B.E. First Semester All Branches (C.B.S.) / B.E. First Semester (Fire Engineering)

Engineering Graphics - I

P. Pages : 2

Time : Three Hours

NKT/KS/17/7201

0235

Max. Marks : 40

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Notes : 1. All questions carry marks as indicated.
2. Solve Question 1 OR Questions No. 2.
3. Solve Question 3 OR Questions No. 4.
4. Solve Question 5 OR Questions No. 6.
5. Solve Question 7 OR Questions No. 8.
6. Due credit will be given to neatness and adequate dimensions.
7. Use of drawing instruments is permitted.
8. Retain construction lines.

1. a) The major axis of an ellipse is 150 mm long and the minor axis is 100 mm long. Find the foci and draw the ellipse by arcs of circles method. **5**

   b) A line AB, 90 mm long, is inclined at 45º to the H.P. and its top view makes an angle of 60º with the V.P. The end A is 20 mm above H.P. and 25 mm in front of V.P. Draw its front view and find its true inclination with the V.P. **5**

2. a) Draw an involute of a circle of 50 mm diameter. **5**

   b) The top view of 75 mm long line PQ measures 50 mm. P is 50 mm infront of V.P. and 20 mm above H.P. Q is 20 mm infront of V.P. and is above H.P. Draw the front view of PQ and find its inclinations with the H.P. and the V.P. **5**

3. a) A regular hexagon of 30 mm side, has a corner on the H.P. It's surface is inclined at 45º to the H.P. and the diagonal through the corner which is on H.P. makes an angle of 30º with V.P. Draw its projections. **5**

   b) A regular pentagonal plane ABCDE at 25 mm side, rests on H.P. an one of its corner such that the surface of the plane is inclined to H.P. at 45º. Its side opposite to the corner which is an H.P. is parallel to H.P. and inclined to the V.P. at 45º. Draw its projections. **5**

4. A right circular cone of base circles diameter 30 mm and axis 50 mm long is resting on one of its generator on H.P. such that the top view of the axis is inclined at an angle of 30º to V.P. Draw its projections. **10**

5. a) Pictorial view of the object is shown in the figure no. 1.
   Draw i) Front view from 'X'
   ii) Top view **5**
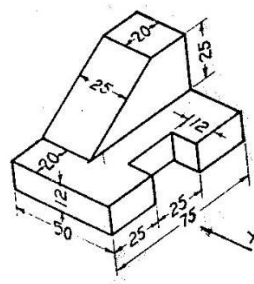
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Figure No. 1. Q. No. 5(a)

b) Pictorial view of the object is shown in the figure no. 2   **5**
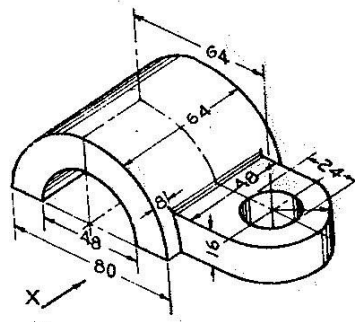   Draw : i) Front View from 'X'
         ii) Side view from the right

Figure No. 2 Q. 5 (b)

6.   Pictorial view of the object is shown in the figure no. 3.   **10**
         Draw : i) Front view from X
               ii) Side view from the right
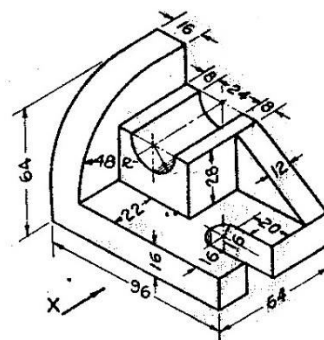   iii) Top view

Figure No. 3 Q. 6.

7.   A cone of base circle diameter 50 mm and axis 70 mm long is resting on its apex with its   **10**
         axis vertical on the top face center of the square prism of side 30 mm and height 25 mm
         resting on its base on horizontal surface. Draw the isometric view of the combined solids.

8.   The figure no. 4 shows the projections of casting. Draw isometric projection.   **10**
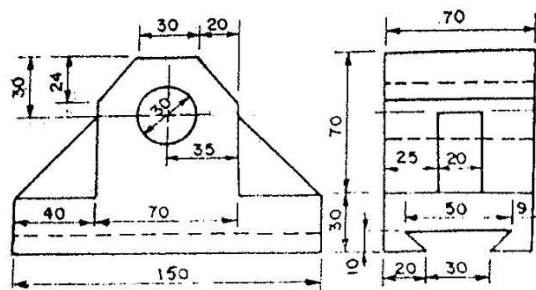
All dimensions are in mm

Figure No. 4 Q. No. 8

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