Q.30 Write any three uses of Combination set. Why is it called Combination set? (CO6)

Q.31 Write the procedure for calibration. (CO6)

Q.32 Explain the working of Profile Projector with neat diagram. (CO6)

Q.33 Explain in brief the concept of surface roughness & give its classification. (CO7)

Q.34 Write any four Characteristics of comparator. (CO8)

Q.35 Explain dial gauge with neat diagram. (CO8)

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. (CO8)

Q.37 Name different thread elements and add a brief description of any two of them. (CO5)

Q.38 Write short note on any two: (CO1)

a) Steel Ruler b) bevel Protector

c) Slip Gauge d) ISO

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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 The least count of vernier caliper is_____ (CO1)

a) 0.001 mm b) 0.002 mm

c) 0.02 mm d) 0.01 mm

Q.2 A 20 mm hole "H" with tolerance grade IT8 is donated by: (CO2)

a) Æ20H8 b) Æ20h8

c) 20 H8 d) None of these

Q.3 Which of the following is control chart for fraction defective? (CO3)

a) V-Chart b) P-Chart

c) X-Chart d) C-chart

Q.4 The term "Allowance" in limits and fits is usually referred to_____ (CO3)

a) Minimum Clearance between shaft and hole

b) Maximum Clearance between shaft and hole

c) difference of tolerance of hole and shaft

d) Difference between maximum and minimum size of the hole

Q.5 A dial gauge is a (CO4)

a) Measuring Instrument
b) Comparator
c) Limit Gauge
d) Inspection Fixture

Q.6 Gauges used for checking the holes are called (CO4)

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

Q.7 The angle of ACME thread is_____ degree (CO5)

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

Q.8 1 radian = _____ degree (CO6)

a) 60.12 b) 43.25
c) 57.29 d) 33.29

Q.9 Clinometer is used for_____ measurement (CO6)

a) Angular b) Straightness
c) Flatness d) Diameter

Q.10 Surface Plate is made up of :-

a) Granite b) Cast iron
c) Glass d) All of these

SECTION-B

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

Q.11 Define inspection. (CO1)

Q.12 Define least count of an instrument. (CO1)

Q.13 Name any two geometrical Parameters. (CO2)

Q.14 Define interchangeability. (CO3)

Q.15 Write the use of Feeler Gauge. (CO4)

Q.16 Define pitch of a thread. (CO5)

Q.17 Define Zero Error. (CO5)

Q.18 Name any two instruments for linear measurement. (CO6)

Q.19 Define surface Roughness. (CO7)

Q.20 Define Comparator. (CO8)

SECTION-C

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

Q.21 Write any four functions of inspections. (CO1)

Q.22 Write the working principle of Vernier Caliper with diagram. (CO1)

Q.23 Discuss the effect of errors on accuracy. (CO2)

Q.24 Define Straightness, Flatness and Parallelism, Circularity and concentricity. (CO2)

Q.25 Explain various types of Fits with diagram. (CO3)

Q.26 Define Limit Gauge and give its classification. (CO4)

Q.27 Write the principle of Taylor's for designing of Plain Limit Gauge. (CO4)

Q.28 Explain any two screw threads with diagram. (CO5)

Q.29 Explain systematic error and random error. (CO5)