Total No. of printed pages = 4

ME-101/ED/1st Sem/2013/N

ENGINEERING DRAWING

Full Marks – 100

Pass Marks – 40

Time – Four hours

The figures in the margin indicate full marks for the questions.

Answer any *five* questions.

1. (a) Draw a perpendicular to a given line from a point within it when the point is near an end of the line.

   (b) Divide a given straight line into six equal parts.

   (c) Construct a regular hexagon of side 30 mm.

   (d) Inscribe a regular pentagon in a given circle of radius 30 mm.

   (e) Draw an equilateral triangle of 50 mm altitude with the aid of compass.

5×4=20

[Turn over

2. (a) With the help of appropriate sketches show aligned dimensioning and unidirectional dimensioning. 3+3=6

(b) What do you mean by plain scale, reducing scale and enlarging scale? Mention their uses. 4

(c) A rectangular plot 25 square kilometres is represented on a certain map by a similar rectangle of area 1 square centimetres. Draw a plain scale to show kilometres. Show a distance of 65 kilometres on the scale. 10

3. (a) On a simple drawing of your own, show the following : 10

(i) Section line

(ii) Cutting plane line

(iii) Leader line

(iv) Note

(v) Outer line

(vi) Centre line

(vii) Hidden line.

(b) Write in single stroke, inclined style (72^{o}) the following line giving due importance on their shapes. Height of the letters=15 mm 10

"KNOWLEDGE IS POWER"

4. (a) A point 'P' is 35 mm below H.P and 25 mm behind the V.P. Another point 'Q' is 30 mm above H.P and 40 mm in front of V.P. The distance between their projectors is 40 mm. Draw the projections of the points P and Q and find the distance between them. 10

(b) A line 'PQ' 80 mm long, is inclined at 30° to the H.P and 45° to the V.P Its end 'P' is 20 mm below the H.P and 30 mm behind the V.P. Draw its projections. 10

5. (a) A hexagon of 25 mm side, has its corner 'A' in the V.P. Its side 'AB' is inclined at 15° to the V.P. Draw the projections of the hexagon when its plane is parallel to and 20 mm below the H.P. 10

(b) A hexagonal prism, base 25 mm side and axis 50 mm long is lying on the ground on one of its rectangular faces. Its axis is perpendicular of the V.P and nearer end is 20 mm behind the V.P. Draw its projections. 10

6. (a) Draw neat and dimensional sketches of the following using 25 mm pitch. 4+4=8

(i) Whitworth thread

(ii) Buttress thread.

(b) Draw the front view and top view of a square nut, showing the dimensions in a tabular form. Take nominal diameter of the bolt as 25 mm. 6

(c) Draw the typical drawing of the following rivets with dimensions. 3+3=6

(i) Snap headed

(ii) Counter shank headed.

7. The following figure shows a pictorial view of an object. Draw the following orthographic views :

(a) Sectional front view

(b) Side view from the right

(c) Top view. 9+5+6=20