Reg.No.

23687

Velammal College of Engineering and Technology

Viraganoor, Madurai – 625 009
(Autonomous)

B.E./B.Tech. End Semester Examinations April 2024

Second Semester
Time : 3 Hours

Regulation 2021
Max. Marks 100

21ME101 – Engineering Graphics
(Common to all the branches)

Answer ALL Questions

Part – A (5 x 20 = 100 marks)

1. a) A line 'AB' 70mm long has its end 'A' 35mm above HP and 30mm in front of VP. The top view and the front view have a length of 45mm and 60mm respectively. Draw its projection and find its true inclinations

OR

b) A line AB, 90 mm long, is inclined at 30° to HP. Its end A is 12 mm above HP and 20 mm in front of VP. Its front view measures 65 mm. Draw the top view of the line AB and determine its inclination with VP.

2. a) A hexagonal prism of base side 25 mm and axis length 55 mm rests on HP on one of its base edges with its axis inclined at 30° to HP and parallel to VP. Draw the projections of the hexagonal prism.

OR

b) A cone of base diameter 50 mm and axis length 60mm is resting on HP on one of its generators with its axis parallel VP. Draw its projections.

3. a) A hexagonal pyramid of base side 25 mm and axis 70 mm rests on its base on HP with its base on HP and one of the base edges parallel to VP. The solid is cut by a plane which is perpendicular to VP, inclined at 45° to HP and passing through a point 15 mm above the base and located on the axis. Draw the front view, sectional top view and true shape of the section.

OR

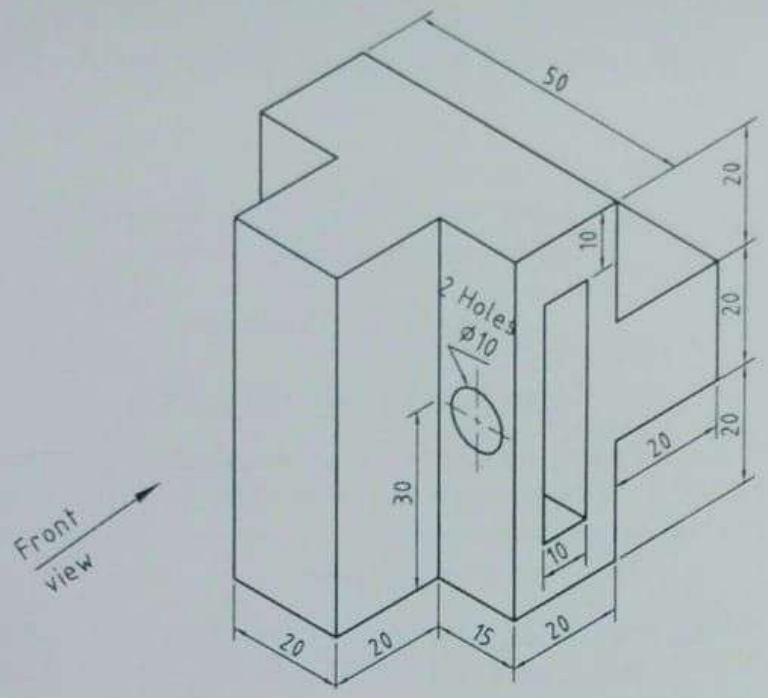
b) A cone of base diameter 50 mm and height 65 mm rests with its base on HP. A section plane perpendicular to VP and inclined at 30° to HP bisects the axis of the cone. Draw the development of the lateral surface of the truncated cone.

4. a) A cylinder of base diameter 35 mm and height 55 mm is resting on HP with its base. It is cut by cutting plane, perpendicular to VP and inclined at 45° to HP and meeting the axis at 15 mm from the top end. Draw the isometric projection.

OR

b) A cube of side 30 mm is resting on the ground on one of its faces, with the front vertical face in picture plane. The central plane is at 50 mm to the left of the axis of the cube. The station point is 30 mm in front of picture plane and 50 mm above the ground plane. Draw the perspective projection of the cube.

5. a) Draw the top view, front view and side view of the object as shown in below figure.



OR

b) Draw the orthographic projection of the following object (Figure 2) by free hand sketch.

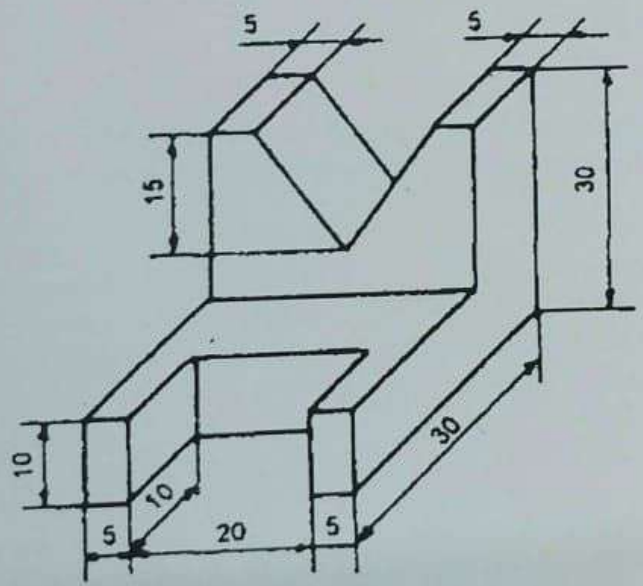


Figure 2