1272

Code : 15ME12D

Register Number | | | | | | | |

I Semester Diploma Examination, Nov./Dec. 2017

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) Mention the types of lines and their applications. **5**

(b) Mention the uses of the following instruments :

(i) T - square

(ii) Set - square

(iii) Mini - drafter

(iv) Erasing shield

(v) French curves **5**

PART – B

2. Construct an ellipse, when the distance of focus from the directrix is 45 mm and the eccentricity is 2/3. Find the lengths of major and minor axes. **15**

3. A stone thrown from the ground level reaches a maximum height of 50 metre and falls on the ground at a distance of 100 metre from the point of projection. Trace the path of the stone in space. Select a scale of 1 : 1000. **15**

4. Draw the involute of a circle of diameter 45 mm. Also draw a tangent and normal at any point on the curve. **15**

PART – C

5. Draw the projections of the following points on a common reference line : **15**

   (i) Point 'A' is 30 mm above HP and 40 mm behind VP.

   (ii) Point 'B' is 30 mm above HP and 45 mm behind VP.

   (iii) Point 'C' is 40 mm above HP and in VP.

   (iv) Point 'D' is 30 mm below HP and in VP.

   (v) Point 'E' is 35 mm infront of VP and in HP.

6. A line PQ measuring 80 mm has its end P 20 mm infront of VP and 30 mm above HP. Another end Q is 60 mm infront of VP and 50 mm above HP. Draw the projections of the line and find the inclinations with both the reference planes of projection. **15**

7. A line AB, 90 mm long is inclined at 45° to HP and its top view makes an angle of 60° with VP. The end A is in HP and 15 mm in front of VP. Draw the projections of the line and find its true inclination with VP, length of projections and inclination of projections. **15**

PART – D

8. An equilateral triangular lamina of sides 40 mm is resting with one of its corner on HP. The surface of the lamina is inclined at 50° to HP and the side opposite to the corner on which the lamina rests is inclined at 40° VP. Draw the projections of the lamina. **15**

9. A hexagonal lamina of 30 mm side rests on HP on one of its sides. The side which is on HP is perpendicular to VP and the surface of the lamina is inclined to HP at 45°. The lamina is then rotated through 90° such that the side on HP is parallel to the VP, while the surface is still inclined to VP at 45°. Draw the front view and the top view of the lamina in this position. **15**

10. A circular lamina of 70 mm diameter rests on HP such that the surface of the lamina is inclined at 30° to the HP. The diameter through the point on which the lamina rests on HP appears to be inclined at 30° to the VP in the top view. Draw the projections. **15**