

Register No.: Name:



SAINTGITS COLLEGE OF ENGINEERING KOTTAYAM, KERALA

(AN AUTONOMOUS COLLEGE AFFILIATED TO
APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

FIRST SEMESTER B.TECH DEGREE EXAMINATION(R), MARCH-APRIL 2021

Course Code: 20EST110

Course Name: ENGINEERING GRAPHICS

Max. Marks: 100

Duration: 3 Hours

Instructions: Retain Construction lines. Show necessary dimensions. Answer any ONE question from each module. Each question carries 20 marks

MODULE I

1. A straight-line PQ of true length 100 mm has its end P, 15 mm above HP and 25 mm in front of VP. The length of top view of the line is 80 mm and front view is 70 mm. Draw the projections of the line PQ and obtain the true inclination of the line with HP and VP. (20)

OR

2. The end E of a line EF is on HP and 25 mm in front of VP. The end F is 40 mm above HP and 60 mm in front of VP. The distance between the end projectors is 75 mm. Draw the projections of EF and determine the true length and inclinations with HP and VP. Also find its traces. (20)

MODULE II

3. A cone of base diameter 50 mm and height 60 mm is resting on one of its generators on HP with its axis inclined at 40° to VP. Draw its top and front views. (20)

OR

4. A cube of 30 mm side is resting on one of its edges on HP such that one of the square faces containing that edge is inclined at 30° to HP and the edge on which it rests being inclined at 60° to VP. Draw its projections. (20)

MODULE III

5. A hexagonal pyramid of base edge 25 mm and axis 60 mm rests on its base on HP with one base edges inclined 40° to VP. It is cut by a plane perpendicular to VP and inclined at 60° to the base. The cutting plane meets the axis at 15 mm above the base. Draw the front view, sectional top view and true shape of the section. (20)

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OR

6. A pentagonal pyramid side of base 25 mm and axis 75 mm is resting on its base on HP (20) with a base edge parallel to VP. It is cut by a section plane perpendicular to VP, inclined at 40° to HP and passing through the midpoint of the axis. Draw the development of lateral surface of bottom portion of the pyramid.

MODULE IV

7. Draw the isometric projection of a hexagonal prism side of base 30 mm and height 70 mm when it lies on the ground with one of its rectangular faces touching the ground. (20)

OR

8. A hemisphere of diameter 50 mm is kept centrally on the top of a cube of side 40 mm. (20) Draw the isometric view of the combination. Assume the flat surface of the hemisphere positioned upwards.

MODULE V

9. Draw the perspective projection of a cube of side 25 mm, which is resting on ground plane (GP) on one of its faces with a vertical edge touching picture plane (PP). The nearest vertical faces are equally inclined to PP. The station point lies 75 mm in front of PP, 45 mm above GP and lies in a central plane (CP) which is 30 mm to the left of the centre of the cube. (20)

OR

10. Draw three orthographic views with dimensions of the object shown in figure below. (20) Assume missing data appropriately
- Front view in the directions of X
 - Right side view
 - Top view


