

NETTUR TECHNICAL TRAINING FOUNDATION
DIPLOMA IN MECHATRONICS ENGINEERING & SMART FACTORY – CP15
II SEMESTER REGULAR & SUPPLEMENTARY EXAMINATION-JULY 2023

Subject: Metrology

Subject Code: CP15206T

Total Time: 2 Hr.

Total Marks: 50

PART B

1.0 ANSWER ANY EIGHT OF THE FOLLOWING

2*8=16

- 1.1 Define accuracy
- 1.2 What is least count?
- 1.3 List the types of dial indicator.
- 1.4 What is gauge?
- 1.5 List the types of mechanical comparator.
- 1.6 What is interchangeable system?
- 1.7 What is GD&T?
- 1.8 What is slip gauge?
- 1.9 Define precision
- 1.10 List the types of gauges for checking shaft.

2.0 ANSWER ANY SIX OF THE FOLLOWING

3*6=18

- 2.1 What is caliper and list out the types of caliper?
- 2.2 Explain about various errors on micrometer with a neat sketch?
- 2.3 Explain about plug gauge with a neat sketch.
- 2.4 Explain about wringing in slip gauges.
- 2.5 List the applications of comparator
- 2.6 What is 45H7/g6 indicates?
- 2.7 Define the following terms a) Basic size b) Actual size c) nominal size
- 2.8 Draw the GD&T symbol for flatness, straightness, perpendicularity and parallelism?

3.0 ANSWER ANY FOUR OF THE FOLLOWING

4*4=16

- 3.1 Explain about Vernier height gauge with a neat sketch.
- 3.2 Explain about various grades of slip gauges.
- 3.3 Explain about outside micrometer with a neat sketch.
- 3.4 What is fit and explain various types of fit with a neat sketch?
- 3.5 Differentiate hole basis system and shaft basis system
- 3.6 Define the following technical terms used in measurement.
 - a) Measurement
 - b) range
 - c) scale sensitivity
 - d) actual value.

