

Reg No : Name :

**MAR ATHANASIUS COLLEGE OF ENGINEERING, KOTHAMANGALAM**

(Govt. Aided Autonomous Institution)

First Semester B.Tech Degree (SAY) Examination, February, 2026

Course Code: B24ME1T01

Course Name: Engineering Graphics

Max. Marks: 100

Duration: 3 Hours

Answer any one full question from each module. Each question carries 20 marks.**Module 1**

1. Distance between end projectors of a line CD is 65mm. End C is 15mm above HP and 40mm in front of VP. Its front view and top view makes an angle of 40 degree and 45 degree respectively with XY- line. Draw the projections, find true length and true inclinations with HP and VP and locate its traces. The line is in the first quadrant.

OR

2. An electric lamp is hung vertically from the center of the flat roof of a room (5m x 5m and height 6m), at a height of 4m above the floor. Find graphically the distance between the lamp and any one of the floor corner.

Module 2

3. A pentagonal pyramid edge of base 30mm and height 80mm rests on a corner of its base in such a way that the slant edge containing the corner makes an angle of 45 degree with the HP and 30 degree with VP in top view. Draw the projections when the apex touches VP?

OR

4. A cube 40mm side rests with one of its edges on the ground such that one of the faces containing that edge is inclined at 30 degree to the ground and the edge on which it rests being 60 degree to VP. Draw its projections.

Module 3

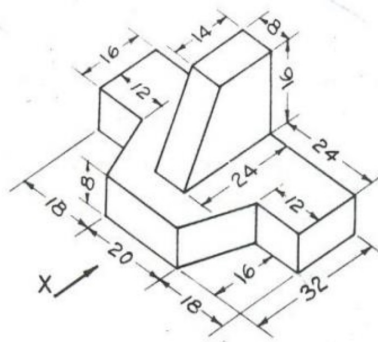
5. A cube of 30mm side is sectioned in such away that the true shape of the section is a regular hexagon. Draw the projections and show the true shape of the section.

OR

6. A pentagonal pyramid base 30 mm side and axis 65mm long has its base horizontal and an edge of the base parallel to the VP. A horizontal section plane cuts it at a distance of 25mm above the base. Draw its front view and the sectional top view.

Module 4

7. Draw the orthographic projections (Front View, Top View and Left side view) of the figure given below. The Front View direction is marked by a long arrow. Any missing dimension may be suitably assumed. All dimensions are in mm.



OR

8. A sphere of 20 mm radius is placed centrally over a square slab of side length 30 mm and thickness 20 mm. Draw the isometric view of the combination.

Module 5

9. A rectangular prism 80 x 60 x 30 mm is placed behind the picture plane with the longest edge vertical and the shortest edges inclined at an angle of 40 degree to the left of the picture plane. The nearest vertical edge is 10 mm behind the picture plane and 15 mm to the left of the observer. The observer is at a distance of 150 mm from the PP, the height of the observer above the ground is 120 mm. Draw a perspective projection of the prism.

OR

10. A vertical cylinder of 75mm diameter is penetrated by another cylinder of 50 mm diameter, the axis of which is parallel to both the H.P. and the V.P. The axis of the horizontal cylinder is 15 mm in front of the axis of the vertical cylinder. Draw the projections showing curves of intersection.
