Code: 15A03301

R15

B.Tech II Year I Semester (R15) Regular & Supplementary Examinations November/December 2018

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 cone of diameter of base 65 mm and height 75 mm is cut by a section plane so that the true shape of the section is an ellipse of major axis 50 mm and minor axis 25 mm. Draw the projections of the cone and find the inclination of the section plane with the H.P.

OR

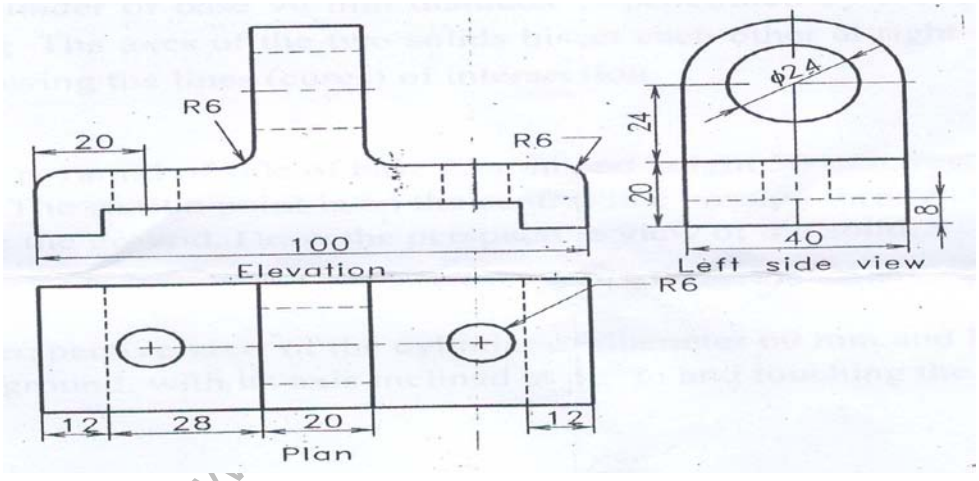
2 A pentagonal pyramid of side of base 30 mm and axis 60 mm long is resting on its base on H.P with an edge of the base parallel to V.P. It is cut by a section plane, perpendicular to V.P and inclined at 45° to H.P. The section plane is passing through the mid-point of the axis. Draw the development of the surface of the cut pyramid.

UNIT – II

3 A paper weight consists of three portions. The bottom-most portion is a cylinder of 60 mm diameter and 20 mm height. The middle portion is a frustum of a cone of height 20 mm with bottom of 60 mm diameter and top of 30 mm diameter. The top-most part is a hemi-sphere of 30 mm diameter, placed with flat surface on cone. Draw the isometric projections of the arrangement.

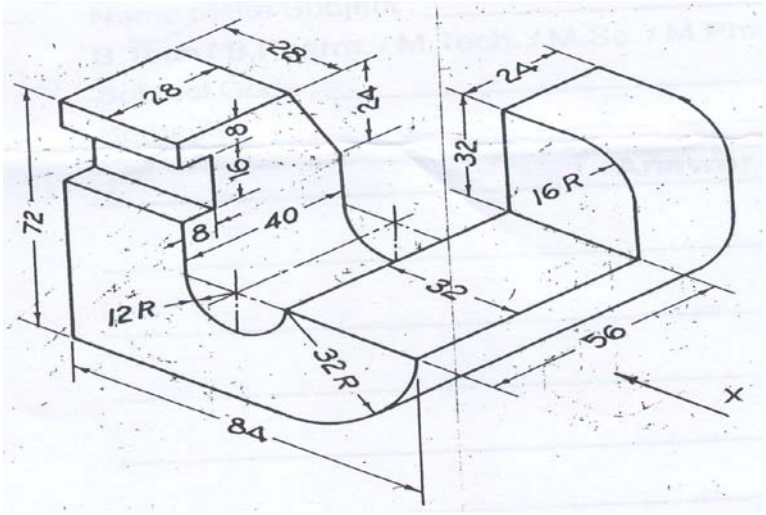
OR

4 Following figure shows the orthographic projections of a component. Draw the isometric projection of the component.



UNIT – III

5 Draw: (i) Front view. (ii) Top view. (iii) Left side view of the component shown in figure below.



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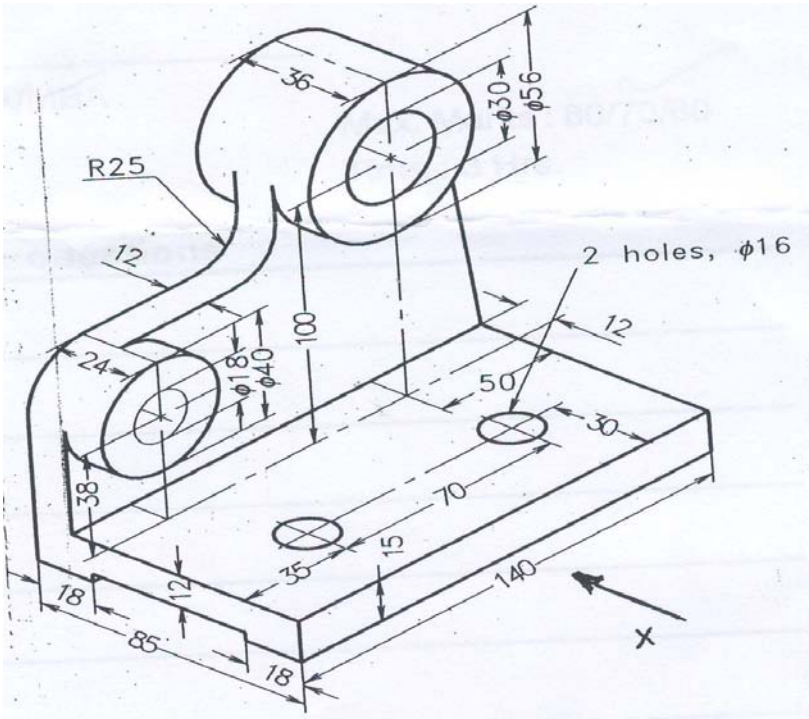
OR

6 Draw: (i) Front view. (ii) Top view. (iii) Left side view of the component shown in figure below.



UNIT – IV

7 A vertical cylinder of 80 mm diameter is penetrated by another cylinder of 50 mm diameter. The axis of the penetrating cylinder is parallel to both H.P and V.P and is 10 mm away from the axis of the vertical cylinder. Draw the projections of the two cylinders showing the lines (curves) of intersection.

OR

8 A vertical cylinder of base 90 mm diameter is penetrated by a cone of base diameter 90 mm and axis 140 mm long. The axes of the two solids bisect each other at right angles. Draw the projections of the two solids showing the lines (curves) of intersection.

UNIT – V

9 A pentagonal pyramid of side of base 25 mm and height 50 mm, rests with an edge of the base, touching the P.P. The station point is on the central line passing through the apex and 80 mm from P.P and 65 mm above the ground. Draw the perspective view of the solid.

OR

10 Draw the perspective view of the cylinder of diameter 60 mm and height 80 mm. It is resting on a generator on the ground, with its axis inclined at 60° to and touching the P.P.

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