Time: 3-hour 00 minutes   **Max. Marks: 60**

General Instructions:
   I)   Solve any four questions
   II) Figure indicates full marks
   III) Use First angle method of projection.

Q1. **a.** A circle of 40 mm diameter rolls on a straight line without slipping. Draw the curve traced out by a point P on the circumference for one complete [6] revolution of the circle. Name the curve. Draw a tangent to the curve at a point on it 35 mm from the directing line.

b. Figure 1 shows a pictorial view of an object. Draw the following views: i) [9] Front view ii) Top view and Dimensions.
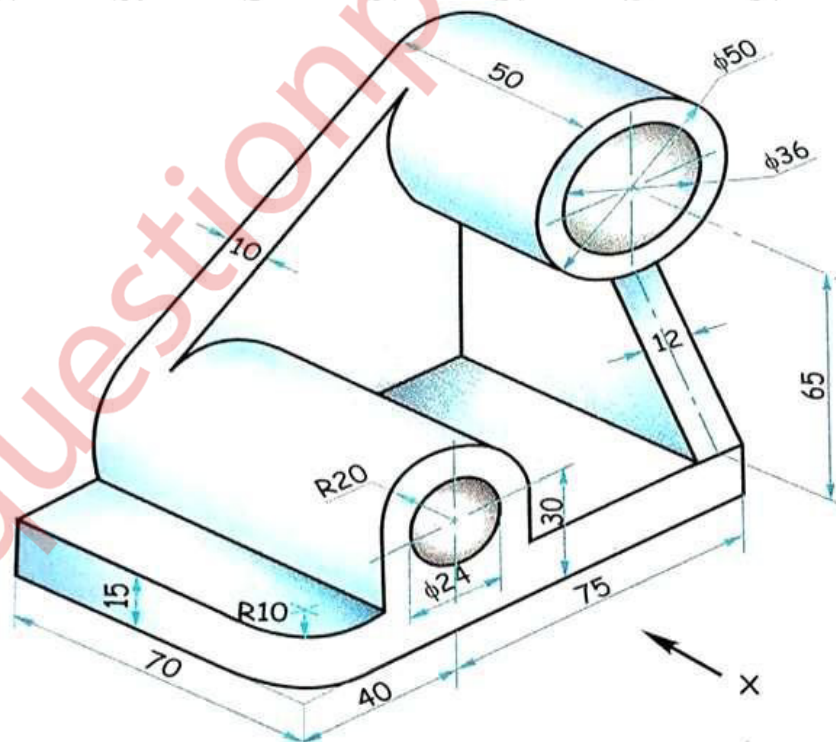

Figure 1

15

X525Y76DB39X525Y76DB39X525Y76DB39X525Y76DB39

Q2.   Figure 2 shows isometric view of a machine component. Draw following views
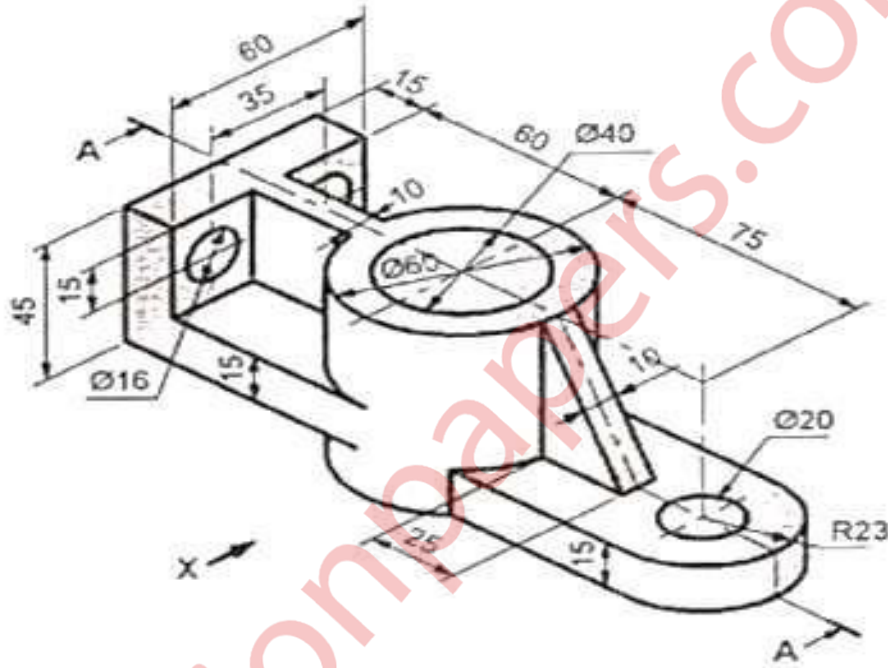(i) Sectional F.V. looking in the direction X. (Section A-A) (ii) R.H.S.V.

Figure 2

Q3   A cone of base 60 mm diameter and axis 66 mm long is lying on one of its 15 generators on the V.P. with its F.V. of an axis making an angle at 50º with the H.P. Draw its projections considering the apex nearer to observer.

Q4.   a.   A square prism side of base 40 mm and axis length 60 mm is kept on 6 the HP. On a corner of its base such that its axis makes an angle 30 degree to HP. Draw the projection of Prism.

9

b. Draw Isometric view for following Figure 3 Orthographic Views of component.

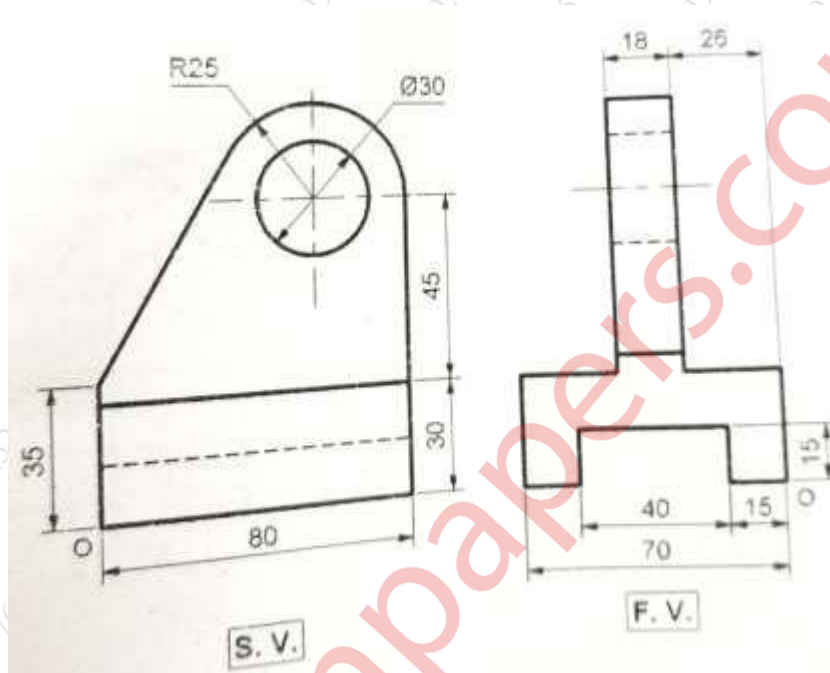

Figure 3

Q5. A hexagonal pyramid base 30 mm side, axis 65mm long has its base on 15 H.P. with an edge of base parallel to V.P. A section plane perpendicular to V.P. and inclined at 60^0 to H.P. bisects the axis of the pyramid. Draw front view, sectional top view and true shape Of the section.

Q6. a. A line AB, 70 mm long is inclined at an angle of 45° to the H.P. and 30° to 9 the V.P. Its end point 'A' is on the H.P. and 25 mm in front of the V.P. Draw the projections of the line AB assuming it to be in the first quadrant.
(Four locus are 4 marks & TL, PL, EL are 5 marks)

6

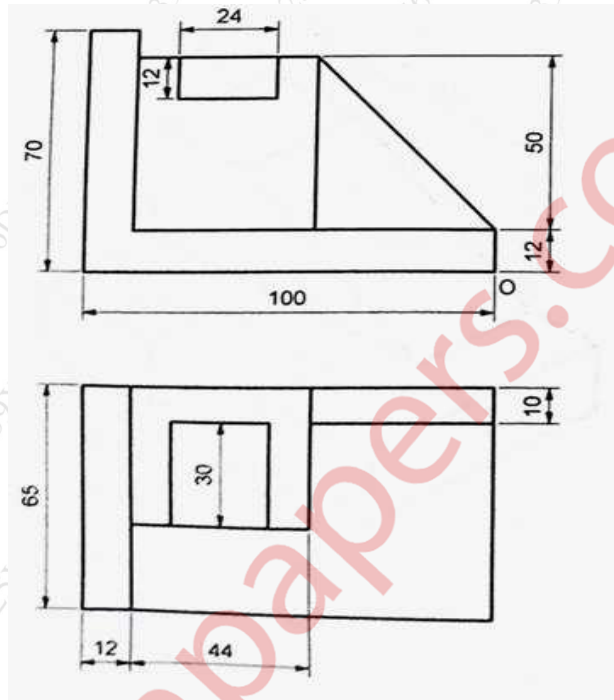b. Draw the isometric view of the given view Figure 4.

Figure 4

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X525Y76DB39X525Y76DB39X525Y76DB39X525Y76DB39