[Total No. of Questions - 9] [Total No. of Pr ed Pages - 3]
(2066)

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**B. Tech 2nd Semester Examination**

**Engineering Drawing & Graphics (CBS)**

**ME-102**

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

*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 :** Attempt five questions in all, selecting one question from each section A, B, C and D. The section E is compulsory.

## SECTION - A

1. (a) Define the lettering. Classify them. (5)

   (b) Explain the rules for dimensioning. Show the rules by incorrect and correct dimensioning. (7)

2. (a) A point 25 mm below XY is the top view of two points A and B. A is in HP and B is 35 mm below HP. Mark the projections of A and B. (5)

   (b) A line AB, is 80 mm long, has its end A 15 mm behind VP and 10 mm below HP. It is inclined at 45° to the HP and 30° to VP. Draw its projections when; (i) the line lies in third quardrant (ii) the end B lies in first quardrant. (7)

## SECTION - B

3. (a) Explain the solids of revolutions. (5)





   (b) Draw the projections of a rectangular pyramid of 40 mm x 25 mm sides of base and 40 mm height, which rests on one edge of the base on HP such that larger triangular face containing that edge is perpendicular to HP and parallel to VP. (7)

4. A cylinder of diameter 40 mm and height 60 mm is having its axis vertical. It is cut by a plane perpendicular to VP and inclined at 30° to HP. The plane bisects the axis of the cylinder. Draw its front view, sectional top view, sectional side view and true shape of section. (12)

## SECTION - C

5. A waste paper basket is in the form of a frustum of hexagonal pyramid with base 80 mm hexagon and top 120 mm.

   Draw the isometric view and projection, if its height is 200 mm. The thickness of basket can be taken as 12 mm. Adopt a suitable scale. (12)

6. A pentagonal prism, side of base 25 and axis 60 mm long rests with one of edges of its base on HP. Its axis is inclined at 30° to HP and parallel to VP. It is cut by a horizontal section plane passing through highest corner of the base. Obtain its top and sectional front views. (12)

## SECTION - D

7. (a) Draw the development of a right circular cone of diameter 56 mm and height 60 mm. (5)

   (b) A pentagonal pyramid having base edge 36 mm and height 56 mm stands on its base on ground with an edge of base parallel to VP. A sectional plane cuts the pyramid at a point 32 mm from the base edge and makes an angle of 45° with HP. Draw the sectional top view and the development of the truncated portion of the pyramid. (7)

8. 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 axis bisects each other at right angles. The axis of penetrating cylinder is parallel to VP. Draw the projections showing curves of intersection. (12)

## SECTION - E

9. (a) Differentiate between the spiral and helix.

   (b) Mention three engineering applications of intersection of surfaces.

   (c) What is the principle of Development of surfaces?

   (d) Define the sectioning.

   (e) What are the frustums?

   (f) Define and classify the polyhedrons.

   (g) Differentiate between the Isometric projection and Isometric view.

   (h) If a line is lying on HP and parallel to VP, then what will be the position and dimension of line in front and top view? (1½×8=12)