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Total No. of Pages : 02

Total No. of Questions : 09

**B.Tech.(ME) (O.E 2012 Onwards) (Sem.-7,8)****INDUSTRIAL MEASUREMENTS**

Subject Code : EI-304/403

M.Code : 59087

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTION TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

**SECTION-A****1. Explain briefly :**

- a) Need of standards of measurements in modern industries
- b) Essential characteristics of comparator
- c) Difference between static and dynamic pressure
- d) Working of U-tube manometer
- e) RTDs
- f) Bimetallic thermometer
- g) Classification of orifice plates
- h) Constant current mode of operation of hot wire anemometers
- i) Working of absorption dynamometer
- j) Working of Hygrometer

### SECTION-B

2. Explain the theory and construction of Radiation pyrometer.
3. What is electromagnetic flowmeter? Describe it's principle of working.
4. Describe the series and parallel connections of thermocouples and explain under what situations they should be used.
5. Discuss with the help of a neat sketch the working of hydraulic and load cells.
6. What is optical flat? What are their types? State the limitations of optical flat.

### SECTION-C

7. Describe the working principle, advantages, disadvantages and applications of pneumatic comparator.
8. Describe with neat diagram the construction, working and theory of thermal conductivity gauges. Give their advantages and disadvantages.
9. Write a note on the following :
  - a) Working of Equal Arm Balance
  - b) Seismic Type Velocity Transducer

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**