

S. B. Roll. No.....

METROLOGY AND INSTRUMENTATION
3rd Exam/Mech./4653/Dec'22
(For 2018 Batch Onwards)

Duration: 3Hrs.

M.Marks:75

SECTION-A

Q1. Give one Line answer.

15x1=15

- a. Define Metrology?
- b. What are line standards?
- c. Define error.
- d. How many mm are there in 1 inch?
- e. Define accuracy.
- f. For which purpose, an odd leg caliper is used?
- g. State the working principle of Vernier Caliper.
- h. What is a wire gauge?
- i. Define Squareness.
- j. State the working principle of wheat stone bridge circuit.
- k. In angular measurement, 1 minute consists of how many seconds?
- l. Name the two scales used for measurement in angle Dekkor.
- m. For which purpose, Plug thread gauges are used?
- n. What is Gear tooth Vernier Caliper?
- o. What is a stroboscope?

SECTION-B

Q2. Attempt any six questions.

6x5=30

- i. Differentiate between Systematic/Controllable and Random errors.
- ii. Explain briefly the function of Surface Plate.
- iii. What is primary texture and secondary texture?
- iv. Write a short note on Feeler gauge.
- v. Explain Vernier Bevel Protractor in brief with a neat sketch.
- vi. Differentiate between precision and accuracy.
- vii. What are Strain gauges?
- viii. What is Roundness? Explain any one method for the measurement of Roundness.
- ix. Explain Dial indicator in brief with a neat sketch.

SECTION-C

Q3. Attempt any three questions.

3x10=30

- a. Explain Profile Projector with a neat sketch.
- b. Describe slip gauges in detail.
- c. Explain Micrometer with a neat sketch.
- d. Discuss construction and working of auto-collimator.
- e. Explain measurement of pitch by Zeiss Gear measuring machine.