

Roll No. ....

Total Pages : 3

**BT-1/D-19**

**31009**

**ENGINEERING GRAPHICS AND DRAWING**

**Paper-ME-105E**

**Opt. (ii)**

**Time : Three Hours]**

**[Maximum Marks : 100**

**Note :** Attempt *five* questions in all, selecting at least *one* question from each unit. All questions carry equal marks.

### **UNIT-I**

1. Sketch different types of lines used in engineering drawing with applications. Differentiate between the first angle and third angle of orthographic projection. Also discuss the different types of scales used in engineering drawing. 20
2. A point P is 20 mm below HP and 30 mm behind VP and another point Q is 25 mm above HP and 35 mm in front of VP. Draw its projection by taking the distance between the end projectors to be 50 mm. Also find the length of the line joining their plans and elevations. 20

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24/12

### **UNIT-II**

3. The end of a line AB is 10 mm in front of VP and 20 mm above HP. The line is 30 degree to the HP and front view is 45 degree with XY line. The top view is 60 mm long. Complete the two views. Find the true length and inclination with VP. Locate the traces. 20
4. A rectangular plate of side 50×25 mm is resting on its shorter side on HP and inclined at 30° to VP. Its surface is inclined at 60° to HP. Draw its projections. 20

### **UNIT-III**

5. A 30 mm base side triangular prism and axis length 60 mm has one of its rectangular faces parallel to and 20 mm above HP. Draw its projections when the longer edges are parallel to VP. 20
6. A cube of side 30 mm rests on one of its faces on HP with a vertical face inclined at 30 degree to the VP. It is cut by a plane perpendicular to the VP and inclined at 50 degree to the HP. The plane bisects the axis of the cube. Draw the development of the surface of the right portion of the cut cube. 20

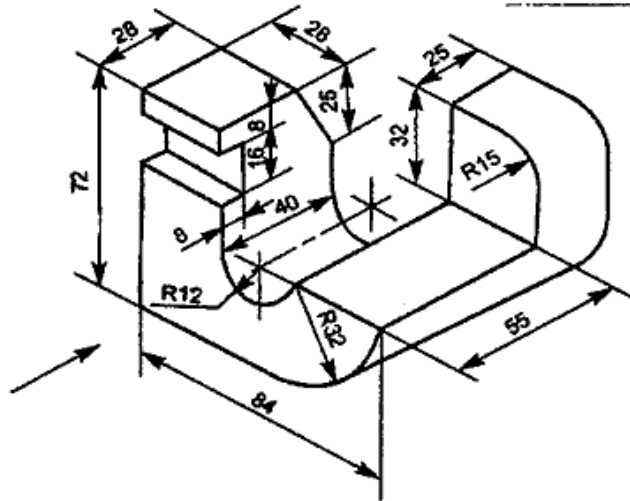
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2

#### UNIT-IV

7. Draw the orthographic views of the solid shown below :

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8. Draw the orthographic views of a hexagonal headed bolts with a nut and a washer in position.

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