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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech I Year II Semester Supplementary Examinations July-2021

ENGINEERING GRAPHICS

(Common to CE, EEE, ME & AGE)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

- 1 Construct a parabola with the distance between the focus and directrix as 50 mm and eccentricity as $2/3$. Also, draw normal and tangent to the curve at a point 30mm from the directrix. **12M**

OR

- 2 a Draw an involute of a circle of 40 mm diameter. Also, draw a normal and a tangent at a point 95mm from the centre of the circle. **6M**
- b Draw an involute of a hexagon 20mm side; draw a normal and a tangent at a point 100mm from the centre of the hexagon. **6M**

UNIT-II

- 3 Draw the projections of the following points, keeping the distance between the Projectors as 25mm on the same reference lines. **12M**
- A – 20mm above HP and 30mm in front of VP
B – 20mm above HP and 30mm behind VP
C – 20mm below HP and 30mm behind VP
D – 20mm below HP and 30mm in front of VP
E – On HP and 30mm in front of VP
F – On VP and 20mm above HP
G – Lying on both HP and VP

OR

- 4 A semi-circular plate of 80 mm diameter, has its straight edge on V.P and inclined at 30° to H.P, while the surface of the plate is inclined at 45° to V.P. Draw the projections of the plate. **12M**

UNIT-III

- 5 a Draw the projections of a hexagonal prism of side of base 25 mm and axis 60 mm long, when it is resting on one of its corners of the base on H.P. The axis of the solid is inclined at 45° to H.P. **6M**
- b Draw the projections of a cylinder of 40 mm diameter and axis 60 mm long, when it is lying on H.P, with its axis inclined at 45° to H.P and parallel to V.P. **6M**

OR

- 6 A pentagonal prism of edge of base 30 mm and 60 mm long is resting on one of its faces on H.P. The axis of the prism is parallel to both H.P and V.P. It is cut by a section plane, inclined at 45° to H.P and passing through the axis at 10 mm from one base. Draw the projections and show the true shape of the section. **12M**

UNIT-IV

- 7 a A square prism side of base 40 mm and axis 80 mm long, is resting on its base on H.P such that, a rectangular face of it is parallel to V.P. Draw the development of the prism. **6M**
- b A pentagonal pyramid of side of base 30 mm and 60 mm long, is resting on its base on H.P, with an edge of the base parallel to V.P. draw the development of the lateral surface of the pyramid. **6M**

OR

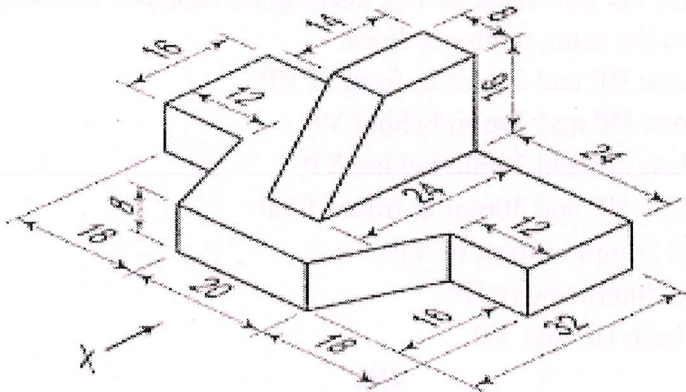
- 8 A vertical cylinder 60 mm diameter, is penetrated by another cylinder of 45 mm diameter. The axes of the two cylinders are intersecting at right angle. Draw the projections of the two cylinders, showing the lines (curves) of intersection. **12M**

UNIT-V

- 9 Draw the isometric view of a pentagonal prism of base side 30 mm and axis 60mm. The prism rests on its base on the HP with a vertical face perpendicular VP. **12M**

OR

- 10 Draw three views of the blocks shown pictorially in figure according to first angle projection. **12M**



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