

**Faculty of Engineering & Technology**

**First Semester B.E. (C.B.S.) Examination**

**ENGINEERING GRAPHICS—I**

Time—Three Hours]

[Maximum Marks—40

**INSTRUCTIONS TO CANDIDATES**

(1) All questions carry marks as indicated.

(2) Solve **FOUR** questions as follows :

Q.No. 1 OR Q.No. 2

Q.No. 3 OR Q.No. 4

Q.No. 5 OR Q.No. 6

Q.No. 7 OR Q.No. 8.

(3) Due credit will be given to neatness and adequate dimensions.

(4) Retain the construction lines.

(5) Use of Drawing instruments is permitted.

(6) Assume suitable data wherever necessary.

1. (a) An artificial satellite is orbiting around the earth. The major axis of the orbit is 40,000 km. and the minor axis is 30,000 km. Draw the orbit of the satellite which is elliptical. 5

- (b) The front view and top view of a line measures 55 mm and 65 mm, respectively. Their end projections are 40 mm apart and one end of the line is 10 mm above HP and in the VP. Draw projections and determine the true length and true inclination of line. 5

**OR**

- 2 (a) Draw three views of line AB 70 mm long which is inclined at  $35^\circ$  to the H.P. and  $55^\circ$  to the V.P. Its end A is 20 mm above H.P. and 30 mm in front of V.P. 5
- (b) A vertical line AB 50 mm long is a diameter of a circle. The circle rolls without slipping on a horizontal line AC. Draw path traced out by point B for one complete revolution of circle. Name curve. 5
3. (a) A pentagonal plane of side 30 mm is resting on one of its side in H.P. and inclined at  $30^\circ$  to V.P. while the corner opposite to resting edge is 30 mm above the H.P. Draw its projections. 5

- (b) The top view of a plane is a square of side 40 mm, with one side inclined at  $30^\circ$  to XY. The front view is a line inclined at  $60^\circ$  to XY. Draw its projection and determine its True shape. 5

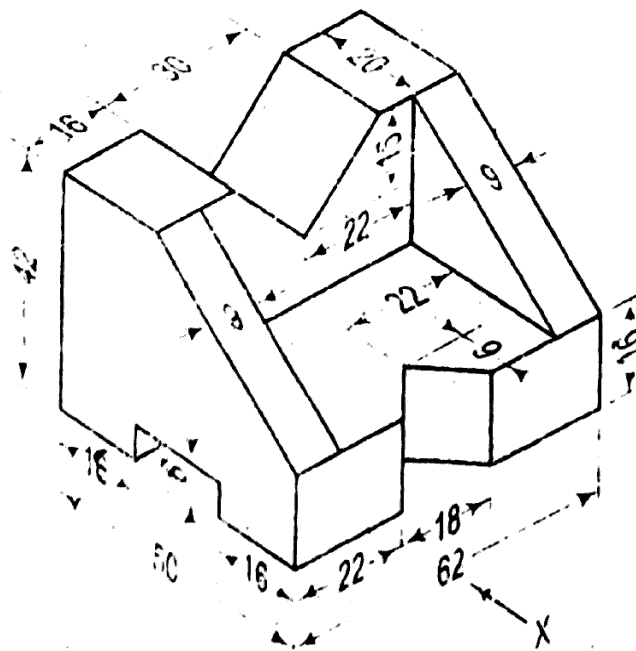
**OR**

4. A pentagonal prism side of base 40 mm and height 60 mm resting on H.P. on one of its corner with a longer edge containing the corner is inclined at  $45^\circ$  to H.P. and  $30^\circ$  to VP. Draw the projections of the prism. 10

5. (a) Fig. 1 shows the pictorial view of an object. Draw its :

(i) Left hand side view

(ii) Front view from X. 5



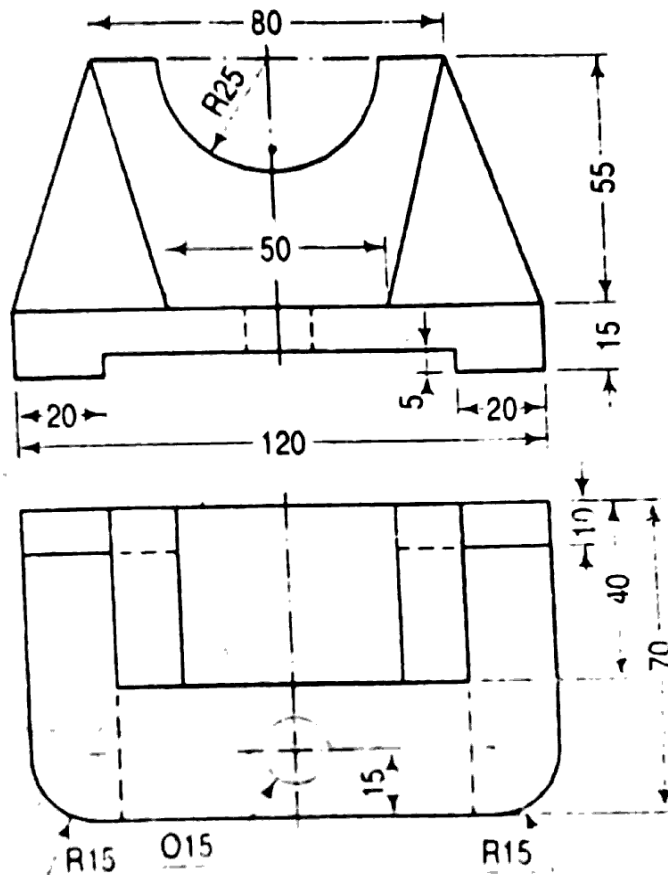
**Fig. 1**

MMW—9687

(Contd.)



7. The Front and Top view of an object is shown in Fig. 4. Draw isometric view and indicate the direction of viewing. 10



**Fig. 4**

**OR**

8. (a) A hexagonal prism side 35 mm and height 40 mm is resting on its hexagonal base on H.P. One of the side of hexagonal base is perpendicular to V.P. A right circular cone of base diameter 50 mm and axis 65 mm is kept centrally on the top hexagonal face, on its base. The axes of both solids are vertical and coinciding. Draw the isometric projection for the given arrangement of solids. Show their common axis and indicate direction of viewing. 8
- (b) Construct an Isometric Scale to measure the length 100 mm. 2