

Engineering Drawing : 2 SCT 4

P. Pages : 3

Time : Four Hours



AW - 3548

Max. Marks : 80

- Notes :
1. Answer **three** question from Section A and **three** question from Section B.
 2. Assume suitable data wherever necessary.
 3. Retain the construction lines.
 4. Use of pen Blue/Black ink/refill only for writing the answer book.
 5. Use of Drawing Instrument is permitted.

SECTION - A

1. a) The distance between Ahmedabad and Bombay is 500 kms. It is represented on a railway map by 10 cms. Construct a diagonal scale to measure kilometer. Show on scale the distance between Ahmedabad & Surat which is 237 kms. 6
- b) The crank O_1A is 35mm long and rotates about the point O_1 In the clockwise direction. The link AB is connected to the crank by turning pair at the point 'A'. The link AB slides over a fixed cylinder for which the circle $(O_2, 25)$ is shown in figure $O_1O_2 = 100$ mm, $AB = 140$ mm, $AC = 15$ mm, $BC = 155$ mm. Draw the loci of the points B & C for one revolution of crank. 7

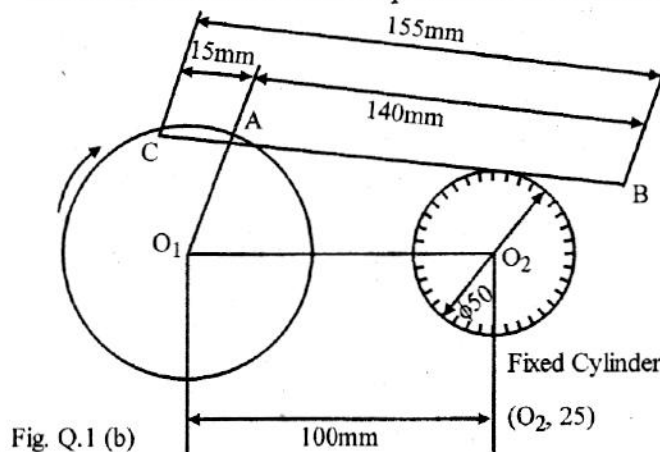


Fig. Q.1 (b)

OR

2. a) Construct a Vernier scale to read centimeters and long enough to measure up to 5 m. Take $R.F. = \frac{1}{25}$. Mark on it a distance 2.42 m. 6
- b) The end 'p' of a staircase PQ, 3 meters long slides vertically downwards on a wall and its end 'Q' slides horizontally away from the wall. Find the locus of the mid point of the staircase PQ. Assume the stair case to be vertical along the wall initially. 7
3. a) A fountain Jet discharges from the ground level, at an angle of 60° to the horizontal. The Jet returns to the ground assumed to be horizontal, at a point 80 meters away from the point of discharge. Draw the path traced by the Jet. 6
- b) Draw a path of the end of string when it is wound on a circle of 40 mm diameter without slipping. The length of the string is 150 mm long. Name the curve. 7

4. a) The major axis and minor axis are 130 mm long and 70 mm long respectively. Draw half of the ellips by the concentric circle method and other half by the rectangle method. 6
- b) Draw an involute of a circle of 60 mm diameter. Also draw the normal & tangent at any point on the curve. 7
5. Fig. 1 shows a pictorial view. Draw by first angle projection method following views. 14
- i) Front view ii) Top view iii) Side view

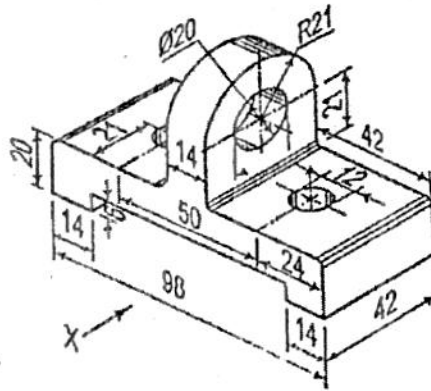


Fig. 1

OR

6. Fig. 2 shows pictorial view. Draw by third angle projection method following views. 14
- i) Front view ii) Top view iii) Side view

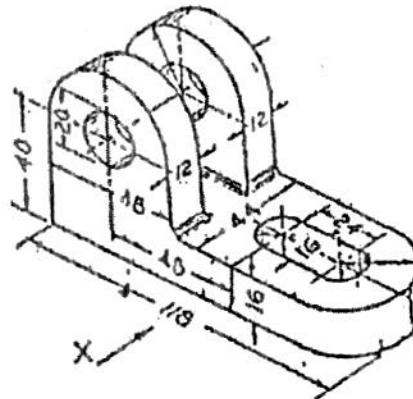


Fig. 2

SECTION - B

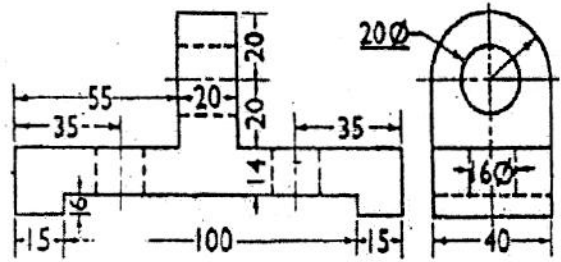
7. a) A rhombus of longer diagonal 60 mm and smaller diagonal 40 mm is resting on the corner of a larger diagonal on the HP such that the top view is a square of 40 mm diagonals. Draw its projections if the top view of a larger diagonal makes an angle of 45° with the V.P. 7
- b) A straight line AB is 60 mm long. It is inclined to H.P. and V.P. by an angle of 30° and 45° respectively. Point A is 30 mm above H.P. and 20 mm in front of V.P. Draw the projections of straight line AB. 6

OR

8. a) A cone of 70 mm height and diameter of base 80 mm has one of its generators in H.P. and making an angle of 45° with the V.P. draw the projections of the cone when the apex is towards the observer. 6
- b) A square prism base 40 mm side and height 65 mm long is resting on its corner of the base on the H.P. and axis inclined at 45° to the H.P. and 30° to the V.P. Draw its projections. 7
9. a) A cone diameter of the base 60 mm and axis 70 mm long resting on its base on H.P. It is cut by an A.I.P. so that the true shape of the section is an isosceles triangle having 50 mm base. Draw the top view, front view and true shape of the cone. 7
- b) Draw neat, proportionate free hand sketches of the following. 2
- i) Wing Nut. 4
- ii) Rag foundation bolt.

OR

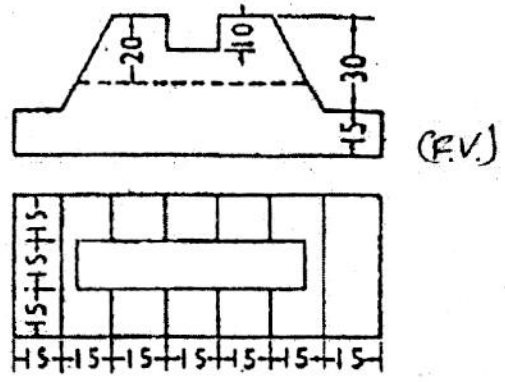
10. a) A cylinder is resting on H.P. on its base. It is cut by A.V.P. inclined at 45° to V.P. in such away that the true shape of section is a rectangle of 50 mm x 60 mm. Draw the projections and find the distance of A.V.P. from the axis. 7
- b) Draw neat, free hand proportionate sketches of the following : 2
- i) Double coil spring washer. 4
- ii) Lewis foundation bolt.
11. Fig. 1 shows two views of an object draw Isometric view. 14



(F.V.) FIG.- 1 (S.V.)

OR

12. Fig. 2 shows, two views of an object. Draw Isometric projection. 14



(T.V.) FIG. - 2
