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

Engineering Graphics - I

P. Pages : 3 **NRJ/KW/17/4341**

Time : Three Hours * 0 5 3 9 * Max. Marks : 40

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. Assume suitable data whenever necessary.
8. Use of drawing instruments is permitted.
9. Retain construction lines

1. a) A line AB 70 mm long is inclined at an angle of 30º to the HP. Its end A is 10 mm above the HP and 15mm in front of the V. P. front view length of the line is 50 mm. Draw the projections of line AB. **5**

b) On a cricket ground, the ball thrown by a fielder reaches the wicket-keeper following the parabolic path. Maximum height achieved by the ball above the ground is 30 meter. Assuming the point of throw and the point of catch to be 1 meter above the ground. Draw the path of the ball. The distance between the fielder and the wicket-keeper is 70 meter. **5**

OR

2. a) A wheel of 60 mm diameter, rolls downward on a vertical wall for half revolution and then on horizontal floor for the remaining half revolution without slipping. Draw the locus of point P on the circumference of wheel, the initial position of which is the contact point with the wall Name the curve. **5**

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

3. a) A thin square plate with 40mm side stands on one of its corners on the H. P. and the opposite corner is raised so that one of its diagonals is twice that of others. If one of the diagonal is parallel to both the reference planes, draw the projections and determine surface inclination of plate with the H. P. **5**

b) The one side of regular hexagon of 30 mm side is in the V. P. while the opposite side is 25 mm infront of the V. P. and is inclined at 30º with the H. P. Draw the projections of plane and find its surface inclination with the V. P. **5**

OR

4. A hexagonal pyramid, side of base 30 mm and height 55mm lies on one of its triangular faces on the H. P. The edge of base lying on the H. P. makes an angle of 45º with the V. P. Draw three views of pyramid. **10**

5. a) Fig. 5 (a) shows pictorial view of an object. Draw following views; **5**

i) Front view looking in the direction X.

ii) Side view looking in the direction Y.

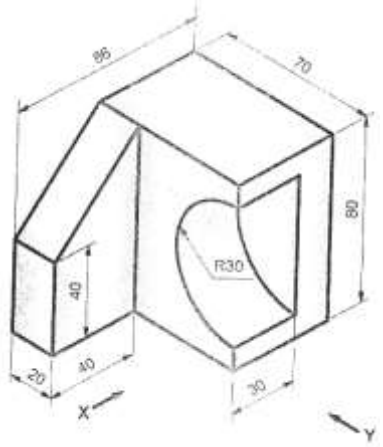

Fig. 5 (a)

b) Fig. 5 (b) shows pictorial view of an object. Draw following views **5**

i) Front view looking from direction Y.

ii) Top view

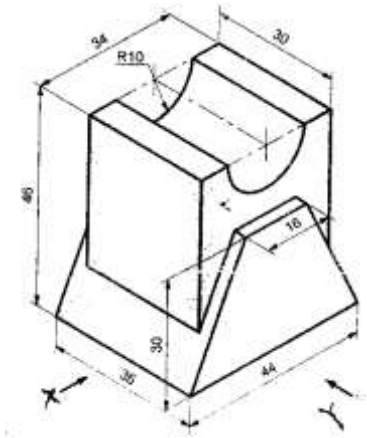

Fig. 5 (b)

OR

6. Fig. 6 shows pictorial view of an object draw. **10**

i) Front view

ii) Top view and

iii) Side view. Give scale used and draw the projection symbol.

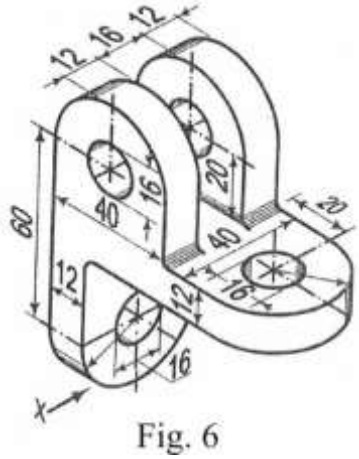

Fig. 6

7. Draw an isometric view of an object whose projections are shown in fig. 7. **10**

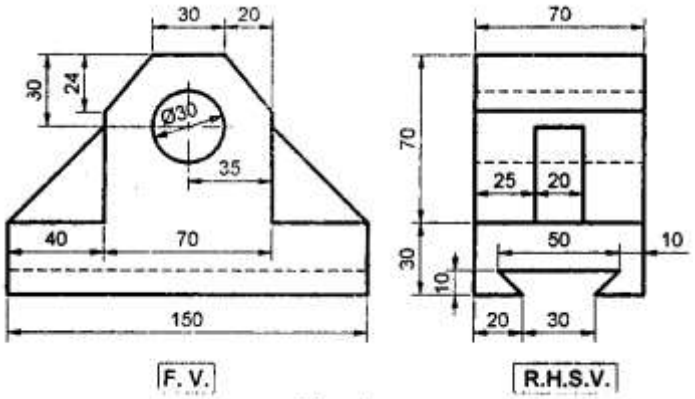

Fig. 7

OR

8. A right circular cylinder of base circle diameter 45 mm and axis 60 mm long is kept centrally on the hexagonal prism, side of base 40 mm and height 45 mm. The hexagonal prism rests on its base on H. P. with one side of base perpendicular to V. P. Draw the isometric projection for the given arrangement keeping their common axis vertical. Show the direction of viewing and also construct the scale used. **10**

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