B.E - Bachelor of Engineering (CBCS Pattern) First Semester

1BEAB05 - Engineering Graphics

P. Pages : 3 **GUG/W/18/11469**

Time : Fours Hours * 3 5 5 4 * Max. Marks : 80

Notes :
1. All questions carry equal marks.
2. Due credit will be given to neatness and adequate dimensions.
3. Assume suitable data wherever necessary.
4. Retain the construction lines.
5. Solve question 1 or 2, 3 or 4, 5 or 6, 7 or 8 and 9 or 10.
6. Use of drawing instruments is permitted.
7. All questions carry marks as indicated.

1. a) Triangle ABC has its side AB = 90 mm, BC = 70 mm and CA = 50 mm. Construct an ellipse passing through the points A, B and C. **8**

b) A line AB, 75 mm long is inclined at an angle of 35º to the V. P. Its end A is 20 mm above the H. P. and 15 mm infront of the V. P. plan length of the line is 50 mm. Draw the projections of the line AB assuming it to be in first quadrant. **8**

OR

2. a) An inelastic string of 100 mm length is wound around a disc of 40 mm diameter. Trace the path of free end of a string. **8**

b) A line AB, 70 mm long is inclined at an angle of 45º to the H. P. and 30º to the V. P. Its end point 'A' is on the H. P. and 25 mm infront of the V. P. Draw the projections of the line AB assuming it to be in first quadrant. **8**

3. a) A hexagonal plane of 30 mm side has one of its sides on the H. P. and inclined at 45º to the V. P. The surface of the plane is inclined at 45º to the H. P. Draw its projections. **8**

b) A rhombus ABCD having major diagonal AC = 60 mm and minor diagonal BD = 45 mm is resting on the H. P. on its corner A. Draw the projection of the rhombus when its surface is inclined to H. P. at an angle of 45º and diagonal AC is contained by an auxiliary vertical plane making an angle of 30º to the V. P. **8**

OR

4. A pentagonal pyramid, side of base 30 mm and height 70 mm rests on one of the corners of base on H. P. The base being tilted up until the vertex is 60 mm above the H. P. Draw three views of the pyramid with the side of base opposite to the corner on which it is resting, made inclined at 60º to the V. P. **16**

5. A cone, base 75 mm diameter and axis 80 mm long is resting on its base on the H. P. It is cut by a section plane perpendicular to the V. P. and parallel to and 12 mm away from one of its end generators. Draw its front view, sectional top view, true shape of the section and develop the remaining surface of the cone. **16**

OR

6. A hexagonal pyramid, base 30 mm side and axis 60 mm long, has a triangular face on the H. P and the axis parallel to the V. P. It is cut by a horizontal section plane which bisects the axis. **16**

Draw the front view, sectional top view and develop the surface of the cut pyramid.

7. Draw FV, TV and LHSV of the object whose isometric view is as shown in fig. 7. **16**

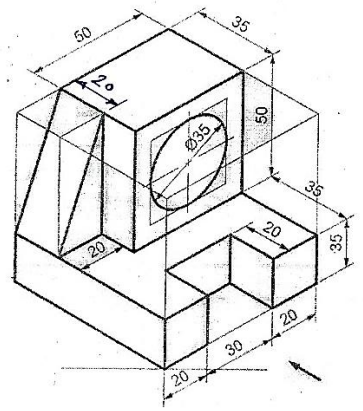

Fig. 7

OR

8. Draw F. V, T. V. and R.H.S.V of the object whose isometric view is as shown in Fig. 8. **16**

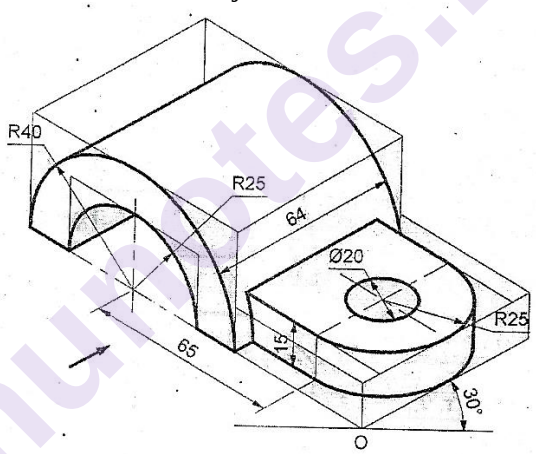

Fig. 8

9. Draw the Isometric view of the object, whose F. V. and T. V. are as shown in fig. 9. **16**

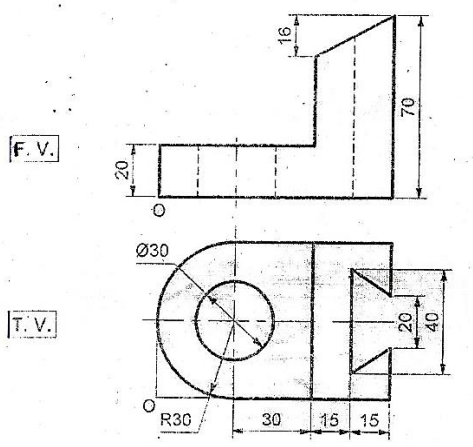

Fig. 9

OR

10. Draw the Isometric view of the object, whose F. V. and T. V. are as shown in fig. 10. **16**

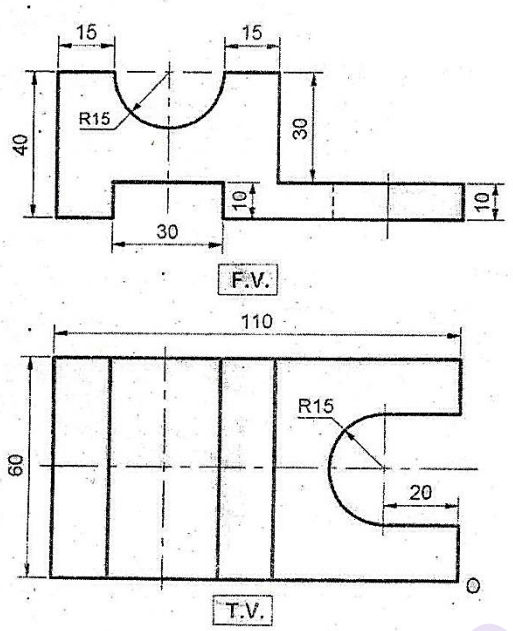

Fig. 10

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