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**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR**  
(AUTONOMOUS)**B.Tech I Year I Semester Supplementary Examinations November-2020****ENGINEERING GRAPHICS**

(Common to ECE, CSE &amp; CSIT)

Time: 3 hours

Max. Marks: 60

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

**UNIT-I**

- 1 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. Draw a tangent and normal at any point on the curve. **12M**

**OR**

- 2 Inscribe an ellipse in a parallelogram having sides 150 mm and 100 mm long and an included angle of 120°. **12M**

**UNIT-II**

- 3 A point A is 20mm above the HP and 50mm in front of the VP. Another point B is 40mm below the HP and 15mm behind the VP. The distance between the projectors of the points, measured parallel to xy, is 75mm. Draw the projections of the points. Draw lines joining their FVs and TVs. **12M**

**OR**

- 4 A line CD 75mm long is inclined at an angle of 45° to HP and 30° to VP. The point P is 15mm above HP and 20mm in front of VP. Draw the projections of the line. **12M**

**UNIT-III**

- 5 A thin 300 –600 set-square has its longest edge (diagonal) on HP and inclined at 30° to VP. Its surface makes an angle of 45° with HP. Draw the projections, choosing suitable size for the set-square. **12M**

**OR**

- 6 A square plane ABCD of side 30mm is parallel to HP and 20mm away from it. Draw the projections of the plane, when (i) two of its sides are parallel to VP and (ii) and one of its sides is inclined at 30° to VP. **12M**

**UNIT-IV**

- 7 A pentagonal pyramid with edge of base 25 mm and axis 65 mm long, its base is resting on HP. It is cut by a section plane, inclined at 60 degree to HP and perpendicular to VP at bi-sect the axis. Draw the projections and obtain the true shape of the section. **12M**

**OR**

- 8 A square pyramid of base 40 mm and axis 60mm long, Its base lies on VP, with its axis parallel to HP. A cut sectional plane, 60 degree to VP and it pass 10mm away from the axis. Draw the projections sectional front view. **12M**

**UNIT-V**

- 9 Draw the isometric projection of the frustum of a hexagonal pyramid of base side 40 mm ,top side 25mm,and height 70mm. The frustum rests on the HP. **12M**

**OR**

- 10 a Draw the isometric projection of a hexagonal prism of base side 30 mm and axis 70mm. The prism rests on its base on the HP with an edge of the base parallel to the VP. **6M**
- b Draw the isometric projection of the frustum of a cone of base diameter 60 mm ,top diameter 30mm,and height 55mm. **6M**

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