

# GOVT. COLLEGE OF ENGINEERING AND RESEARCH, AWASARI

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No. GCOEARA/Store/2016-17/ 3075

Date: 26 SEP 2016

To,  
HOD- Computer Engineering for display on College Website

Subject : Quotation for supply of Equipments (for Instrumentation & Control Engineering)

Please send your quotation for the following items on the terms and conditions listed below, mentioning our reference letter number, date and due date of quotation on your sealed envelop, on or before **04.10.2016** at 04.00 P.M.

Sr.No.	Specification	Qty.	Unit
1	Flow Measurement Using Orifice Plate	1	No.
2	Flow Measurement Using Venturi Tube	1	No.
3	PID Experimental Setup- PID Controller using microcontroller	1	No.
4	Function Generator	5	No.
5	Dual Power Supply	4	No.
6	Decade Inductance Box	5	No.
7	Decade Capacitance Box	5	No.
8	Decade Resistance Box	5	No.
9	Analog Micro Ammeter	10	No.
10	Analog Mili Ammeter	10	No.
11	Analog Wattmeter	5	No.
12	Microcontroller (8051) Trainer kit with interface cards CPU	6	No.
Detail scope of supply will be as per enclosed sheet			

### Terms & Conditions

- 1 Taxes – Inclusive / if extra clearly mention the percentage.
- 2 Delivery period –
- 3 Payment Terms –
- 4 Quotation Validity –
- 5 Warranty -
- 6 Guaranty-
- 7 Delivery Charges – Free / if extra mention clearly.
- 8 The part supply and its bill will strictly not be entertained.
- 9 If you fail to supply the stores within the specified period, the order will be treated at cancelled without any information.
- 10 The material will be accepted subject at approval(after inspection of the material),If rejected it will be returned to you at your cost.
- 11 The material to be supplied should be strictly according to the specification only.
- 12 Octroi is not applicable since Institute is located in Gram Panchayat area.
- 13 Please attach copy of your shop registration certificate alongwith your quotation, without which your quotation will not be accepted.

( Dr. A. S. Pant )

Principal

Govt.College of Engineering & Research Awasari  
Awasari(khurd)

**Flow measurement using orifice plate**  
 1. sump, tank-stainless steel, 2mm thick/pp5mm thick, capacity 30lit, piping-1" GI class B with 1" ball valves 10 nos, centrifugal pump-1/2 HP 230V Ac supply Rotameter-0-2000LPH glass tube type, acrylic body, Bob material ss304, mounting-inlet bottom outlet-top, orifice-1" line size concentric type MOC -Polypropylene, manometer-U tube manometer h-400mm panel mounting type

**Flow measurement using venturi tube**

2. sump tank-stainless steel, 2mm thick/pp5mm thick, capacity 30lit, piping-1" GI class B with 1" ball valves 10 nos, centrifugal pump-1/2 HP 230V Ac supply Rotameter-0-2000LPH glass tube type, acrylic body, Bob material ss304, mounting-inlet bottom outlet-top, Ventury -1" line size, manometer-U tube manometer h-400mm panel mounting type

**PID Experimental Setup: PID Controller using microcontroller:** Display: 4 digit red LED for PV; 4 digit LED for SV; Setting: By key pad; Power Supply: 230 V 50 Hz; Electric Heater: 550 W Approx; Stroke: 0 to 20 mm; Temperature Sensor: RTD-RT100; Output Relay; Simulator: mV DC & mA DC; RTD\_PT100; Control Mode: Heat/Cool; Control Manually 4-20 mA for mA models: 1) Range: 0 to 180 degree centigrade 2) Mode of Control: On/off, P, P+I, P+I+D; Size: 400\*450\*120mm Table top model with SCADA Software mode

4. **Function Generator**  
 range-3Hz-3MHz in 6 decade ranges, VCF Input-0-10V (DC+AC peak) frequency increases with voltage, output waveforms-sine, triangle, square, skewed sine, ramp, sawtooth, pluse, TTL, output amplitude-20Vp-p open circuit, output impedance-50Ω±10%

5. **Dual power supply**  
 CH-1 to p voltage 0-30 VDC, O/p current-0-1ADC, Disply resolution voltage-100mV, Disply Resolution current-10mA; CH-2 to ±15VDC, O/p current-0-1ADC, Disply resolution voltage-100mV, Disply accuracy-0.5% CH-3 to ±2.5V-5.5VDC, O/p current-0-1ADC max, load regulation-0.25% line regulation-0.05%

6. **Decade Inductance Box**

0 to 1000μH

range

7. **Decade Capacitance Box**

0 to 1000pf

range

8. **Decade Resistance Box**  
 Range 0 to 1GΩ

9. **Analog micro ammeter**  
 range 0 to 100μA

10. **Analog milli ammeter**  
 Range 0 to 5mA

11. **Analog wattmeter**  
 Range 0 to 1000watt

12. **Microcontroller(8051) Trainer kit with interface cards** CPU:- 8051@11.059GHz, Memory:- 32 K monitor EPROM (in built or external) with user frindly commands, 8 K external RAM accessible to user. On Board Facilities:- 24pin I/O lines using 8255 are available on 26 pins FRC connector. \* + ^ Ports pin from microcontroller are available to user on 26 pins FRC connector. 3 Nos 16 bit TIC using 8253, 2 No's interrupts from CPU available on connector, 16 X 2 alphanumeric LCD Display, Rs 232 serial interface on 9-pin D type connector for PC communication, 50 pin STD bus to interface peripheral IC study cards and for user expansion, +5 VDC operation, seven segment LED display on board, 4 X 4 matrix key board, Stepper motor interface card.