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

Engineering Graphics – I

P. Pages : 2 **NIR/KW/18/3286/3935**

Time : Three Hours * 1 6 9 9 * Max. Marks : 40

Notes :
1. Solve Question 1 OR Questions No. 2.
2. Solve Question 3 OR Questions No. 4.
3. Solve Question 5 OR Questions No. 6.
4. Solve Question 7 OR Questions No. 8.
5. Due credit will be given to neatness and adequate dimensions.
6. Assume suitable data whenever necessary.
7. Use of drawing instruments is permitted.
8. Retain construction lines.

1. a) A motor car head lamp is having an opening of 0.2 meter and a depth 0.15 meter. If the shape of the reflector is parabolic, draw shape of the reflector. **5**

b) Line CD is inclined at 30º to the H.P., its front view measures 60 mm and is inclined at 60º to XY line. The end C is 15 mm above HP and 20 mm infront of the V.P. and the line is completely in first quadrant. Determine its true length and its inclination with the V.P. **5**

OR

2. a) Construct an Archimedean spiral for one convolution with greatest and least radii of 120 mm and 20 mm. **5**

b) A line AB has its end point A 15 mm above the H.P. and 25 mm infront of the V.P. The length of top view of the line is 60 mm and length of front view is 65 mm. The distance between the projectors of end points A and B is 45 mm. Draw the projections of line. Determine the true length and inclination of line with the H.P. and the V.P. **5**

3. a) A pentagon of 35 mm side has its surface inclined 45º to the H.P. & an edge is parallel to HP and inclined 30º to the V.P. Draw its projections. **5**

b) The top view of plane, whose surface is perpendicular to V.P. and inclined at 55º to the H.P. is a circle of 50 mm diameter. Determine the true shape of plane. **5**

OR

4. A square pyramid, side of base 35 mm and axis 50 mm long is lying on the H.P. on one of its triangular faces. Draw the projections of the pyramid when the edge of base contained by triangular face on HP makes an angle of 45º to the V.P. **10**

5. a) Following fig. Q. 5 (a) shows the pictorial view of the object draw **5**
i) Front view looking in direction x.
ii) Side view (looking in direction y)
Give proper dimensions.

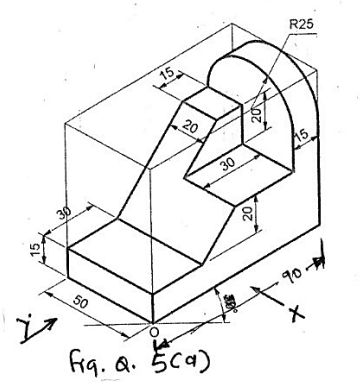

Fig. Q. 5(a)

b) Following fig. Q. 5 (b) shows the pictorial view of the object draw. **5**

i) Front view looking in the direction x.

ii) Top view

Give proper dimensions.

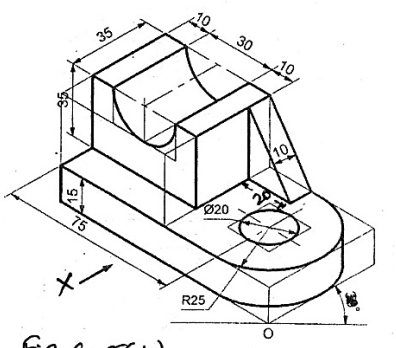

Fig. Q. 5(b)

OR

6. Following fig. Q. (6) shows pictorial view of the object. Draw **10**

i) Draw front view looking in the direction x.

ii) Top view.

iii) Right hand side view

Give proper dimensions.

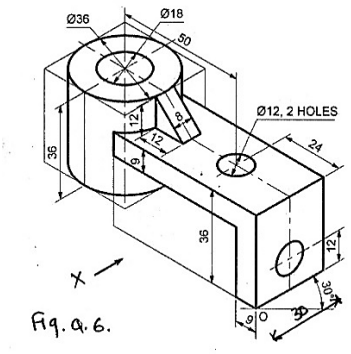

Fig. Q. 6.

7. A pentagonal pyramid side of base 40 mm and axis 70 mm long is placed centrally on its base on a circular disc of diameter 80 mm and thickness 60 mm, in such a way, that one side of base of pyramid is parallel to the V.P. Draw the isometric projection of the solids show their common axis and indicate direction of viewing. **10**

OR

8. Fig. Q. (8) shows front view and top view of an object. Draw isometric view. **10**

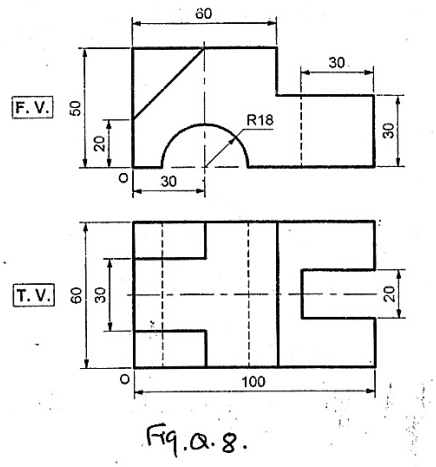

Fig. Q. 8.

****