

Register No.: ..... Name: .....

## SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

SECOND SEMESTER B.TECH DEGREE EXAMINATION (R,S), MAY 2024

(Common for CS, EC, EE, ER, EV and RB)

(2020 SCHEME)

Course Code : 20EST110

Course Name: Engineering Graphics

Max. Marks: 100

Duration: 3 Hours

**Retain Construction lines. Show necessary dimensions.**

*(Answer any ONE question from each module, each question carries 20 marks)*

### MODULE I

1. A line AB 50mm long is inclined at  $30^\circ$  to HP. The end A is 10mm above HP and end B is 35mm in front of VP. Draw the projections of the line if its front view measures 40mm. Also find the inclination with VP and mark the traces. (20)

OR

2. The line PQ, 100mm long makes an angle of  $35^\circ$  with HP and  $50^\circ$  with VP. The end P is 25mm in front of VP and 20mm above HP. Draw the FV and TV of the line and find the apparent inclination of the lines. (20)

### MODULE II

3. Draw the projections of a cone of base diameter 40mm and axis 65mm lying on a generator on HP while the top view of the axis makes an angle of  $40^\circ$  with VP. (20)

OR

4. A pentagonal pyramid side of base 30mm and altitude 60mm is kept with a side of base parallel to VP and the triangular face containing that side of base being vertical. Draw the projections (20)

### MODULE III

5. A hexagonal pyramid of base side 30mm and axis length 60mm is resting on HP on its base with a side of base perpendicular to VP. It is cut by a plane inclined at  $40^\circ$  to VP and perpendicular to HP and is 10mm away from the axis. Draw its top view, sectional front view and true shape of the section. (20)

OR

6. A pentagonal prism of side 25mm and length of axis 50mm is kept on HP on one of its ends faces with one of the rectangular faces parallel to VP and nearer to it. A thread is wound around the prism starting from the left extreme corner of the bottom base and is brought back to the top of the same vertical edge. Find the minimum length of the thread and show it in the front view of the prism. (20)

MODULE IV

7. A cone of 40mm base diameter and 60mm long is placed centrally on top of a square prism of 50mm side and 40mm high. Draw the isometric view of the combination. (20)

OR

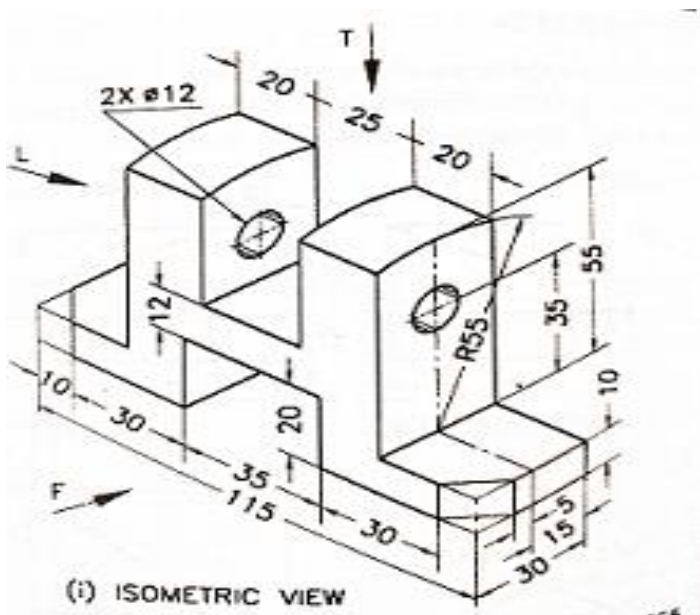
8. A sphere of radius 25mm is placed on the top face of a square prism of side of base 40mm and height 50mm. Draw the isometric projection of the solids. (20)

MODULE V

9. Draw the perspective view of a pentagonal prism 20mm side and 35mm long, lying on one of its rectangular faces on GP. One of its end faces touches the PP and the SP is 52mm in front of the PP, 25mm above the GP and lies in the CP, which is 70mm to the left of the center of the prism. (20)

OR

10. Draw the elevation, plan and side view of the figure given below. Follow first angle projection. Front view is marked as F. (20)



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