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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(ME) (O.E 2011 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. Answer briefly :

- a) Explain the characteristics of line standards
- b) How comparators are classified?
- c) Define Absolute Pressure, Gauge Pressure and vacuum pressure.
- d) Name the commonly used units for pressure in English, CGS and SI system of units.
- e) Enlist the properties of a liquid suitable for liquid filled thermometers.
- f) Explain the errors caused by head effect in the measurement of temperature.
- g) What are different types of orifice plates?
- h) Give the expression for Reynolds number for flow in a pipe.
- i) Define the term scales and balances.
- j) What is a load cell?

SECTION-B

2. Explain why is it not preferred to use Sine Bar for measuring angles more than 45 degree?
3. Discuss briefly the construction and working of Mcleod Gauge.
4. Explain in brief the construction of radiation pyrometer.
5. Describe the working of a rotameter with in a neat sketch.
6. Explain the principle of operation of a dynamometer with a neat sketch.

SECTION-C

7. Elaborate the construction and working of Bourdon tube. Describe C-type, spiral type and helical type bourdon gauges with a neat diagram.
8. What is a Venturimeter? Describe the expressions for actual flow rate for incompressible fluids.
9. Write notes on the following :
 - (a) RTDs
 - (b) Proving Ring

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.