1329

Code : 15ME12D

Register Number | | | | | | | |

I Semester Diploma Examination, April/May-2018

ENGINEERING GRAPHICS – I

Time : 4 Hours] **[Max. Marks : 100**

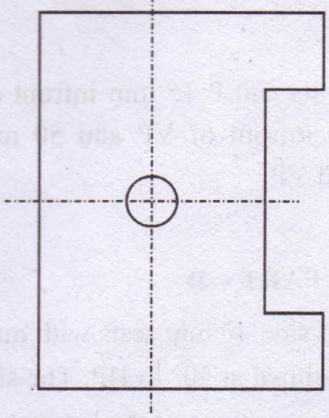
Note : (i) Part – **A** is *compulsory*.

(ii) Answer any **two** full questions from Part – **B, C & D**.

PART – A

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

(b) Copy the given sketch (Fig. 1) to 1 : 1 scale and dimension adopting unidirectional system with parallel dimensioning method. **5**



(Fig. 1)

PART – B

2. Inscribe an ellipse in a rectangle of 130 mm × 80 mm by intersecting lines method. **15**

3. Draw a parabola when the distance of the focus from the directrix is 30 mm. **15**

4. A circle of 50 mm diameter rolls on a line. A point on the circumference of the circle is in contact with the line in the beginning and after one complete revolution. Draw the cycloidal path of the point. Draw a tangent and normal at any point on the curve. **15**

PART – C

5. (a) Draw the symbolic representation of third angle projection method. **5**

(b) Draw the projections of the following points :

(i) T is 25 mm above the HP and 30 mm infront of the VP.

(ii) U is in both VP and HP

(iii) V is 35 mm below the HP and 30 mm behind the VP.

(iv) W is 30 mm above the HP and 35 mm behind the VP. **10**

6. (a) A line AB 80 mm long is inclined at 30° to HP and parallel to VP. The line is 90 mm infront of VP. The lower end A is 35 mm above HP, 110 mm infront of the right PP and is away from it than the higher end. Draw the three principal views of the line. **8**

(b) A line AB 70 mm long is inclined at 45° to VP and parallel to HP. The end nearer to VP is 30 mm infront of VP, 60 mm above HP and 100 mm infront of right PP. Draw the three principal views of the line. **7**

7. A line PQ measuring 70 mm has its end P 15 mm infront of VP and 20 mm above HP. The other end Q is 60 mm infront of VP and 50 mm above HP. Draw the projections of the line with HP and VP. **15**

PART – D

8. An equilateral triangular lamina of side 40 mm rests with one of its sides on HP such that the surface of the lamina is inclined at 30° to HP. The side on which lamina rests is inclined at 45° to VP. Draw the projections of the lamina. **15**

9. A square lamina of 40 mm sides rests with one of its corners on HP. The diagonal passing through this corner is inclined at 45° to HP and appears to be inclined at 45° to VP. Draw its projections. **15**

10. A hexagonal lamina of side 30 mm is resting with one of its corners on HP so that the diagonal passing through that corner is inclined at an angle of 45° to HP and appears to be inclined at 30° to VP. Draw the top and front views of the lamina. **15**