Q.32 What do you understand by standardization and its application?

Q.33 Write down the principle of calibration, accuracy and standards.

Q.34 Explain surface roughness and its classification.

Q.35 Write the working of profile projector.

SECTION-D

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

Q.36 Explain the working of mechanical comparator with suitable diagram.

Q.37 Describe with the help of a neat sketch the working of Gear tooth Vernier.

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

a. Vernier Caliper

b. Bevel protector

c. Slip Gauges

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Roll No. .....

2nd Year / Branch : Advance Diploma in Tool and Die Making

Subject:- Engg. Metrology

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 Which of the following instrument is more accurate

a) Mechanical Comparator

b) Optical Protector

c) Slip Gauge

d) Caliper

Q.2 Which instrument is used for testing Flatness or straightness of a surface

a) Vernier Caliper b) Micrometer

c) Autocollimator d) All of these

Q.3 1 radian=.....degree

a) 57.29 b) 43.25

c) 60.12 d) 33.29

Q.4 Negative allowance is called?

a) Tolerance b) Clearance

c) Interference d) None of these

Q.5 Surface Plate is made up of

a) Granite b) Cast iron

c) Glass d) All of these

Q.6 Degree of tightness and looseness between the mating parts is called:

a) Basic Size b) Fit
c) Limit d) Deviation

Q.7 A 20 mm "h" shaft with tolerance grade IT8 is donated by:

a) Ø 20H8 b) Ø 20h8
c) 20H8 d) None of these

Q.8 Gauges used for checking the holes are called

a) Plug Gauge b) Snap Gauge
c) Planer Gauge d) Gap Gauge

Q.9 The angle of ACME thread is.....degree

a) 29 b) 30
c) 45 d) 59

Q.10 The full form of ACME thread is.....degree

a) Computerized Measuring Machine
b) Coordinate Measuring Machine
c) Co-operate Measuring Mechanism
d) All of these

SECTION-B

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

Q.11 Define Tolerance
Q.12 Name the various types of Fits.
Q.13 Write any one advantage of Plug Gauges
Q.14 Write the full form of BIS
Q.15 Name any two instruments used for angular measurement.

Q.16 The angle of Square Thread is_____
Q.17 Define Standardization.
Q.18 Define Calibration.
Q.19 Define Surface Roughness.
Q.20 Define Comparator.

SECTION-C

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

Q.21 Explain the term Precision and Accuracy with suitable example.
Q.22 Explain the need and standard procedure for calibration.
Q.23 Describe the principle of "Interference fit" with sketch.
Q.24 What do you understand by systematic error and random errors?
Q.25 Explain the need for measurement.
Q.26 Write the factors affecting the accuracy of the measuring system.
Q.27 Explain the limit, fit and tolerance in brief.
Q.28 How do you classify the Limit gauge? Explain any one in brief.
Q.29 State the characteristics of good comparator.
Q.30 Explain the principle of measurement of gear tooth thickness using a gear tooth Vernier.
Q.31 Define quality. Also state various characteristics of quality.