

Code: 20ES1104

**I B.Tech - I Semester – Regular / Supplementary Examinations –
APRIL 2022**

ENGINEERING GRAPHICS

(Common to EEE, ECE)

Duration: 3 hours

Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.
2. All parts of Question must be answered in one place.

UNIT – I

1. a) Construct a hyperbola, from the directrix is 65 mm and eccentricity is $3/2$. 7 M
- b) Draw an epi-cyloid, given the radius of 30 mm for the generating circle and the radius of 90 mm for the directing circle. 7 M

OR

2. Draw a curve generated by a fixed point on the circumference of a circle of diameter 30 mm, when it rolls without slipping along a straight line for one complete revolution. Draw a normal and tangent at any point on the curve. 14 M

UNIT – II

3. a) Draw the projections of a line AB of 100 mm which is inclined to HP by 40° . The point A is 15 mm above HP and 25 mm in front of VP. 7 M
- b) Draw the projection of the hexagonal plate of edge 30 mm of no thickness. One of the edges of the plate being perpendicular to the VP and the surface of the plate is inclined to HP 35° . 7 M

OR

4. a) Two points A and B are in the H.P. The point A is 30 mm in front of the V.P., while B is behind the V.P. The distance between their projectors is 75 mm and the line joining their top views makes an angle of 45° with xy. Find the distance of the point B from the V.P. 7 M
- b) A line AB, 75 mm long, is inclined at 45° to the H.P. and 30° to the V.P. Its end B is in the H.P. and 40 mm in front of the V.P. Draw its projections. 7 M

UNIT-III

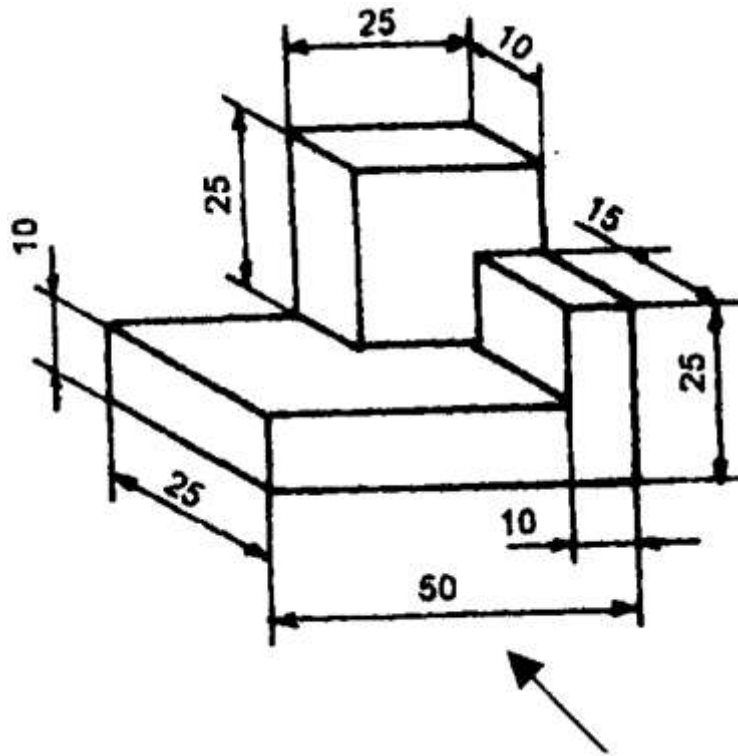
5. Draw the projection of a pentagonal prism, base 25 mm side and axis 50 mm long, resting on one of its rectangular faces on HP, with the axis inclined at 45° to the V.P. 14 M

OR

6. A cylinder 50 mm diameter and 60 mm long, is resting on its base on the ground. It is cut by a section plane perpendicular to the V.P., the V.T. of which cuts the axis at a point 40 mm from the base and makes an angle of 45° with the H.P. Draw its front view, sectional top view and true shape of the section. 14 M

UNIT – IV

7. Draw the orthographic projection for the following object. 14 M



OR

8. A cone of 40 mm diameter and 60 mm axis resting on its base on top of the cylinder of base 60 mm and axis 70 mm. The cylinder is resting on the ground on its base. Draw the isometric view of the compound solid. 14 M

UNIT – V

9. Define CAD. Explain its advantages. List out editing commands, drawing commands. 14 M

OR

10. A cylinder of diameter of base 40mm and axis 60mm long, is resting on its base on H.P. It is cut by a section plane perpendicular to V.P. and inclined at 45° to H.P. the section plane is passing through the top end an extreme generator of the cylinder. Draw the development of the lateral surface of the cut cylinder. 14 M