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

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 an involute for a pentagon of side 20mm, draw normal and tangent to the involute. **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**

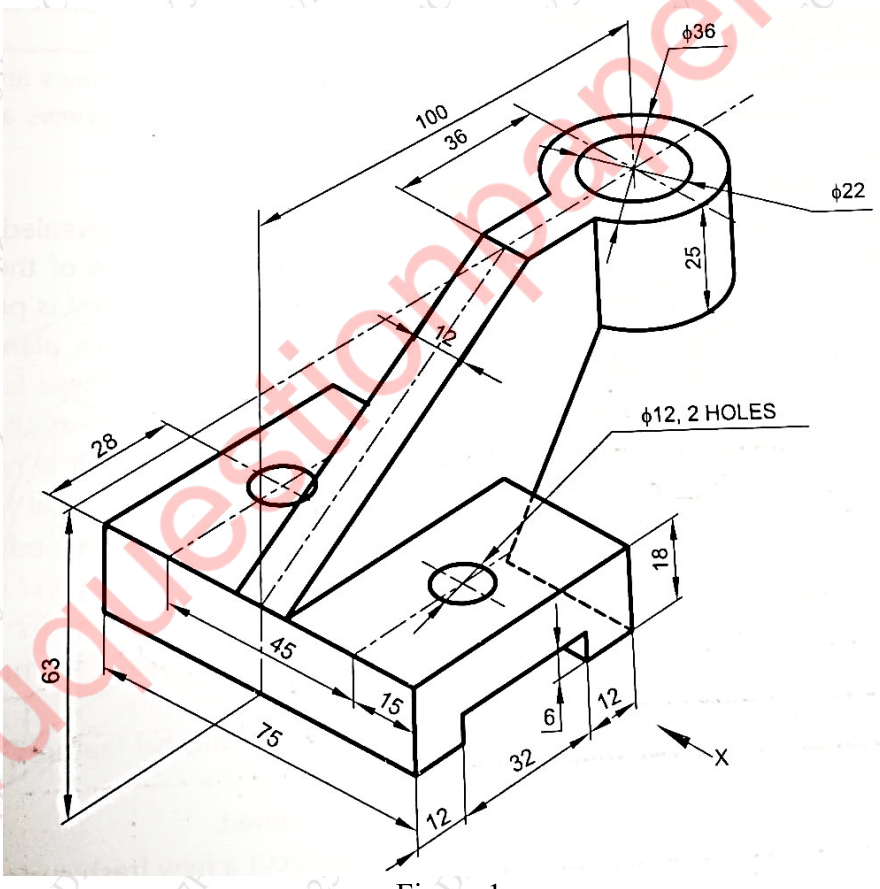


Figure 1

X525Y4DFC7FX525Y4DFC7FX525Y4DFC7FX525Y4DFC7F

Q 2 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) Left Hand Side view **4**

Insert at least 10 dimensions **2**

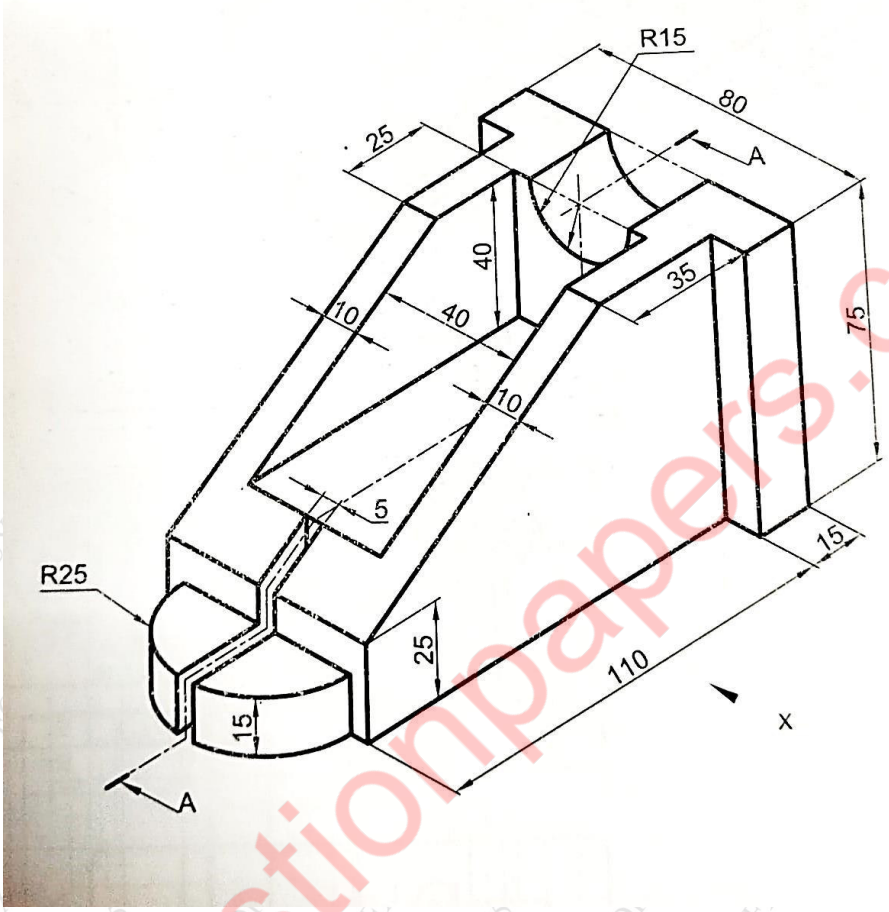


Figure 2

Q 3 A square pyramid 30 mm sides of base and 55 mm axis length rests on HP on one of its corners of the base such that the two base edges containing the corner on which it rests make equal inclinations with HP. Draw the projections of the pyramid when the axis of the pyramid is inclined to HP at 40 degrees and to VP at 30 degrees. **15**

Q4 a) Draw the projections of a pentagonal prism, base 40 mm side and axis 70 mm long, resting on one of its base edge on the HP, with the axis inclined at 30^0 to the HP. **6**

X525Y4DFC7FX525Y4DFC7FX525Y4DFC7FX525Y4DFC7F

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

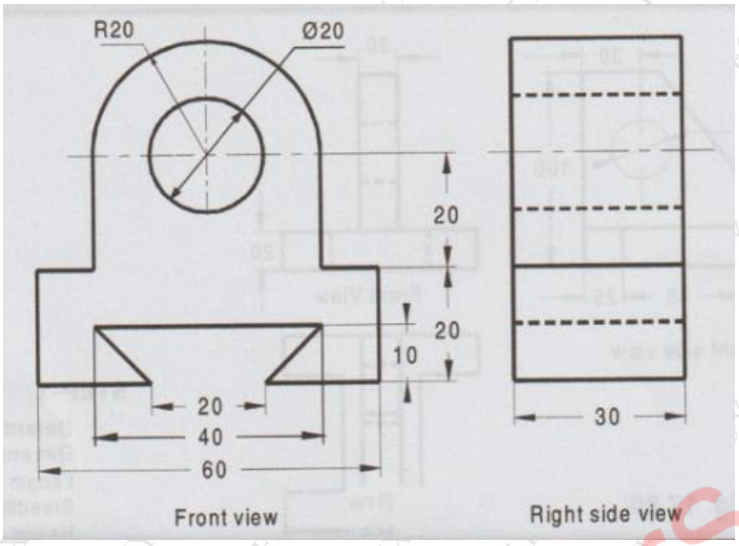


Figure 3

Q5. A hexagonal pyramid, base 40 mm side and axis 70 mm long is resting on its base in the HP, with two edges of the base parallel to the VP. It is cut by a section plane perpendicular to VP and inclined at 45° to the HP, intersecting the axis at a point 30 mm above the base. Draw the front view, sectional top view, sectional side view and true shape of the section. **15**

Q6 a) End A of a line AB is 15 mm above HP & 20 mm in front of VP while its end B is 50 mm above HP and 75 mm in front of VP. The distance between end projectors of the line is 50 mm. Draw projections of the line and find its true length and true inclination with the principal planes. **9**

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

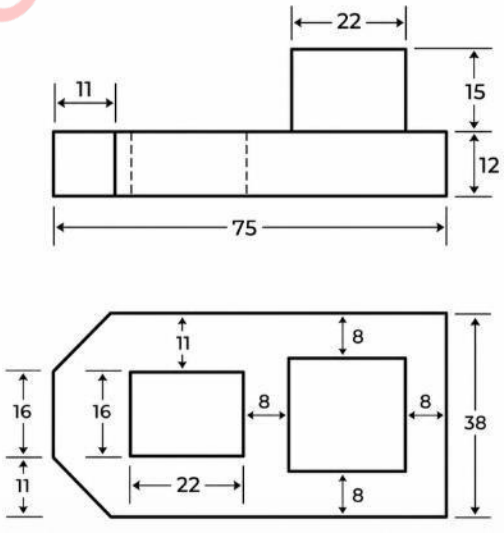


Figure 4

X525Y4DFC7FX525Y4DFC7FX525Y4DFC7FX525Y4DFC7F