O.P.Code: 23ME0301c   R23   H.T.No.

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech. I Year I Semester Regular & Supplementary Examinations December/January-2025/2026
ENGINEERING GRAPHICS
(Electronics and Communications Engineering)

Time: 3 Hours
Max. Marks: 70

(Answer all the Questions 5 x 14 = 70 Marks)

UNIT-I

1 The vertex of a hyperbola is 60 mm from its focus. Draw the curve, if the eccentricity is 3/2. Draw a normal and a tangent at a point on the curve, 75 mm from the directrix.   CO1   L6   14M

OR

2 Draw an Epi-cycloid of rolling circle of diameter 40 mm which rolls outside another circle (base circle) of 150 mm diameter for one revolution and construct a tangent and normal at any point on the curve.   CO1   L6   14M

UNIT-II

3 Draw the projections of a straight line AB of 70 mm long, in the following positions: CO2   L1   14M
i) parallel to both HP and VP and 20 mm from each.
ii) Parallel to and 20 mm above the HP and on VP
iii) Parallel to and 30 mm in front of VP and on HP
iv) Perpendicular to HP, 30 mm in front of VP & one end 25 mm above HP
v) Perpendicular to HP, 30 mm in front of VP & one end on HP

OR

4 A Line EF 85mm long has its end E is 25mm above HP and 20mm infront of VP. The top and front views of the line have lengths of 55mm and 70mm respectively. Draw the projections of the line. Find its true inclinations with VP & HP.   CO2   L3   14M

UNIT-III

5 Draw the projections of a hexagonal prism of base side 25mm and axis 60mm long, when it is resting on one of its corners of the base on H.P. The axis of the solid is inclined at 450 to H.P.   CO3   L6   14M

OR

6 A pentagonal pyramid of base edge 30mm and axis 60mm rests on an edge of its base in the HP. Its axis is parallel to VP and inclined at 45^0 to the HP. Draw its projections   CO3   L6   14M

UNIT-IV

7 A cylinder of diameter of base 40 mm and axis 55 mm long, is resting on its base on HP. It is cut by a section plane, perpendicular to VP and inclined at 450 to HP. The section plane is passing through the top end of an extreme generator of the cylinder. Draw the development of the lateral surface of the cut cylinder.   CO4   L1   14M
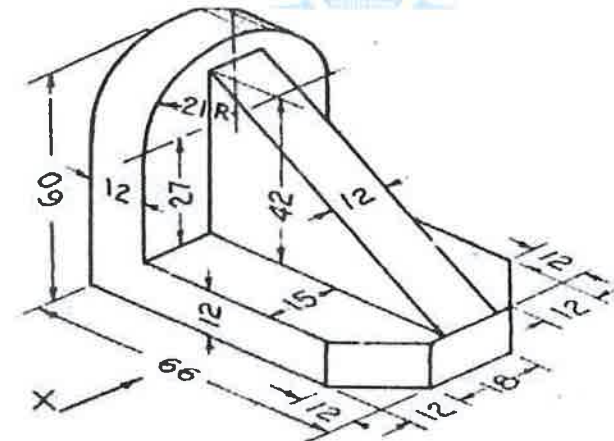
OR

8 A square prism of side of base 40 mm and axis 80 mm long, is resting on its base on HP such that, a rectangular face of it is parallel to VP. Draw the development of the prism.   CO4   L1   14M

UNIT-V

9 a Draw the isometric view of a cylinder of base diameter 50mm and axis 60 mm the axis of the cylinder is perpendicular to the HP.   CO5   L1   8M

   b Draw the isometric view of a circular lamina of diameter 50mm on all the three principal planes using four centre methods.   CO5   L1   6M

OR

10 Draw three views of the blocks shown pictorially in figure according to first angle projection   CO6   L6   14M

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