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

Engineering Graphics - I

P. Pages : 3 **NJR/KS/18/4341**

Time : Three Hours * 0 0 6 1 * 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.

1. a) An artillery gun fires a bombshell from ground surface to a target on the same level and 15 k. m. away. Bombshell achieves maximum height of 5 k. m. Draw the path traced by the shell by selecting a suitable scale. Name the curve. **5**

b) The F.V. of line AB is 70mm long and inclined at 60º to H.P. The end A is in H.P. and 20 mm in front of V.P., while the end B is 60 mm in front of V.P. Draw the projection and determine its true length. **5**

OR

2. a) A coin of 40 mm diameter rolls along a straight line on a flat surface. Draw the curve traced out by a point 'P' on its circumference for one complete revolution. **5**

b) A line PQ, 65mm long, has its end P, 20mm above H.P. and 25mm in front of the V.P. The end Q is 40mm above the H.P. and 65mm in front of the V.P. Draw the projections of line PQ and find its inclinations with the H.P. and the V.P. **5**

3. a) An isosceles triangular plate of 40mm base and 70mm altitude appears as an equilateral triangle of side 40mm in top view. Draw the projections of the plate if its 40mm long edge is on the H.P. and inclined at 50º to the V.P. Find the inclinations of the plate with H.P. and V.P. **5**

b) A thin pentagonal plate of negligible thickness and side 25mm long is resting on one of its corners in V.P. and its surface makes an angle of 30º with V.P. and side opposite to that corner makes an angle of 60º with H.P. Draw its projections. **5**

OR

4. Draw the projection of a cube of 40mm long edges resting on the H.P. on one of its corner with a solid diagonal perpendicular to the V.P. & parallel to HP. **10**

5. a) Following Fig. shows the pictorial view of an object Draw its: **5**

i) Front view looking in the direction X.

ii) Top view

Give dimensions and scale used.

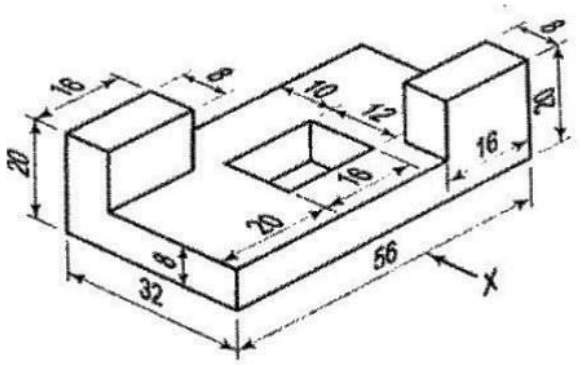

Fig. 5 (a)

b) Following fig. shows the pictorial view of an object draw its: **5**

i) Front view looking in the direction X

ii) Side view

Give dimensions and scale used.

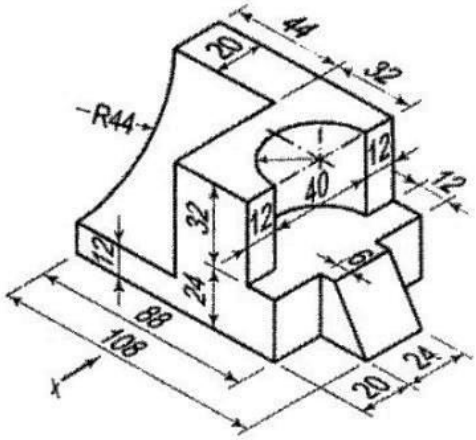

Fig. 5 (b)

OR

6. Figures shows the pictorial view of a machine component. Draw three views: **10**

i) Front view looking in direction. X

ii) Top view

iii) Side view

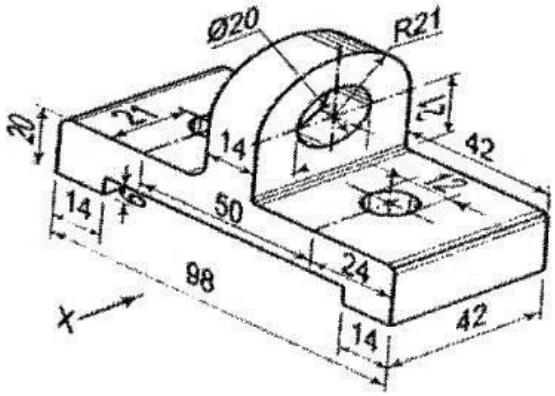

Fig. 6

7. a) Construct an isometric scale to measure a length of 100mm **3**

b) A circular slab of base diameter 80 mm and thickness 35mm is resting on one of its circular base on H.P. A **7**
Hexagonal pyramid, side of base, 30mm and axis 60mm is kept centrally on its base on top circular face of circular slab. One of the base edge of pyramid is parallel to V.P. and nearer to observer. The axis of both solid is vertical and coinciding. Draw isometric projection for the given arrangement of solids. Show their common axis and also indicate direction of viewing.

OR

8. An orthographic projection is given below. Draw isometric view fig 8. **10**

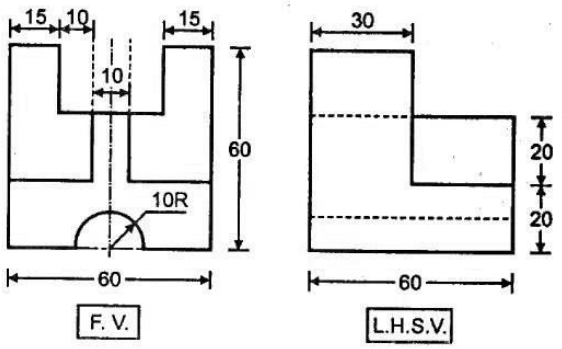

Fig. 8

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