

## **MODEL ENGINEERING COLLEGE THRIKKAKARA**

### **Tender No. 25/2014-15: Detailed Specification**

<u>Item No.</u>	<u>Specification</u>	<u>Quantity</u>
1.	<p><b><u>Function Generator</u></b></p> <p>Frequency Range: 0.3 Hz to 3MHz. Amplitude: &gt;10 Vpp ( into 50 <math>\Omega</math> load). Impedance: 50 <math>\Omega</math> +/_ 10%. Attenuation: -20 dB<math>\times</math>2. DC offset control: -5V to +5V (into 50<math>\Omega</math> load). Duty cycle control: 80% to 20% to vary continuously. Display: LED. Waveforms: Sine, triangle, square, ramp, TTL and CMOS output. External VCF function. Built in 6 digit counter with INT/EXT function Range: 0.3 Hz to 3 M Hz. INT/EXT AM/FM modulation. Sweep mode operation : sweep time 0.2 to 30 sec adjustable Mode: Linear and log.</p>	15 Nos.
2.	<p><b><u>Digital Multimeter</u></b></p> <p>Accuracy: 0.25% of measured value Measurement: 3 <math>\frac{3}{4}</math> digit DC Current measurement ranges: 300 <math>\mu</math>A (resolution = 100nA), up to 10 A with uniform resolution over all ranges AC current measurement ranges: 3 mA (resolution = 1<math>\mu</math>A), up to 10 A with uniform resolution over all ranges. AC Voltage measurement ranges: 3 V (resolution = 1 mV), up to 1000 V with uniform resolution over all ranges DC Voltage measurement: 30 mV (resolution = 10<math>\mu</math>V), up to 1000 V with uniform resolution over all ranges Resistance measurement: 30 <math>\Omega</math> (resolution = 10 m <math>\Omega</math>), up to 30 M <math>\Omega</math> with uniform resolution over all ranges Frequency measurement: 300 Hz (resolution = 0.1 Hz) to 100 kHz with uniform resolution over all ranges Capacitance measurement: 30 nF (resolution = 10 pF) to 30 <math>\mu</math> F with uniform resolution over all ranges. Diode and Continuity Testing, Autoranging/ Manual range selection, Terminal protection for over range, over voltage and current Protective Rubber Holster for rough duty with stand facility, Storage and upation of MIN/MAX values.</p>	10 Nos.
3.	<p><b><u>Digital IC tester</u></b></p> <p>Testing of TTL, CMOS logic ICs ( 74 series, 40 series, 45 series of CMOS, microprocessors , RAM, etc) Display: 16 digit LCD/LED, Indicate results of IC good or bad. Facility to identify unknown or unidentifiable ICs, Universal ZIF socket, Auto search facility, Easy operation tester, Loop test facility</p>	1No.

4. **Digital IC Trainer kit**

15 Nos.

Logic input switches providing high/low indicator for status of switches ( 10 nos)

Logic output indicators ( LED) with lamp drivers ( 10 nos)

Seven segment display with interface.

Fixed X-tal clock generator having output of 1 Hz, 10 Hz, 100 Hz, 1 KHz, 10 KHz, 100KHz and 1 MHz.

Variable clock providing output of 1 Hz to 100 KHz Monopulse clock

20 pin ZIF IC sockets (2 nos)

Solderless bread board with 1680 tie points.

Cost of Tender Form: Original – Rs.1000/- (VAT @5% extra)

*Date and time of receipt of tender* : 20.1.2015 11am

*Date and time of opening of tender* : 20.1.2015 2pm

*Last date of sale of tender form* : 19.1.2015 3pm

Sd/-

PRINCIPAL