Reg. No:

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech I Year I Semester Supplementary Examinations December-2021
ENGINEERING GRAPHICS & DESIGN
(Common to ECE, CSE & CSIT)

Time: 3 hours   Max. Marks: 60
(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

1 a Draw an ellipse having major axis is equal to 100 mm and the minor axis is equal to   **6M**
      70 mm. Use the concentric circle method.
   b Inscribe an ellipse in a parallelogram having sides 150 mm and 100 mm long and an   **6M**
      included angle of 120^0

OR

2 Draw the hypocycloid of a circle of 50 mm diameter, which rolls, inside another circle   **12M**
   of 100 mm diameter for one revolution. Draw tangent and normal at any point on the
   curve.

UNIT-II

3 a State the quadrants in which the following points are located   **6M**
      A – Front view blow xy and top view above xy
      B – Front and top views are above xy
      C – Front view above xy and top view below xy
      D – Front and top views are below xy
   b Draw the projections of the following points, keeping the distance between the   **6M**
      projectors as 25 mm on the same reference lines.
      A – 20mm above HP and 30mm in front of VP
      B – 20mm above HP and 30mm behind VP
      C – On VP and 20mm above HP

OR

4 a Draw the projections of a straight line AB of 70 mm long with Perpendicular to HP,   **4M**
      30 mm in front of VP and one end 25 mm above HP.
   b A line AB, 50mm long, has its end A away from the HP and VP than end B. The   **8M**
      line is inclined to the HP at 30° and to the VP at 45°. Draw the projections if end A
      is 35mm above the HP and 50mm in front of the VP.

UNIT-III

5 A square plane ABCD of side 30 mm, is parallel to HP and 20mm away from it. Draw   **12M**
   the projections of the plane, when (i) two of its sides are parallel to VP and (ii) and one
   of its side is inclined at 30^0 to VP.

OR

6 A pentagonal prism of base side 30mm and axis 60mm has one of its rectangular faces   **12M**
   on the HP and the axis inclined at 60° to the VP. Draw its projections.

UNIT-IV

7 A cone of 50 mm diameter and axis 70 mm long. Its base is on HP. It is cut by a   **12M**
   sectional plane perpendicular to VP and inclined to HP at 45° from apex 32 mm. Draw
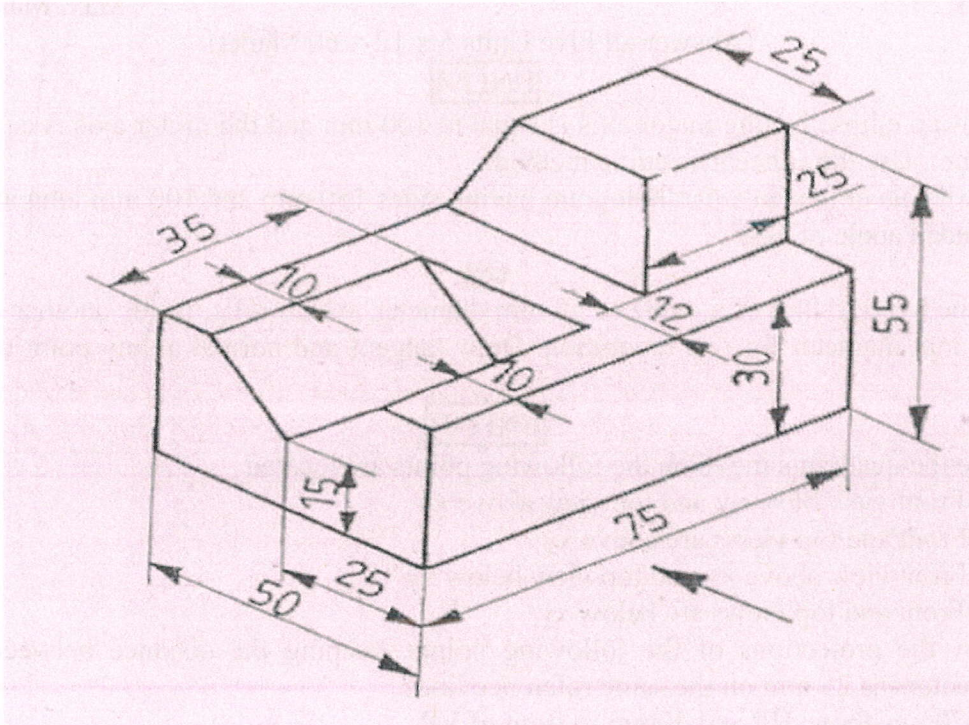   the front and sectional top views of the solid and true shape of the section.

OR

8 A square pyramid, with side of base 30 mm and axis 50 mm long, is resting on its base   **12M**
   on HP with an edge of the base parallel to VP. It is cut by a section plane,
   perpendicular to VP and inclined at 45° to HP. The section plane is passing through the
   mid-point of the axis. Draw the development of the surface of the cut pyramid.

UNIT-V

9   Draw the isometric view of a cylinder of base diameter 50mm and axis 60 mm the axis   **12M**
    of the cylinder is perpendicular to the
    (i)HP
    (ii)VP

OR

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

END