Code: 15A03301 **R15**

B.Tech II Year I Semester (R15) Supplementary Examinations June 2017

ENGINEERING DRAWING FOR MECHANICAL ENGINEERS

(Mechanical Engineering)

Time: 3 hours Max. Marks: 70

(Answer all five units, 05 X 14 = 70 Marks)

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UNIT – I

1 A square prism side of base 30 mm and axis 60 mm long, rests with its base on HP and one of its rectangular faces is inclined at 30^0 to VP. A section plane perpendicular to VP and inclined at 60^0 to HP cuts the axis of the prism at a point 20 mm from its top end. Draw the sectional top view and true shape of section.

OR

2 A square pyramid base 35 mm side axis 70 mm long rests on its base on HP such that two adjacent sides of the base are equally inclined to VP. It is sectioned by a plane perpendicular to VP, inclined at 30^0 to HP and passing through the mid-point of the axis. Draw the sectional top view and develop the lateral surfaces of the truncated pyramid.

UNIT – II

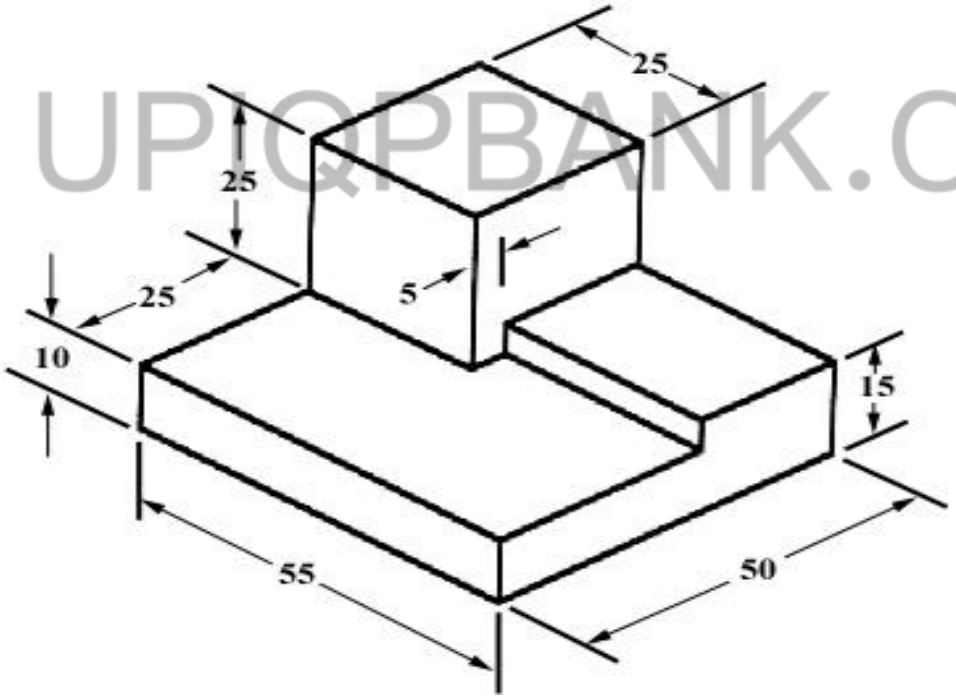
3 A pentagonal pyramid, 30 mm edge of base and 65 mm height, stands on HP such that an edge of the base is parallel to VP and nearer to it. A section plane perpendicular to VP and inclined at 30^0 to HP cuts the pyramid passing through a point on the axis at a height of 35 mm from the base. Draw the isometric projection of the truncated pyramid, showing the cut surface.

OR

4 Draw the isometric projection of a sphere of diameter 50 mm resting centrally on the top of a cube of side 60 mm.

UNIT – III

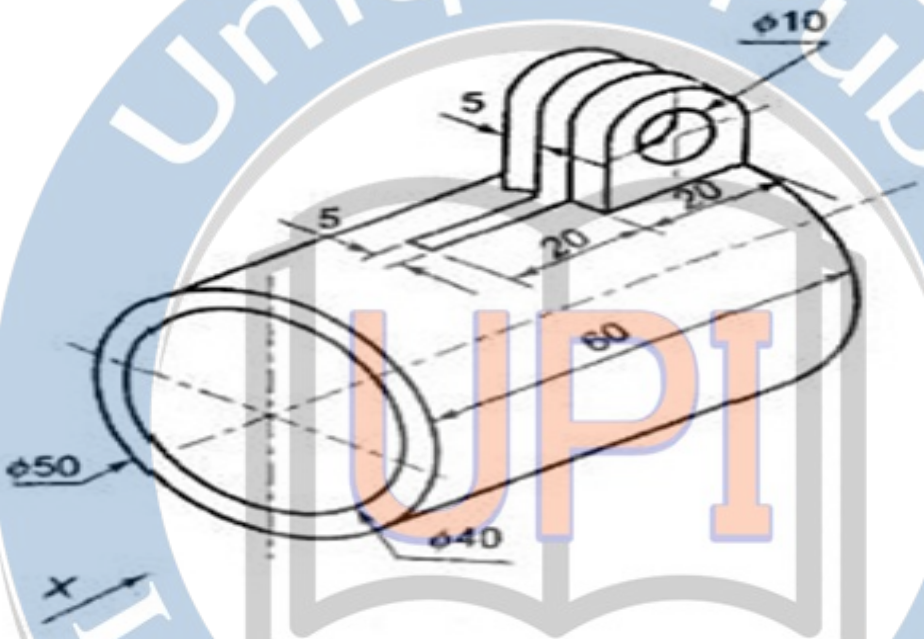
5 Draw the front view, top view and side view for the following isometric view.



OR

Contd. in page 2

6 Draw the elevation, plan and side view of the given isometric view.



UNIT – IV

7 A cylinder of 60 mm diameter and axis 80 mm long stands with its base on HP. It is completely penetrated by a horizontal cylinder of 40 mm diameter and axis 80 mm long such that their axes bisect each other at right angles. The axis of the penetrating cylinder is parallel to VP. Draw the projections showing curves of intersection.

OR

8 A square prism of side of base 55 mm and 100 mm height rests with its base on HP having its faces equally inclined to VP. It is pierced by a horizontal cylinder of diameter 40 mm and 100 mm long. The axis of the cylinder is parallel to VP and 8 mm away from the axis of the prism. Draw the projection showing the curves of intersection.

UNIT – V

9 A square pyramid of base edge 40 mm and altitude 50 mm rests with its base on the ground plane such that all the edges of the base are equally inclined to the PP. One of the corners of the base is touching the PP. The station point is 60 mm in front of the PP, 80 mm above the ground plane and lies in a central plane which passes through the axis of the pyramid. Draw the perspective projection.

OR

10 A rectangular lamina of sides 50 mm x 25 mm stands vertically with one of its longer edges on the ground and inclined at 45^0 to PP. The vertical edge nearest to PP, 45 mm above the ground and lies in a central plane which passes through the centre of the lamina. Draw the perspective projection of the lamina.

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