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

# SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

**FIRST SEMESTER B.TECH DEGREE EXAMINATION (Regular), DECEMBER 2022**
**(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 PQ 55mm long has its end P 15mm above HP and 10mm infront of VP. End Q is above HP and 45mm infront of VP. Draw its projections if the top view measures 45mm. Determine its inclinations with HP and VP and mark the traces.    (20)

### OR

2. The distance between the end projectors of a line AB is 40mm. The end A is 10mm above HP and 15mm in front of VP. The end B is 25mm above HP and in front of VP. If the line AB is inclined at $30^o$ with VP, draw the projections of the line and obtain its true length and true inclination with HP. Also locate its traces.    (20)

## MODULE II

3. A pentagonal pyramid with base 30mm and height 60mm rests on an edge of its base such that the slant face containing the resting edge is inclined $45^0$ to HP. The top view of the axis is inclined $30^o$ to VP. Draw the projections.    (20)

### OR

4. A cone 40 mm diameter and 60 mm long axis is resting on a point of its base circle on HP while its axis makes $45^0$ with HP and top view of the axis makes $35^0$ with XY line. Draw its projections.    (20)

## MODULE III

5. A cylinder of base diameter 40 mm and height 60 mm rests on its base on HP. It is cut by a plane inclined $30^o$ to HP and perpendicular to VP and meets the axis at a distance 20 mm from top face. Draw its projections, sectional top view and true shape of section.    (20)

**OR**

6. A hexagonal pyramid of side of base 25mm and altitude 70mm rests on its base on the HP and two sides of the base parallel to VP. It is cut by plane bisecting the axis and inclined at 30º to HP. Develop the lateral surface of the lower portion of the pyramid.   (20)

### MODULE IV

7. A cone of base diameter 40mm and axis length 50mm is mounted centrally on the top of a square slab of side 60mm and thickness 15mm. Draw the isometric projection of the solids.   (20)

**OR**

8. A hemisphere of diameter 50 mm is centrally placed over the top of a cube of dimension 40mm. If the flat face of the hemisphere is facing upwards, draw the isometric view of the combination.   (20)

### MODULE V

9. A pentagonal pyramid of height 60mm and base side 30mm is resting with its base on ground, one base edge parallel to and 15mm behind picture plane. The station point is 20mm in front of picture plane, 50mm to the left of the axis and 70mm above the ground. Draw the perspective view.   (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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