

(3 Hours)

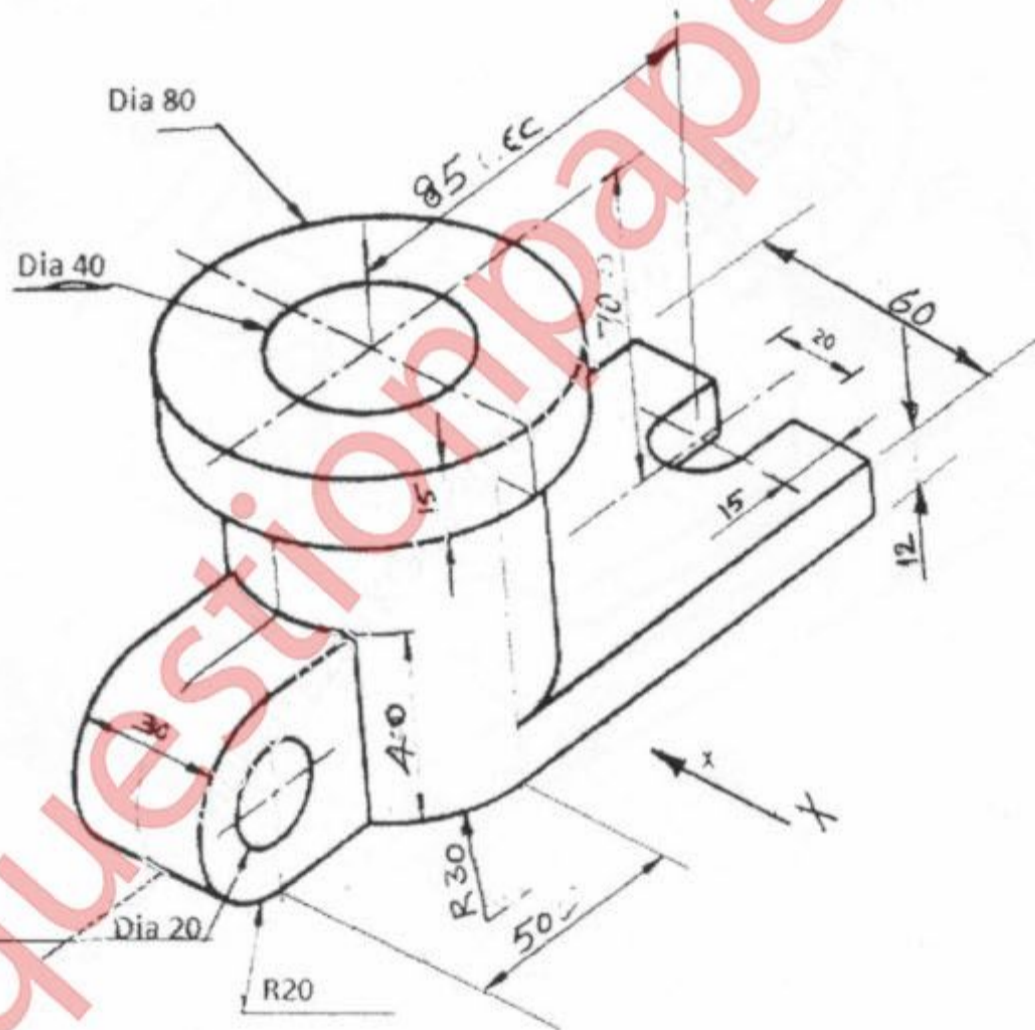
[Total Marks: 60

- NB: i) Question one is **Compulsory**, solve any THREE from remaining questions.
ii) All dimensions are in mm.
iii) Use **First angle** method of projection.
iv) Assume suitable dimension if it is necessary.



Q.1 (a) Draw an involute to a circle of diameter 50 mm. Also draw a tangent and Normal to the curve at any point. [6]

- (b) The pictorial view of a machine part shown in figure. Draw the following views [4]
i) Front view from X [5]
ii) Top view



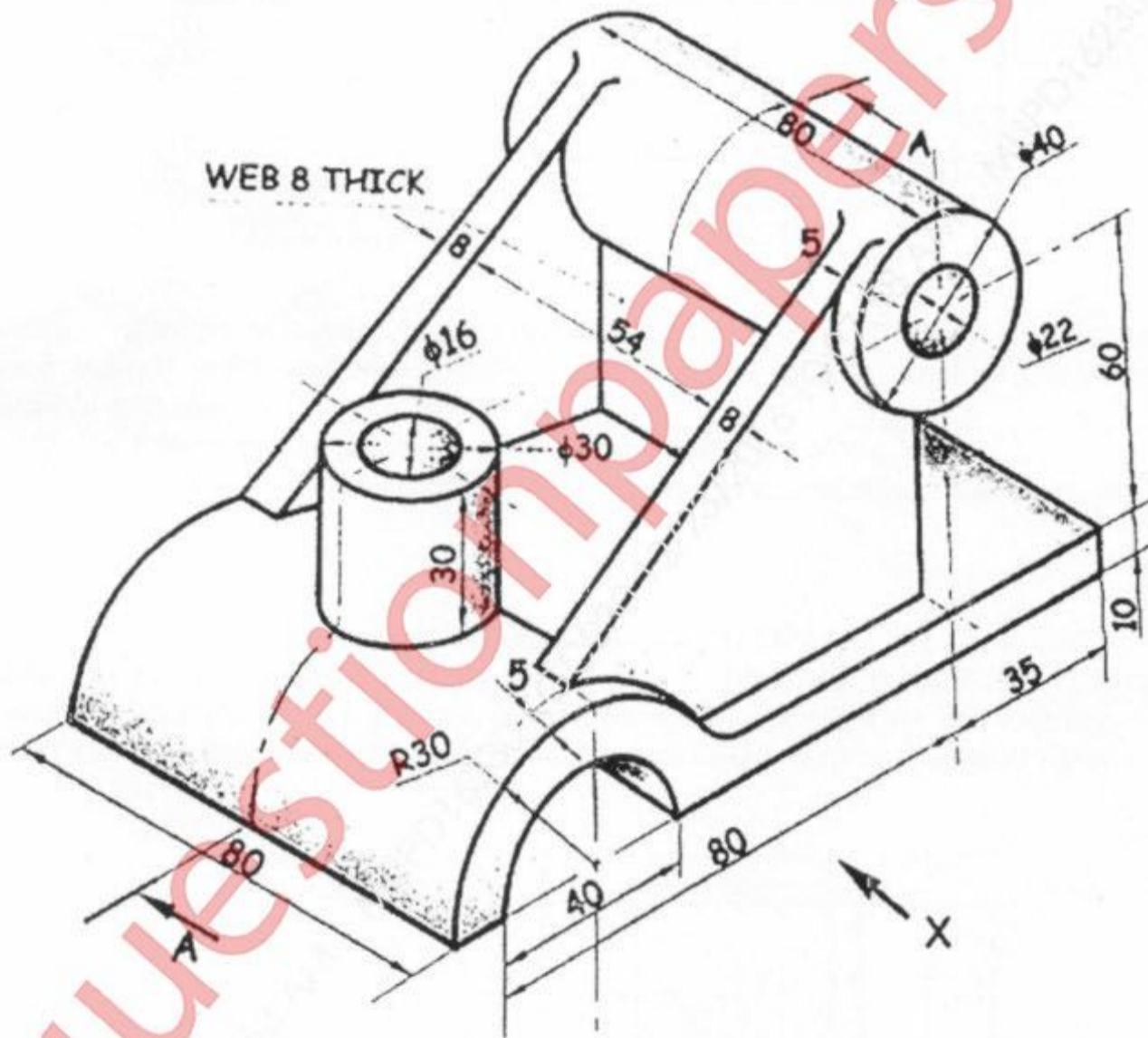
[TURN OVER

Q.2 A right circular cone of diameter 50mm and axis 65mm is lying on HP on one of its end generators. Draw projections on the cone when the plane containing the axis and generator on HP is inclined 45 degrees to VP. [15]

Q.3 The figure shows the pictorial view of an object, draw

- i) Sectional front view section along A-A
- ii) Top view.
- iii) Left hand Side view
- iv) Insert major dimensions.

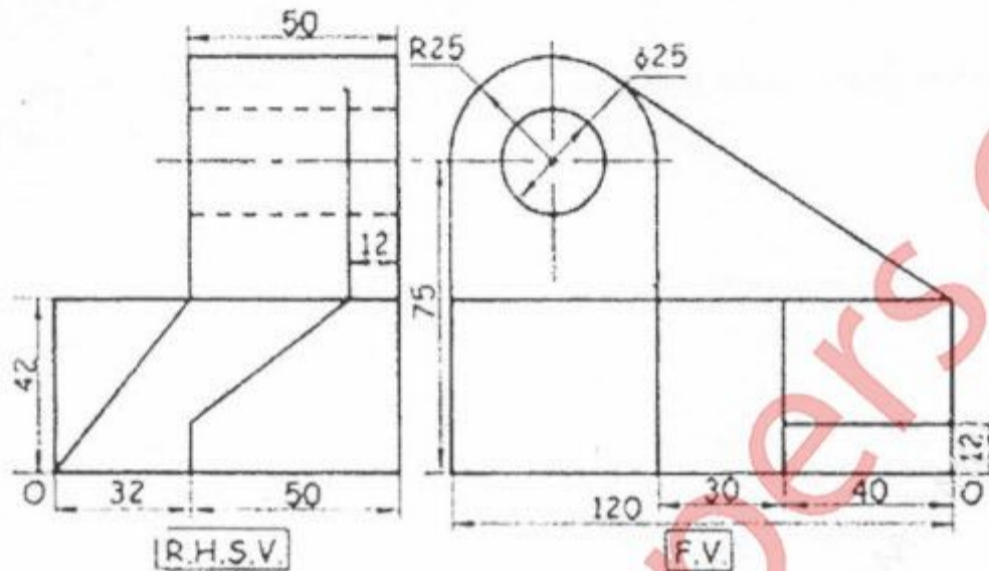
[5]
[4]
[4]
[2]



[TURN OVER

Q.4 (a) A square prism of side of base 30mm and axis length 60mm, is resting on HP on one of its corners with its base making an angle 45° to HP. Draw its projections [6]

(b) Front view and RHS view of an object is shown below. Draw an isometric view of the object. [9]



Q.5 A cone of diameter 60mm and height 75mm is resting on H.P. on its base, it is cut by a section plane inclined to HP and perpendicular to VP such that the true shape of the section is a parabola with axis is equal to 60mm. Draw, [15]

- i) Front view (ii) Sectional Top view (iii) True shape of section
- ii) Develop the lateral surfaces of the retained portion of the cone after section.

Q.6 (a) The T.V. of a line PQ (True length 90mm) is inclined at 50° to XY while the line is inclined 30 degrees to VP. The end P is 10mm in front of V.P. 20mm above the H.P and the end Q is fourth quadrant. Draw its projections. Determine true inclination of the line with HP. [9]

(b) Front view and Side View of an object are shown in figure, draw an isometric view. [6]

