Total No. of printed pages = 7

END SEMESTER EXAMINATION–2022

Semester : 1st

Subject Code : Me-101

ENGINEERING DRAWING

Full Marks – 100

Time – Four hours

The figures in the margin indicate full marks for the questions.

Instructions :

(i) *All* questions of PART–A are compulsory.

(ii) Answer any *five* questions from PART–B.

PART–A

Marks–25

1. Fill in the blanks with appropriate words : 1×10=10

   (a) Length of the scale = ——× Maximum length to be shown on a scale.

   (b) A point lies above H.P. and in front of V.P. is in —— Quadrant.

(c) Centre lines are generally ———. (thin/ thick)

(d) Scale X:1 is ——— scale.

(e) Circles and arcs of circles are drawn by means of a ———.

(f) Uses of the T-square, set-squares, scales and protractor are combined in the ———.

(g) When measurements are required in three units ——— scale is used.

(h) Lettering is usually done in ——— letters.

(i) When the projectors are parallel to each other and also perpendicular to the plane, the projection is called ——— Projections.

(j) In the ——— quadrant, point is situated above the HP and behind of VP.

2. Write the description and general application of the following : 2×5=10

(a) Hatching or section lines

(b) Centre lines

(c) Long break lines

(d) Comparative scales

(e) Isometric projections.

3. State true or false : 1×5=5

(a) The perpendicular bisector of an arc passes through its centre.

(b) In first angle projection Top view is drawn below Front view.

(c) A point is in 2nd quadrant, its top view will be above XY.

(d) Extension line should extend slightly beyond dimension line.

(e) Drawing board is made of hard wood.

PART – B

Marks – 75

Answer any *five* questions.

4. (a) Giving importance on the shape of letters, write the following in single stoke vertical style. Consider the height of letter 20 mm.

"WORK IS WORSHIP"

10

(b) Show by sketches the difference between :

(i) continuous or chain dimension

(ii) progressive or parallel dimensioning.

What are the advantages of one above the other ? 5

5. (a) Construct a plain scale of 1:50 to show metres and decimetres and to measure up to 8 metres. Show the length of 5.6 metres on it. 5

(b) Draw a diagonal scale of R.F.=3/100, showing metres, decimetres and centimetres and to measure upto 5 metres. Show the length of 3.69 metres on it. 5

(c) Write two uses of a T-square and set square. Give one advantage of a drafting machine. 5

6. (a) Construct a rectangle of sides 65mm and 40mm long. 5

(b) Draw a regular hexagon of 40mm side. 5

(c) Construct a regular heptagon of 25mm side and inscribe a circle in it. 5

7. (a) A point P is 20 mm below H.P. and lies in the third quadrant. Its shortest distance from xy is 40 mm. Draw its projection. 5

(b) Draw the projection of a 75 mm long straight line, in the following positions : 2.5×2=5

(i) Parallel to and 30 mm above the H.P. and in the V.P.

(ii) Parallel to and 40 mm in front of the V.P. and in the H.P.

(c) A line AB, 65mm long, has its end A 20 mm above the H.P. and 25 mm in front of the V.P. The end B is 40 mm above the H.P. and 65 mm in front of the V.P. Draw the projections of AB and show its inclinations with the H.P. and the V.P. 5

8. (a) Draw three views of a hexagonal nut for a 24 mm diameter bolt, according to approximately standard dimensions. 9

(b) Explain the following with sketches : 2×3=6

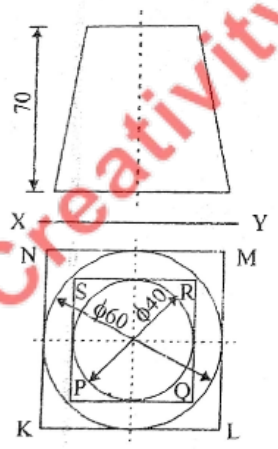
(i) Rag Bolt

(ii) Set-screws

(iii) Flanged nut.

9. (a) Describe the ways in which a riveted joint may fail. What steps are taken to prevent failures ? Illustrate your answer with necessary sketches. 6

(b) Draw the isometric view of the frustrum of the cone as shown in the figure. 9



10. Draw the following views of the block shown pictorially in the fig. below. Use third- angle projection method. 15

(i) Front view

(ii) Top view

(iii) Side view from left.