Total No. of printed pages = 7

END SEMESTER (REGULAR/RETEST) EXAMINATION, NOVEMBER/DECEMBER – 2024

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 from Question Nos. 1, 2 and 3 are compulsory.

(ii) Answer any *five* questions from Question Nos. 4 to 10.

1. Select the correct options from the following : 1×5=5

(a) Outlines are shown by

(i) Thin continuous line

(ii) Long and thin chain line

(iii) Thick continuous line

(iv) Dashed line

[Turn over

(b) The one interior angle of regular hexagon is

(i) 100° (ii) 120°

(iii) 90° (iv) 180°

(c) Drawing of large objects are drawn using

(i) Enlarging Scale

(ii) Full Size Scale

(iii) Reducing Scale

(iv) Any Scale

(d) In third angle projection method, the object is assumed to be in

(i) First Quadrant

(ii) Second Quadrant

(iii) Fourth Quadrant

(iv) Third Quadrant

(e) The outer most part of a thread is known as

(i) Pitch (ii) Root

(iii) Crest (iv) Depth.

2. Fill in the blanks : 1×5=5

(a) The R.F in case of a reducing scale is always _____.

(b) In isometric projection the three edges of an object are inclined to each other at _____.

(c) _____ are used to draw curves which cannot be drawn with a compass.

(d) To measure three units _____ scale is used.

(e) When a line is inclined to VP and parallel to HP, then the front view will be _____ to xy.

3. Match the following Columns : 1×5=5

Column – A	Column – B
(a) Set Squares	(i) 108°
(b) Isometric Projection	(ii) Continuous Thin Lines
(c) Welding	(iii) 45°
(d) Interior Angle of Pentagon	(iv) Vertical Lines
(e) Dimension Lines	(v) Permanent Joint

4. (a) Draw a line 125 mm long and quadrisect it. 4

(b) Construct a regular octagon in a square of 75 mm side. 4

(c) Construct a tangent to a circle from a point 40 mm away from it. 4

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

5. (a) Using single stroke vertical letters of height 15 mm and suitable ratio write the following sentence : 12

'BELIEVE IN YOURSELF'

(b) Construct a scale of 1.5 cm = 1 dm to read up to 1 metre and show on it a length of 0.6 metre. 5

6. (a) Draw the projections of the following points on the same ground line, keeping the projectors 25 mm apart : 7

(i) A, in the HP and 20 mm behind the VP.

(ii) B, 40 mm above the HP plane and 25 mm in front of VP.

(iii) C, in the VP and 40 mm above HP.

(iv) D, 25 mm below HP and 25 mm behind the VP.

(v) E, 15 mm above HP and 50 mm behind the VP.

(vi) F, 40 mm below HP and 25 mm in front of the VP.

(vii) G, in both the HP and VP.

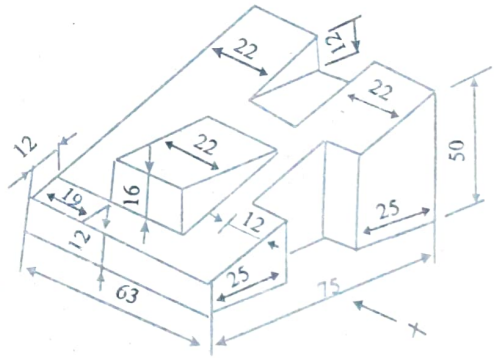
(b) A line AB, 65 mm long, has its end A 20 mm above the HP and 25 mm in front of the VP, the end B is 40 mm above the HP and 65 mm in front of the VP. Draw the projections of AB and show its inclinations with the HP and VP. 10

7. (a) Draw the following views of the blocks shown pictorially in the figure given below. Use the third angle projection method : 12

(i) Front View

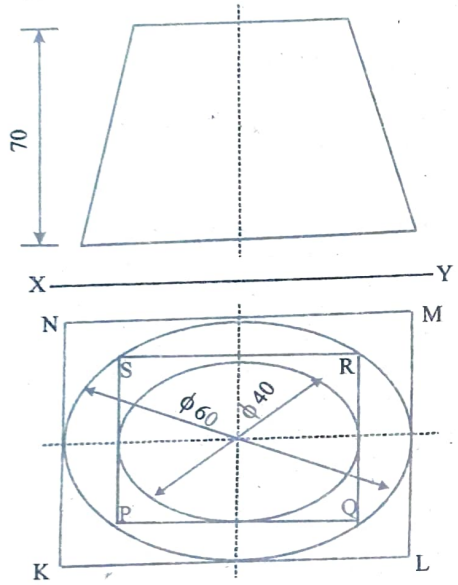
(ii) Top View

(iii) Side View from Left.



(b) Draw a single riveted (single strap) butt joint. Take D = 20 mm and t = 10 mm. 5

8. (a) Draw the isometric view of the Frustrum of the cone as shown in the figure below : 17



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

(b) The area of a field is 50,000 sq. m., the length and the breadth of the field, on the map, is 10cm and 8cm respectively. Construct a diagonal scale which can read up to five metres. Mark the length of 235 meter on the scale. What is the R.F of the scale ? 9

10. (a) Explain the following with the help of sketches : 2×4=8

(i) Unidirectional System

(ii) Aligned System

(iii) Chain Dimensioning

(iv) Parallel Dimensioning.

(b) Draw the following threads : 3×3=9

(i) Knuckle Thread

(ii) Buttress Thread

(iii) Acme Thread.