Roll No. ..... Total Pages : 03

# BT-2/M-19 32039

# ENGINEERING GRAPHICS AND DRAWING

## ES-109-A

Time : Three Hours] [Maximum Marks : 75

**Note :** Attempt *Five* questions in all, selecting *one* question from each Unit.

### Unit I

1. (a) Describe the principles of engineering drawing and their significance.
   (b) What is representative factor ? Also explain the construction of plain scale with suitable. **15**

2. (a) Explain general methods for generating ellipse. **15**
   (b) Define :
   (i) Cycloid (ii) Epicycloid.

### Unit II

3. Draw the projections of the following points on a common reference line keeping the distance between their projectors 25 mm apart : **15**
   (a) Point A is 40 mm above the H.P. and 25 mm in front of the VP
   (b) Point B is 40 mm above the H.P. and the V.P.
   (c) Point C is 40 mm in front of the V.P. and in the H.P.
   (d) Point D is 40 mm above the HP and 30 mm behind the V.P.
   (e) Point E is in the HP and 30 mm behind the V.P.

4. A straight line AB, 60 mm long makes an angle of 30° to H.P. and 45° to VP. The end A 15 mm in front of V.P. and 20 mm above H.P. Draw its projections. **15**

### Unit III

5. A cylinder of base diameter 50 mm and axis 60 mm is resting on its base on the H.P. It is cut by a section plane perpendicular to V.P., the V.T. of which cuts the axis at a point 40 mm from the buttom face and inclined at 45° to the reference line. Draw its front view, sectional top view and true shape of the section. **15**

6. A hexagonal prism of the base side 30 mm and 70 mm is resting on its base on ground with a side of base inclined at 45° to the V.P. with a rectangular face parallel to the V.P. it is cut by an auxiliary inclined plane at 45° to the H.P. and passes through a point 15 mm below the top end of the axis. Draw the development of the lateral surface of the truncated prism. **15**

## Unit IV

7. (a) Describe the construction of an isometric scale. 15

   (b) Explain the principle of isometric projection. 15

8. Fig. 1 show two views of an object. Draw isometric view of the object :

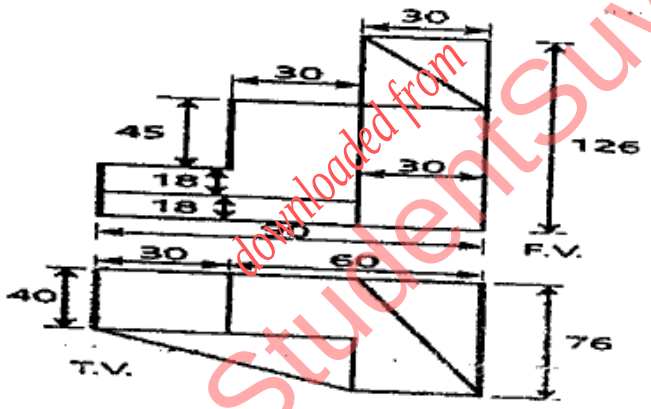


Figure no. 1
All dimensions are in mm