

**1236****Code : 15ME-12D**Register  
Number

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**I Semester Diploma Examination, Nov./Dec. 2016****ENGINEERING GRAPHICS – I****Time : 4 Hours |****[ Max. Marks : 100 ]**

- Note :** (i) Part – A is *compulsory*.  
(ii) Answer any two full questions each from Part – B, C & D.

**PART – A**

1. (a) Define RF. Mention the types of scales based on RF. **5**  
(b) Give the conventional representation of the following materials : **5**  
(i) Steel  
(ii) Zinc  
(iii) Glass  
(iv) Wood  
(v) Water

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**PART – B**

2. An ellipse has the major axis and minor axis in the 5 : 3. Draw the ellipse, when the major axis is 150 mm by concentric circles method. **15**
3. A shot from a rifle is discharged from the ground level at an inclination of  $60^\circ$  to the ground which is assumed to be horizontal. The shot returns to the ground at a point of 80 metre distant from the point of discharge. Trace the path of the shot. Select a scale of 1 : 1000. **15**
4. A circle of 50 mm diameter rolls on a straight line without slipping. Trace the path of the point on the circumference of the circle for one complete revolution. Draw a tangent and normal at any point on the curve. **15**

[ 1 of 2 ]

[Turn over

**PART - C I M E NLS**

5. (a) Draw the symbolic representation of first angle projection method. 3  
 (b) Draw the projections of the following points : 12  
 (i) 'P' is 30 mm below HP and in VP.  
 (ii) 'Q' is 40 mm behind VP and in HP.  
 (iii) 'R' is 35 mm below HP and 35 mm in front of VP.  
 (iv) 'S' is 30 mm above HP and 25 mm behind VP.
6. A straight line AB, 70 mm long makes an angle of  $45^\circ$  to HP and  $30^\circ$  to VP. The end A is 20 mm in front of VP and is on HP. Draw the projections of the line. 15
7. The top view of a 75 mm long line AB measures 65 mm, while its front view measures 50 mm. Its one end A is in the HP and 15 mm in front of VP. Draw the projection of the line AB and determine its inclinations with the HP and VP. 15

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8. A square lamina ABCD of 30 mm sides rests on HP on the corner C, such that the diagonal AC appears to be inclined at an angle of  $30^\circ$  to the VP in the top view. The two sides BC and CD containing the corner C make equal inclinations with the HP. The surface of the lamina makes  $45^\circ$  with HP. Draw its top and front view. 15
9. A pentagonal lamina of side 30 mm is resting with one of its edges on HP, such that the plane surface makes an angle of  $60^\circ$  with the HP. The edge which rests on HP makes an angle of  $45^\circ$  to VP. Draw the top and front views of the lamina. 15
10. A circular disc of 60 mm diameter and negligible thickness rests on HP on its rim and makes an angle of  $45^\circ$  to the HP. The diameter through the point on which the disc rests on HP appears to be inclined at  $30^\circ$  to the VP in the top view. Draw the projections. 15

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