Total No. of Questions : 10]

SEAT No. :

PC5151

[Total No. of Pages : 4

[6351]-116

F.E.

ESC-103-MEC : ENGINEERING GRAPHICS

(2024 Pattern) (Semester-I) (Credit System)

Time : 3 Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Attempt Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8, Q.9 or Q.10.***
2) ***Figures to the right indicate full marks.***
3) ***State clearly the assumptions made, if any.***
4) ***Use of non-programmable calculator is allowed.***
5) ***Assume suitable data, if necessary.***

Q1) A line AB of 90 mm long, having its endpoint A is on HP and 20 mm in front of VP. The plan length of the line AB is 70 mm and makes an angle of 40° with XY. Draw the projections of line AB. Find the inclination made by the line with HP and VP. **[12]**

OR

Q2) The point P of line PQ is in HP while its other end Q is 50 mm above HP and 20 mm in front of VP. The line is inclined to VP at an angle of 40°. Draw the projections of line if its front view measures 78 mm. Find true length of line and the inclination made by the line with HP. **[12]**

Q3) A rhombus ABCD with diagonal AC =100 mm and BD =60 mm is resting on corner A in the Horizontal plane. Its corner B is 25 mm above Horizontal plane. Draw the projections of the plane, when top view of diagonal AC is inclined at an angle of 30° with the vertical plane. **[12]**

OR

Q4) A hexagonal plate of 35 mm side is resting on one of its corner on the HP. Draw projections of the plate when the plate surface makes an angle of 35° to HP and the diagonal passing through resting corner makes 22° inclination to VP. **[12]**

P.T.O.

Q5) a) Draw an involute of a circle of diameter 50 mm. **[7]**

b) Draw the development of lateral surface of the square pyramid of base edge 40 mm and axis height 75 mm, if one of the base diagonal is parallel to VP. **[7]**

OR

Q6) a) Construct a parabola by rectangle method, if base is 80 mm and the axis height is 120 mm. **[7]**

b) Draw the development of lateral Surface of pentagonal prism of base edge 30 mm and axis height 70 mm, if one of the base edge is parallel to VP. **[7]**

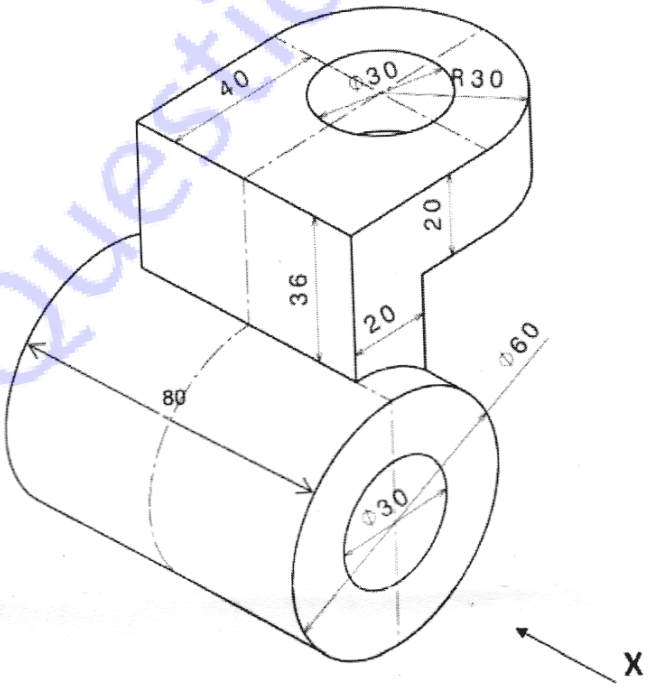
Q7) Fig. Shows a pictorial view of an object. Using first angle method of projection draw: **[16]**

a) Front View in the derection of X **[5]**

b) Top View **[5]**

c) Left Hand Side View **[5]**

d) Give Dimensions **[1]**



OR

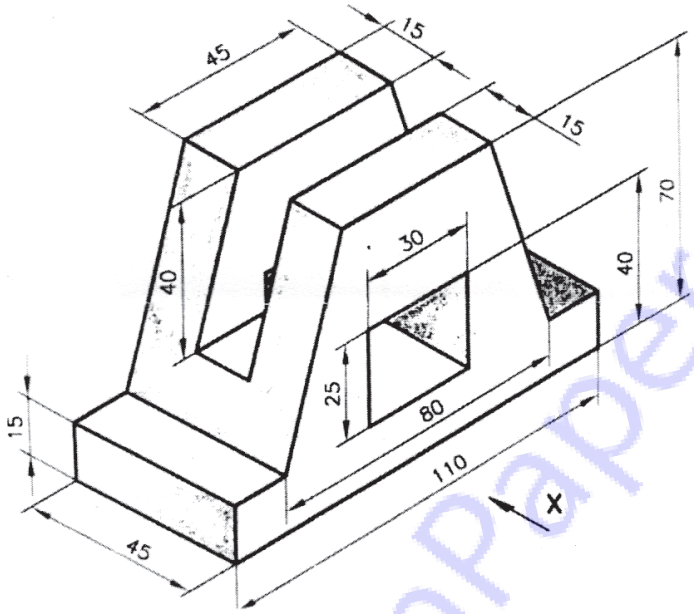
Q8) Fig. Shows a pictorial view of an object. Using first angle method of projection draw: **[16]**

a) Sectional Front View about its symmetry in the direction of X **[5]**

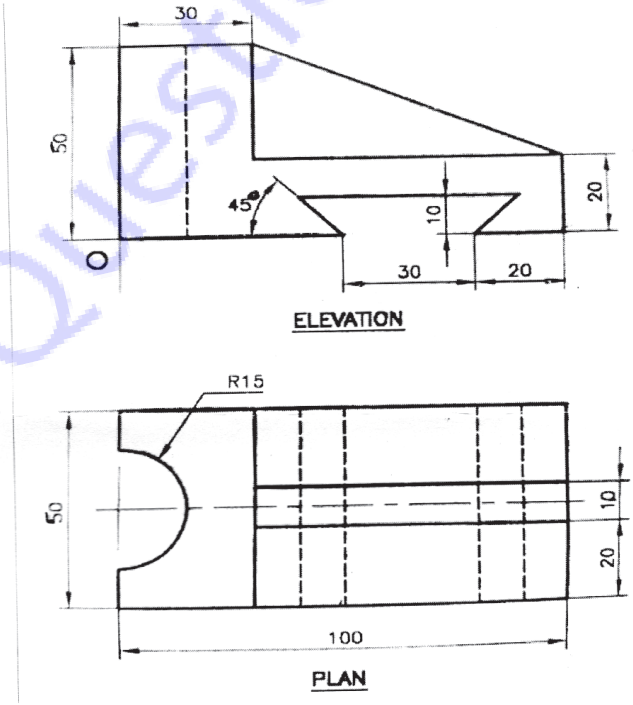
b) Top View **[5]**

c) Left Hand Side View **[5]**

d) Give Dimensions **[1]**



Q9) Isometric Projection-Figure shows front view and top view of an object. Draw isometric view and show overall dimensions. **[16]**



OR

Q10) Figure shows front view and side view of an object. Draw isometric view and show overall dimensions. **[16]**