient pole synchronous machine | 2 | 1,155,000 | 2,310,000 |
|  | Single phase transformer   1. 9V, 2. 12V, 3. 24V | 5  5  5 | 60,500   |  |  | | --- | --- | | 71,500  82,500 |  | | 302,500  357,500  412,500 |
|  | 3-phase Transformer | 1 | 192,500 | 192,500 |
|  | Frequency meter | 1 | 49,500 | 49,500 |
|  | Phase sequence indicator | 1 | 204,600 | 204,600 |
|  | Various sizes of cable | Lots | 275,000 | 275,000 |
|  | Large Collection of Circuit Components (Resistors, Capacitor, Inductor, Transistors, Operational Amplifier, Diode, I.C’s FET, Optocoupler component – Tray’s counter, gates etc. | 100 | 170,500 | 170,500 |
|  | Network cables (5 reel) LAN Tester (5) Cable stripper (5) Punch tool (5) wire cutter (5) RJ 45 (100) |  | 242,000 | 242,000 |
|  | Bread board | 30 | 1,650 | 49,500 |
|  | Vero board | 30 | 1,100 | 33,000 |
|  | Soldering Iron | 10 pcs | 4,950 | 49,500 |
|  | Soldering Lead | 10 pcs | 14,520 | 145,200 |
|  | i) Electronics Fundamental Trainer  ii) Power System Trainer  iii) Communication Training System  vi) Digital Electronics training System  v) Analogue Electronics Training System  vi) Optimal Communication Training System  vii) Diode Characteristics Training System  viii) Operational Amplifier Training System | 5  5  3  5  5  5  5  5 | 533,500  632,500  1,155,000  797,500  797,500  715,000  391,270  533,500 | 2,667,500  3,162,500  3,465,000  3,987,500  3,987,500  3,575,000  1,956,350  2,667,500 |
|  | Wind Energy Trainer | 1 | 1,380,500 | 1,380,500 |
|  | Solar Energy Trainer | 1 | 1,815,000 | 1,815,000 |
|  | Megger Insulation Tester | 2 | 107,030 | 214,060 |
|  | 11KV Pin Insulators | 6 | 85,800 | 514,800 |
|  | 11KV Disc Insulators | 6 | 71,500 | 429,000 |
|  | 11KV ‘D’ Fuse | 5 | 58,410 | 292,050 |
|  | 11KV Lightning Arrester | 1 | 63,140 | 63,140 |
|  | Single Phase AC Synchronous Alternator | 1 | 1,155,000 | 1,155,000 |
|  | PLC Control Training System | 5 | 412,500 | 2,062,500 |
|  | Process Control Training System | 5 | 743,050 | 3,715,250 |
|  | Analogue/Digital and Hardware Electronics Training System | 5 | 426,140 | 2,130,700 |
|  | Microprocessor/Microcontroller Training | 5 | 753,500 | 3,767,500 |
|  |  |  | **TOTAL** | **109,031,230** |
|  |  |  |  |  |
| 1. **CONTROL AND INSTRUMENTATION LABORATORY** | | | | |
|  | Transducers Kit | 1 | 500,500 | 500,500 |
|  | Heat Transducers kit | 1 | 326,700 | 326,700 |
|  | Complete Transducers Kit | 1 | 605,000 | 605,000 |
|  | DC Modular Servo System | 1 | 825,000 | 825,000 |
|  | AC Modular Servo System | 1 | 825,000 | 825,000 |
|  | Complete Modular Servo System | 1 | 2,172,500 | 2,172,500 |
|  | Attenuator Unit | 1 | 170,500 | 170,500 |
|  | DC Motor Unit | 1 | 1,083,500 | 1,083,500 |
|  | Differential Synchro Unit | 1 | 280,500 | 280,500 |
|  | Input Potentiometer Unit | 1 | 313,500 | 313,500 |
|  | Loading Unit | 1 | 453,200 | 453,200 |
|  | Gearbox Tachometer | 1 | 163,350 | 163,350 |
|  | Accessory Pack | 1 | 76,230 | 76,230 |
|  | Output Potentiometer Unit | 1 | 313,500 | 313,500 |
|  | Operational Amplifier Unit | 1 | 533,500 | 533,500 |
|  | Pre-Amplifier Unit | 1 | 621,500 | 621,500 |
|  | Power Supply Unit | 1 | 104,500 | 104,500 |
|  | Servo Amplifier Unit | 1 | 575,300 | 575,300 |
|  |  |  | **TOTAL** | **9,943,780** |
| 1. **MODELING AND SIMULATION LABORATORY** | | | | |
|  | Desktop computers | 30 | 341,000 | 10,230,000 |
|  | Smart interactive board | 1 | 742,500 | 742,500 |
|  |  |  | **TOTAL** | **10,972,500** |
| 1. **LIST OF SOFTWARE ON THE SYSTEMS** | | | | |
|  | Java 1 SUBSCRIPTION, Maple, MATLAB, C++, Python, SPSS, Android Studio, Visco | 1 EACH | 522,500 | 522,500 |
|  |  |  | **TOTAL** | **522,500** |
|  |  |  | **GRAND TOTAL**  **(Without Tax)** | **130,470,010** |

**SUMMARY**

Electrical & Electronics Engineering ----------------------- **N 130,470,010**

VAT @ 7.5%--------------------------------------------------- **N 9,785,250.75**

**GRAND TOTAL= N 140,255,261**

**N.B:**

1. The above quoted equipment are available in stock.
2. The pricing includes transportation and installation of the equipment.
3. Accommodation for staff and professional technician is to be provided by the school.