Time: 3 hour **Max. Marks: 60**

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General Instructions:

i) Solve any four questions.
ii) All dimensions are in mm.
iii) Use first angle method of projection.
iv) Assume suitable dimension if it is necessary.

Q1. **a.)** Draw involute to a pentagon of side equal to 40 mm having one side is ground. Also draw normal and tangent at any point on the curve. **6**

b.) The pictorial view of a machine part is shown in figure 1. Draw

i) Front view from X **4**

ii) Top view **4**

iii) Insert at least 6 Dimensions. **1**

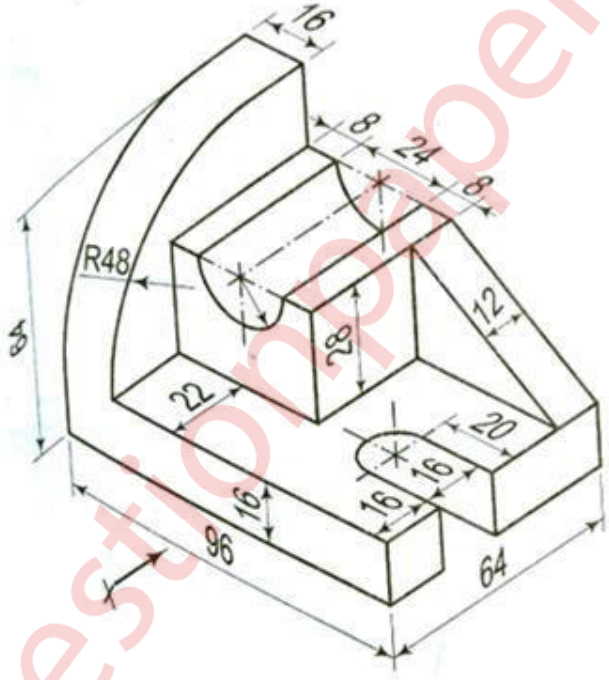

Figure 1

Q 2 A pentagonal pyramid side of base 40 mm and axis 70 mm long stand on an edge of base on HP with its axis inclined 45 degrees to HP and TV of the axis is inclined 30 degrees to VP. Draw projection of the pyramid. **15**

Q 3 Following figure 2 shows the pictorial view of an object. Draw

i) Sectional front view along section A-A (From X) **5**

ii) Top view. **4**

iii) Right Hand Side view **4**

Insert at least 10 dimensions **2**

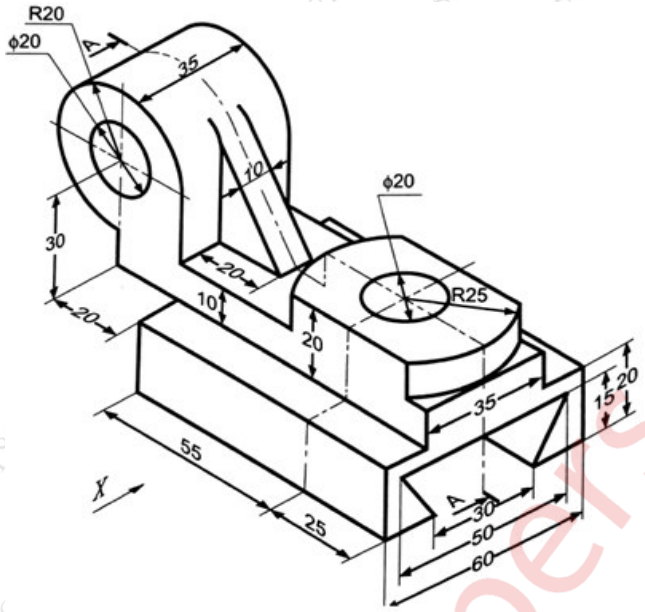

Figure 2

Q4 A right circular cone of diameter 60 mm and axis 75 mm is resting on HP. It is cut by section plane inclined to HP such that the true shape of the section is a parabola with axis equal to 50 mm. Draw Sectional TV, FV and the true shape of the section. **15**

Q5. a) Figure 3 shows the front view and top view of an object. Draw its isometric view. **9**

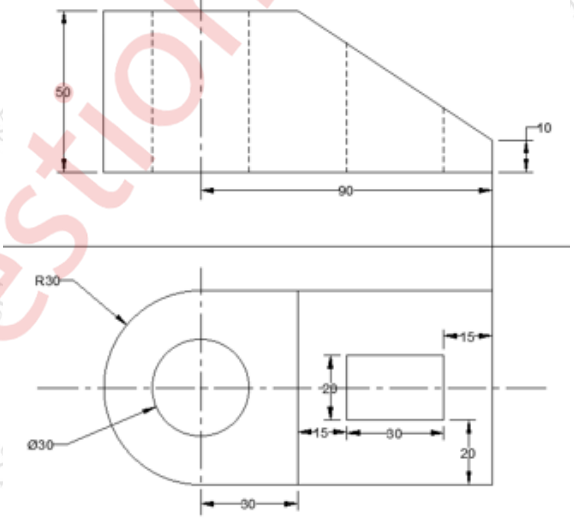

Figure 3

b) A square prism side of base 40 mm and axis length 60 mm has its corner of base on VP and the base is inclined 45 degrees to VP. Draw projections of the prism. **6**

Q6 **a)** One end "A" of the line AB is 15mm above HP and 25mm in front of VP. The FV of the line measures 60mm and inclines 50 degrees to XY line. Draw projections of the line and find its inclination with HP and VP if the true length of the line is 75 mm. Consider the line being in first quadrant only. **9**

b) Draw the isometric view of the given views in figure 4. **6**

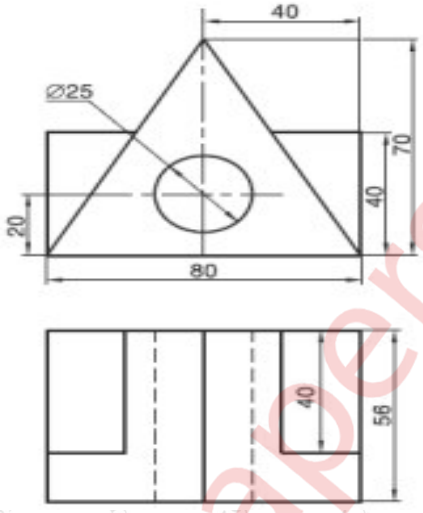

Figure 4

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