Roll No. ..... Total Pages : 4

BT-I/D-20 **41041**

ENGINEERING GRAPHICS AND DESIGN

(ODD)

Paper : ES-109A

Time : Three Hours] [Maximum Marks : 75

Note : All questions in Part–A and Part–B are compulsory. Attempt any four questions from Part–C selecting at least *one* question from each unit.

PART–A

1. Answer the following questions :

(i) Define engineering drawing. Why drawing is called the universal language of engineers. 3

(ii) What is isometric scale? Explain. 3

(iii) Differentiate between a cylinder and a cone. 3

(iv) Discuss the methods used for development of surfaces. 3

(v) Explain the advantages of isometric projections. 3

PART–B

UNIT–I

2. Discuss the principle of engineering graphics and their significance. 5

UNIT–II

3. Explain the projections of planes inclined to one principle plane. 5

UNIT–III

4. What is sectional view? Explain the importance of sectioning in solids. 5

UNIT–IV

5. Explain the conversion of isometric views to orthographic views. 5

PART–C

UNIT–I

6. Draw a diagonal scale of RF = 3/100 showing metres, decimetres and centimetres, and to measure up to 4 m show the length of 3.19 meters on it. 10

7. Draw a cycloid generated by a point P on the circumference of a circle of diameter 56 mm when the circle rolls along a straight line. Draw a normal and tangent to the curve at any convenient point. 10

UNIT–II

8. Draw the projection of following points on the same reference line by taking the gap of 25 mm in adjacent projectors. 10

(i) Point A, 25 mm in front of VP and 30 mm above HP.
(ii) Point B, 22 mm behind V.P. and 28 mm above H.P.
(iii) Point C, 28 mm behind V.P. and 30 mm below H.P.
(iv) Point D, 40 mm in front of V.P. and 25 mm below H.P.

9. The end A of a 36 mm straight line AB is 12 mm away from HP and VP and another point B is 24 mm away from HP and VP. Draw the view and front view of straight line AB and determine the true inclination with HP and VP.

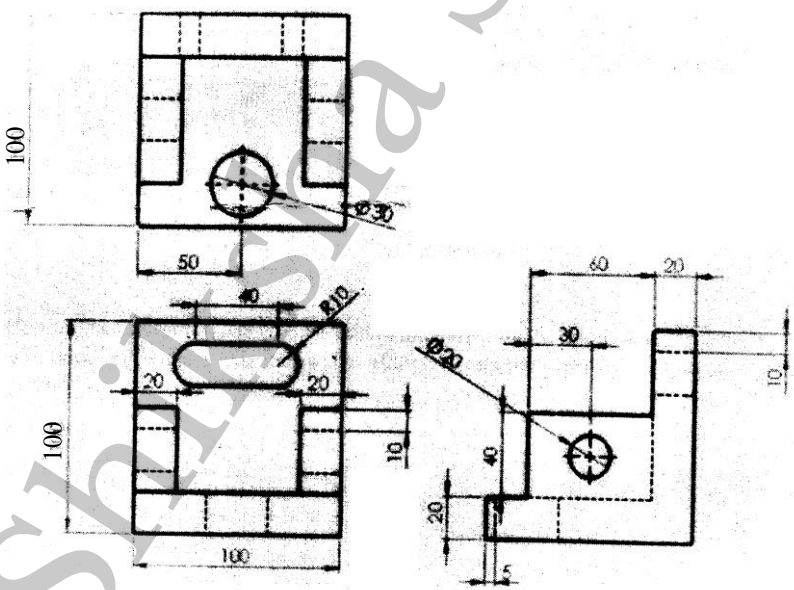
UNIT–III

10. Develop the lateral surface of a right circular cylinder, truncated at both ends by two parallel planes and resting on ground plane of the lower cut and face which is an ellipse. 10

11. A Hexagonal pyramid side of base 25 mm and axis 50 mm long is resting on an edge of its abse on HP with its axis inclined at 30º to HP and parallel to VP. Draw its front and top view. 10

UNIT–IV

12. Draw the isometric view of the given orthographic projection of the object? 10



13. Create an isometric pictorial of the object. 10