

Roll No.

Total No. of Questions : 09]

[Total No. of Pages : 02

Paper ID [ME307]

(Please fill this Paper ID in OMR Sheet)

B.Tech. (Sem. - 5th)

MAY-08

MECHANICAL MEASUREMENT & METROLOGY (ME - 307)

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Time : 03 Hours

Maximum Marks : 60

Instruction to Candidates:

- 1) Section - A is **Compulsory**.
- 2) Attempt any **Four** questions from Section - B.
- 3) Attempt any **Two** questions from Section - C.

Section - A

Q1)

(10 × 2 = 20)

- a) What do you understand by dynamic error?
- b) What are random errors?
- c) What is the use of a micrometer?
- d) What are sensors?
- e) What are unbounded gauge?
- f) What is a dead weight tester gauge?
- g) What is a thermocouple?
- h) What is the function of a tachometer?
- i) What is a hydraulic load cell?
- j) What is the use of proving ring?

Section - B

(4 × 5 = 20)

Q2) What is calibration and why it is necessary? Discuss.

Q3) Explain the importance of statistical analysis of test data in measurement.

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P.T.O.

- Q4)** Differentiate between bellow gauge and diaphragm gauge for pressure measurement.
- Q5)** What do you understand by surface roughness? How it is measured? Explain.
- Q6)** Enumerate the sources of error in thermocouple and explain how they are prevented.

Section - C

(2 × 10 = 20)

- Q7)** Describe the principle of operation of a piezo electric transducer. Identify the input and output of the system.
- Q8)** Explain with sketches the basic principle of working of a stroboscope for speed measurement.
- Q9)** Write notes on:
- (a) Report writing.
 - (b) Strain gauge.
