

# CBCS SCHEME

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## Third Semester B.E. Degree Examination, Feb./Mar. 2022 Mechanical Measurement and Metrology

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

### Module-1

- 1 a. Define : i) Accuracy ii) Precision iii) Sensitivity (10 Marks)  
iv) Hysteresis v) Repeatability.  
b. Classify errors, explain any two errors with neat diagram (if required). (10 Marks)

OR

- 2 a. Explain : i) Linearity ii) Time delay iii) Threshold (10 Marks)  
iv) Loading effect v) Calibration.  
b. Write the comparison between Line standard and End standard. (10 Marks)

### Module-2

- 3 a. With a neat diagram explain Solex comparator. (10 Marks)  
b. With a neat diagram explain Sigma comparator. (10 Marks)

OR

- 4 a. With a neat diagram explain the principle, construction and working of sine bar. (10 Marks)  
b. With a neat diagram explain Clinometer. (10 Marks)

### Module-3

- 5 a. Name different mechanical transducer and with a neat diagram explain any one. (10 Marks)  
b. With a neat diagram explain Piezo-Electric transducer. (10 Marks)

OR

- 6 a. With a neat diagram explain Cathode-Ray oscilloscope. (10 Marks)  
b. With a neat diagram explain xy plotter. (10 Marks)

### Module-4

- 7 a. With a neat sketch explain analytical balance. (10 Marks)  
b. With a neat sketch explain Prony brake dynamometer. (10 Marks)

OR

- 8 a. With a neat diagram explain eddy current dynamometer. (10 Marks)  
b. Explain preparation and mounting of strain gauge. (10 Marks)

### Module-5

- 9 a. Name the types of fits and explain them. (10 Marks)  
b. Name the different ways in which the mating parts can be assembled together and explain any two types. (10 Marks)

OR

- 10 a. With a neat diagram explain McLeod gauge. (10 Marks)  
b. With a neat diagram explain optical pyrometer. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and/or equations written eg, 42+8 = 50, will be treated as malpractice.