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

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

FIRST SEMESTER B.TECH DEGREE EXAMINATION (S,FE), NOVEMBER 2024

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

Marks

1. 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 AB and determine its inclination with VP. Also mark its traces.   (20)

OR

Marks

2. One end point of a line RS lies 20 mm above HP and 10 mm in front of VP. Other end point lies 60 mm above HP and 45 mm in front of VP. The distance between end projectors is 55 mm. Draw its projections, find its true length and true inclinations. Also mark its traces.   (20)

MODULE II

Marks

3. A pentagonal prism of base edge 25 mm and height 60 mm is resting on HP on its base edge such that the rectangular face containing that edge is inclined at 45° to HP and the base edge on which it rests is inclined at 30° to VP. Draw its projections.   (20)

OR

Marks

4. A square pyramid, side of base 30 mm and height 50 mm is resting on one of its triangular faces in HP with a slant edge contained by the triangular face, parallel to the VP. Draw the projections of the pyramid.   (20)

MODULE III

Marks

5. A right circular cone, diameter of base 50 mm and height 80 mm rests on its base on HP. A section plane perpendicular to VP and inclined to HP at 45°, cuts the cone meeting the axis at a distance of 40 mm from its base. Draw its front view, sectional top view and true shape of the section.   (20)

OR

Marks

6. A hexagonal pyramid, side of base 30 mm and height 60 mm, stands with its base on HP and an edge of the base is parallel to VP. It is cut by a plane perpendicular to VP, inclined at 40^0 to HP and passing through the midpoint of the axis. Draw the developed lateral surface of the truncated pyramid.   (20)

MODULE IV

Marks

7. A right regular hexagonal prism, edge of base 30 mm and height 70 mm, has a sphere of radius 25 mm positioned centrally at the top. Draw its isometric projection.   (20)

OR

Marks

8. A hemisphere of diameter 50 mm is placed centrally on the top of a frustum of a cone with its flat surface facing upwards. The diameter of top and bottom surfaces of the frustum are 30 mm and 50 mm respectively. Take the height of the frustum as 50 mm. Draw the isometric view of the combination of solids.   (20)

MODULE V

Marks

9. A square prism 25 mm side and 50 mm long is lying on the ground plane on one of its rectangular faces in such a way that one of its square faces is parallel to and 10 mm behind the picture plane. The central plane is 60 mm away from the axis of the prism towards the left. Draw the perspective projection of the prism if the station point is located 55mm in front of the picture plane and 40 mm above the ground plane.   (20)

OR

Marks

10. Draw the orthographic views (Front view, Top view & Left side view) with dimensions of the object shown in figure below.   (20)

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