

Roll No.

Total No. of Questions : 09]

[Total No. of Pages : 02

B.Tech. (Sem. - 5th)

ENGINEERING METROLOGY

SUBJECT CODE : PE - 305

Paper ID : [A0216]

[Note : Please fill subject code and paper ID on OMR]

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 x 2 = 20)

- a) Define fundamental deviation.
- b) Explain allowances.
- c) What is meant by local interchangeability.
- d) Where do we use bevel protector.
- e) Define flatness.
- f) What do you understand by macro errors.
- g) Define effective diameter.
- h) What is a strain gauge.
- i) What is wear allowance.
- j) What is a load cell.

Section - B

(4 x 5 = 20)

- Q2) Explain Taylor's principle as applied to limiting gauging.
- Q3) What is meant by roughness and waviness of mechanical surfaces? Explain.
- Q4) What are the essential requirements for accuracy in the construction of a sine bar. Explain.
- Q5) How strain gauges are used for the measurement of force? Explain.
- Q6) What is a transducer? Discuss the governing principle of a transducer.

Section - C

(2 x 10 = 20)

- Q7) Explain how pneumatic comparators work and briefly enumerate the advantages of differential pneumatic comparators.
- Q8) Explain with the help of sketches the working principles of the instruments used in checking of profile and base pitch of the gear.
- Q9) Write short notes on:
- (a) Hydraulic load cell.
 - (b) Dial Gauges.

