Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐☐ Total No. of Pages : 03

Total No. of Questions : 18

B.Tech. (2012 to 2017)   (Sem.–1,2)
ENGINEERING DRAWING
Subject Code : BTME-102
M.Code : 54102

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :
1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION - B & C have FOUR questions each.
3. Attempt any FIVE questions from SECTION B & C carrying EIGHT marks each.
4. Select atleast TWO questions EACH from SECTION - B & C.

SECTION–A

Answer briefly/Fill in the blanks :

1. Sketch a symbolic line that represent center line, lines of symmetry and trajectories

2. Construct a scale of 1:5 to show decimeters and centimeters to read up to 1 m. Show the length of 6.7 decimeter on it.

3. Sketch the symbol for third angle projection.

4. Why first & third angle projections are preferred over the second & fourth angle projection system?

5. What is octant and write basic steps to open an octant?

6. What are the auxiliary planes?

7. Explain the term 'Shortest Distance' of a point.

8. What is the difference between isometric and orthographic projections?

9. What is the difference between truncated and oblique solids?

10. What is the significance of a trace of a line?

SECTION-B

11. A point P is 40 mm below HP, in third quadrant, and its shortest distance from XY line is 55 mm. Draw its front and top view.

12. Projectors drawn through HT and VT of a line AB are 80mm apart and those drawn through its ends A and B are 50 mm apart. HT (H) is located 45 mm behind the VP and VT (V') 70 mm below the HP. The end A of the line lies in the HP. Draw the projection of the line and determine its TL, $^-$ and $\overset{..}{\textbf{v}}$.

13. A right regular pentagon ABCDE of 40 mm side, has its corner A on HP. Its side CD parallel to HP and inclined at 45° with the VP. The plane of the pentagon makes an angle of 35° with the HP. Draw its projection keeping its corner point C 70 mm in front of VP.

14. A right regular pentagonal pyramid, edge of base 30 mm and height 60 mm, is held on ground plane on one of its corner, such that its axis is inclined at 45° to HP and 30° to VP. Draw its projection in third angle.

SECTION-C

15. A right circular cone, diameter of base 55 mm and height 80 mm, rests on ground plane on its base. A bee starts from a point on right side of the base rim and moves around the surface of the cone and finally comes back to the starting point. Find the length of the shortest path the bee should take in covering the distance along the surface of the cone. Also show the path in front and top views.

16. A right circular cone, base diameter 56 mm and height 66 mm, resting on its base on HP, is completely penetrated by a cylinder of diameter 30 mm. The axis of the cylinder is parallel to both the HP and VP and intersects the axis of the cone at a distance of 20 mm from the base. Draw the projection of the solid showing curves of intersection. Assume any suitable length of the penetrating cylinder.

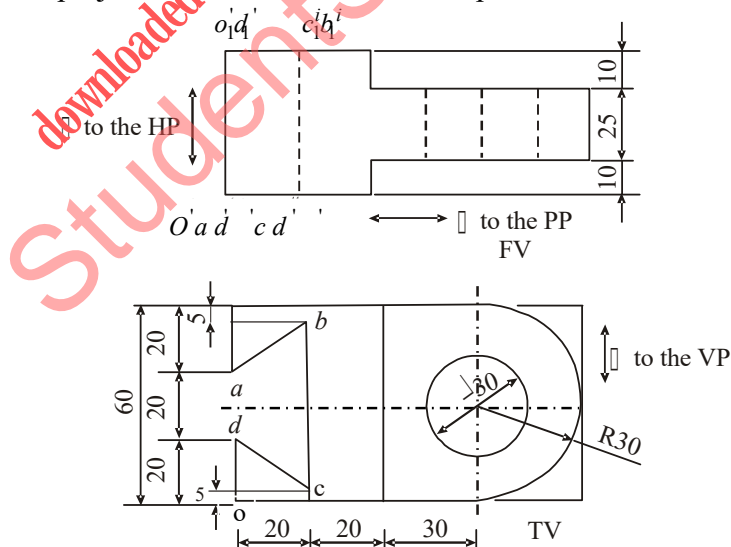17. Draw isometric projection from front view and top view as shown in Figure below :

FIG.1

18. Draw the orthographic views i.e. front view, top view and side view of the figure shown below.
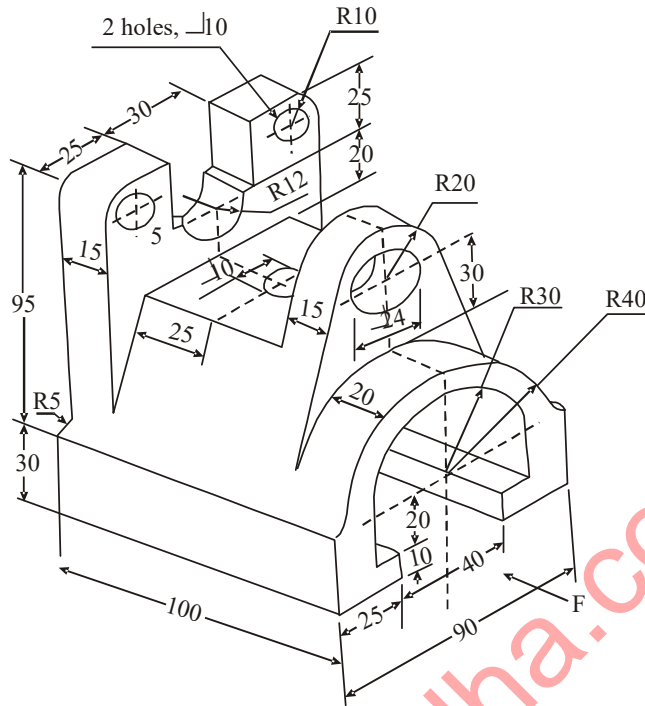

FIG.2

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.