

18006(J)

B. Tech 1st Semester Examination
Engineering Drawing and Graphics (CBS)

ME-102

Time : 3 Hours

Max. Marks : 40

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : (i) A drawing sheet is needed to attempt this question paper.

(ii) Attempt five questions in all, select one question from each sections A, B, C and D. Section E is compulsory.

UNIT - I

1. Construct a Diagonal scale to read meters, decimeters and centimeters and long enough to measure upto 5 meters when 1 meter is represented by 3 centimeters. Find RF and show on it, a distance of 5.33 meters. (8)
2. Draw the projections of a straight line AB 70 mm long which is inclined at 40° to Horizontal Plane (HP) and 45° to Vertical Plane (VP). The end point is 30 mm from H.P., and 20 mm from the V.P. (8)

UNIT - II

3. Draw the projections of a pentagonal prism, base 30 mm side and axis 60 mm long, resting on one of its rectangular faces on the ground, with the axis inclined at 45° to the V.P. (8)
4. Draw the top view and front view of the triangular prism, edge of base 50 mm and 48 mm long, having one of its base edges perpendicular to V.P. (8)

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UNIT - III

5. A right circular cone, diameter of base 50 mm and height 70 mm rests on its flat end on H.P. The front view is cut by a plane passing through the mid-height point of the cone at an angle of 45° to the HP. Draw the development of surface of the cone. (8)
6. A hemisphere of 50 mm diameter is centrally placed on a frustum of a cone of 50 mm base diameter and 30 mm top diameter and 50 mm long axis. Draw the isometric view of the pair. <https://www.hptuonline.com> (8)

UNIT - IV

7. A right circular cone, diameter of base 80 mm and height 70 mm rests on its flat end on H.P. The front view is cut by a plane passing through the mid-height point of the cone at an angle of 40° to the H.P. Draw the development of surface of the cone. (8)
8. A frustum of a cone of base diameter 80 mm, top diameter 25 mm and height 60 mm is resting in the H.P. on its base. If a cutting plane inclined at 60° to the H.P. cuts the frustum 10 mm below its top end then draw the sectional top view and true shape of section. (8)

UNIT - V

9. Briefly answer the following or fill in the blanks :
 - (a) A solid having a plane for its base and equal number of triangular faces meeting at a single point is called _____.
 - (b) Vernier and _____ scales can be used for showing upto two subdivisions within a scale for accuracy.

- (c) Planes and pyramids are named according to the shape of their _____.
- (d) The ratio of the length of the drawing of the object to the actual length of the object is known as _____.
- (e) A right circular cone is a solid generated by the revolution of a _____.
- (f) The trace of a line is always a _____ whereas the trace of a plane is always a _____.
- (g) A circle in isometric projection appears as _____.
- (h) In the third angle projection we assume the object to be situated behind _____ plane and below the _____ plane. (8×1=8)