Q.29 Explain the working principle of Vernier caliper with neat sketch.

Q.30 What are the various principles of standardization and calibration?

Q.31 Explain the terminology of screw threads with neat sketch?

Q.32 Explain Taylor's principle for designing limit gauge.

Q.33 Write down the principle of calibration and its applications?

Q.34 Differentiate between Quality control and Quality assurance.

Q.35 Write any five precautionary measures to be taken in handling the measuring instruments.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Explain the working of Tool Maker's microscope.

Q.37 What is Hole-Basis & Shaft Basis system? Which system have more advantages and why?

Q.38 Write short note on any two of the following:

a) Outside Micrometer

b) Surface Plate

c) Sine Bar

No. of Printed Pages : 4 202023

Roll No. .....

2nd Year / Advance Diploma in Tool and Die Making
Subject:- Engineering Metrology

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 9 micron = _____mm.

a) 0.09 b) 0.0009

c) 0.9 d) 0.009

Q.2 Which of the following is not a part of Vernier Caliper.

a) Jaw b) main scale

c) Spindle d) fine adjustment screw

Q.3 Clinometers are used for checking ?

a) Linear Measurement

b) Angular Measurement

c) Taper Measurement

d) None of these

Q.4 The following is a line standard of measurement.

a) Measuring Tape b) Slip Gauges

c) Micrometer d) End bars

Q.5 Try Square is made of_____

a) Alloy steel b) Cast Steel
c) Both a & b d) None of these

Q.6 Dial Test Indicator is_____ device.
a) Electronic b) Hydraulic
c) Mechanical d) Pneumatic

Q.7 Vernier Bevel Protector is used for checking?
a) Linear Measurement
b) Angular Measurement
c) Taper measurement
d) None of these

Q.8 The following is not a type of Comparator.
a) Electrical b) Pneumatic
c) Optical d) Hydraulic

Q.9 The dimensions as measured on a manufactured part is called
a) Actual size b) Basic size
c) Zero Line d) Nominal Size

Q.10 Gauges used for checking the holes are called ?
a) Plug Gauge b) Snap Gauge
c) Planer Gauge d) Gap Gauge

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Define Metrology.

Q.12 Define Accuracy.

Q.13 Define Quality Control.

Q.14 Write the full form of ISO.

Q.15 Define Least Count of an instrument.

Q.16 Define Error.

Q.17 Define Precision.

Q.18 Define Inspection.

Q.19 Define Concentricity.

Q.20 Write the units of surface roughness.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Explain Hole Basis System. Why it is preferred?

Q.22 Differentiate between mechanical and pneumatic comparator.

Q.23 Explain how the straightness of lathe bed may be checked by using spirit level?

Q.24 List the various possible sources of errors in measurement and explain them in brief.

Q.25 State the requirements for an instrument to measure accurately?

Q.26 Explain the different types of standards.

Q.27 Define fit and explain its types with suitable examples.

Q.28 Explain the roughness and waviness in detail.