Roll No. | | | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(EIE) (2011 & Onwards) (Sem.–6)

INDUSTRIAL MEASUREMENTS

Subject Code : EI-304/403

M.Code : 57043

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 has to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.**

SECTION-A

1. Answer briefly :

a. What is the need of standards? Explain.

b. What is sine bar? Explain.

c. What do you mean by Vacuum pressure? How is it different from absolute pressure? Explain.

d. Write down the disadvantages of bellows used for pressure measurements.

e. Explain the principle of thermoelectric sensors.

f. What do you mean by the term calibration? Explain its need.

g. What do you mean by variable area flow meters? Explain.

h. What is a hot Wire Anemometer? Explain.

i. Explain the need of moisture and humidity measurement in industry.

j. What do you mean by industrial measurements? Explain.

SECTION-B

2. Sketch and explain the working of a Vernier calliper used for internal and external length measurements.

3. Explain the construction and working of Kundsen gauge for measurement of vacuum. Give its advantages and disadvantages.

4. Discuss in detail the construction and working of total radiation pyrometers.

5. Describe the working of Ultrasonic flow meters. Explain the different techniques used for measurement of flow velocity. What are the advantages and disadvantages of these flow meters?

6. Explain the method of measurement of liquid level using Diaphragm box and describe its salient features.

SECTION-C

7. a. Describe the method of measuring torque of rotating shafts using strain gauges.

   b. Describe the construction and working of a mechanical comparator. Discuss its advantages and disadvantages.

8. Describe the construction of a U tube Manometer and explain how it can be used for measurement of absolute gauge and differential pressures? Describe the different sources of errors and how corrections can be applied minimize these errors.

9. Explain the following :

   a. Humidity Measurement

   b. Mass Flow Meter

NOTE : Disclosure of identity by writing mobile number or making passing request on any page of Answer sheet will lead to UMC against the Student.