Code: 19ES1103

I B.Tech - I Semester – Regular Examinations - December - 2019

ENGINEERING GRAPHICS
(Common for IT, ECE, EEE)

Duration: 3 hours   Max. Marks: 70

Note: 1. This question paper contains two Parts A and B.
      2. Part-A contains 5 short answer questions. Each Question carries 2 Marks.
      3. Part-B contains 5 essay questions with an internal choice from each unit. Each question carries 12 marks.
      4. All parts of Question paper must be answered in one place.

PART – A

1. a) How is a tangent drawn from a point on the ellipse?
   b) Differentiate first and third angle projection.
   c) Draw the projection of a cone of base 40mm diameter, axis 60mm long when it is resting with its base on H.P.
   d) Draw the isometric view of a triangular prism of base 20mm and height 50mm.
   e) Sketch the development of a cube of base edge of 25 mm.

PART – B
UNIT – I

2. Construct a conic when the distance between its focus and   12 M
    its directrix is equal to 60 mm and its eccentricity is one.
    Name the curve. Draw a tangent at any point on the curve.

OR

3. A coin of 40 mm diameter rolls over a horizontal table 12 M
without slipping. A point on the circumference of the coin
is in contact with the table surface in the beginning and
after one complete revolution. Draw the cycloidal path
traced by the point. Draw a tangent and normal at any
point on the curve.

UNIT – II

4. A line AB 80 mm long has its end A 20 mm above HP and 12 M
25 mm in front of VP. The line is inclined at 45° to H.P
and 35° to VP. Draw its projections.

OR

5. A regular pentagon of 30 mm side is resting on HP on one 12 M
of its sides with its surface 45^0 inclined to H.P. Draw its
projections when the side in H.P makes 30^0 angle with
V.P.

UNIT-III

6. A cone 40 mm diameter and 50 mm axis is resting on one 12 M
generator on H.P, which makes 30^0 inclination with V.P.
Draw its projections.

OR

7. A triangular prism, side of base 40 mm and length of axis 12 M
70mm, is lying on one of its rectangular faces in H.P. Its
axis is parallel to both HP and VP. It is cut by section
plane parallel to and at a distance of 20 mm from the HP.
Draw its front view and sectional top view.

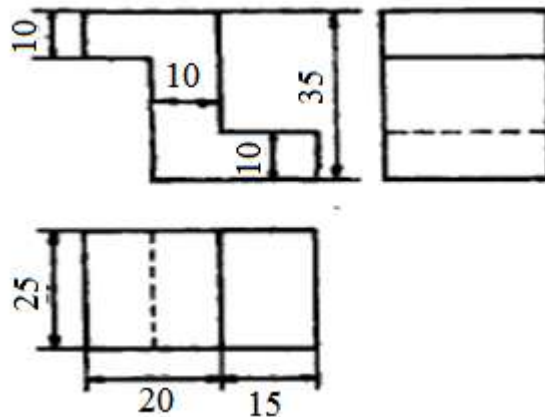## UNIT – IV

8. Draw the front view, top view and right side view of the 12 M object given in figure below. All dimensions are in mm.
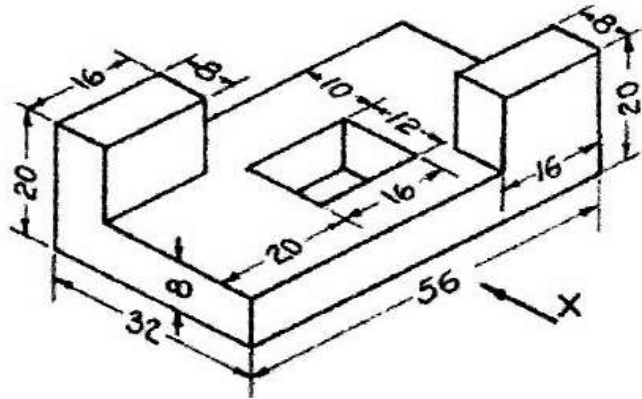
OR

9. Draw the isometric view of the object whose orthographic 12 M projections are given in figure. All dimensions are in mm.

UNIT – V

10. A hexagonal prism of side of base 30 mm and axis 70 mm 12 M long is resting on its base on H.P. such that a rectangular face is parallel to V.P. It is cut by a section plane perpendicular to V.P and inclined at 30^0 to H.P. The section plane is passing through the top end of an extreme lateral edge of the prism. Draw the development of the

lateral surface of the cut prism.

OR

11. List and explain the commands involved in preparing the 12 M drawing shown below. All the dimensions are in mm.