

B.E/B.TECH. DEGREE EXAMINATIONS: NOV/DEC 2010

First Semester

MEC101: ENGINEERING GRAPHICS

(Common to all Branches)

Time: Three Hours

Maximum Marks: 100

**Answer ALL Questions:-
PART A (5 x 20 = 100 Marks)**

1. a) Construct a conic curve having an eccentricity of $\frac{3}{4}$. The distance between the focus and the directrix is 60 mm. Also draw the tangent and normal to the curve. (15)

- b) Draw the projections of the following points.
 - (i) Q, 40 mm behind VP and in HP
 - (ii) R, 30 mm below HP and 30 mm in front of VP
 - (iii) S, 25 mm above HP and 25 mm behind VP
 - (iv) A, in both VP and HP
 - (v) B, 35 mm below HP and 30 mm behind VP (5)

2. A Pentagonal prism, side of base 25 mm and axis 50 mm long, rests with one of the edges of its base on HP and its axis is inclined at 30° to HP and parallel to VP. Draw its projections.

3. A Hexagonal prism, side of base 25 mm and axis 50 mm long, rests with one of the edges of its base on HP and its axis is inclined at 30° to HP and parallel to VP. Draw its projections.

4. A Pentagonal pyramid, side of base 30 mm and axis 60 mm long, rests with its base on HP and an edge of its base is parallel to VP. A section plane perpendicular to VP and inclined at 45° to HP passes through the axis at a point 35 mm above the base. Draw the sectional top view.

5. A Pentagonal pyramid, side of base 30 mm and height 52 mm, stands with its base on HP and an edge of the base is parallel to VP. It is cut by a plane perpendicular to VP inclined at 40° to HP and passing through a point on the axis, 32 mm above the base. Draw the sectional top view and develop the lateral surface of the truncated pyramid.

6. A Pentagonal pyramid, side of base 30 mm and axis 65 mm long, rests with its base on HP and an edge of the base is perpendicular to VP. It is cut by a section plane perpendicular to VP inclined at 30° to HP and passing through a point on the axis 20 mm below the apex. Draw the isometric view of the truncated pyramid, showing the cut surface.

7. A Rectangular prism 60 x 50 x 25 mm is placed on the ground behind the picture plane with longer edges vertical and the shortest base edges receding to the left at an angle of 45° to the PP. The nearest vertical edge is 20 mm behind the PP and 20 mm to the left of the station point which is at a distance of 50 mm in front of PP. The height of the station point is 70 mm above the ground. Draw the perspective view of the prism.

8. Make free hand sketches of front, top and right side views of the pictorial view shown below.

