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Total No. of Pages : 02

Total No. of Questions : 18

B.Tech. (ME) (O.E 2012 Onwards) (Sem.-7)

INDUSTRIAL MEASUREMENTS

Subject Code : EI-304/403

M.Code : 59087

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS 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

Explain briefly :

1. Difference between accuracy and precision.
2. Characteristics of line standards.
3. Dead weight gauge tester.
4. Working principle of diaphragm element.
5. Working principle of bimetallic thermometers.
6. Properties of liquid suitable for liquid filled thermometers.
7. Construction of a sine bar.
8. Factors which influence the choice of methods for measurement of flow.
9. Transmission dynamometer.
10. Humidity measurement.

SECTION-B

11. By using optical flat and monochromatic light explain the procedure to determine whether the given surface is flat or curved.
12. Describe the working principle of an electrical comparator with the help of a neat sketch.
13. Explain the construction and working of a radiation pyrometer.
14. Elaborate the working principle of ultrasonic flow meter.
15. Discuss the C- type, spiral type and helical type bourdon gauges with neat diagram.

SECTION-C

16. Describe with neat diagram the construction and working of following gauges used for pressure measurement :
 - a) Thermal conductivity gauges
 - b) Pirani gauges
17. Discuss the construction and working of thermocouples. Describe the thermoelectric laws and their applications.
18. Explain the construction and working of rope brake dynamometer for measurement of power.

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.