Total No. of printed pages = 6

Me-101/ED/1st Sem(New)/2018/M

ENGINEERING DRAWING

(New Course)

Full Marks –100

Time – Four hours

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

PART – A

Marks – 25

1. Fill in the blanks with appropriate words : 1×10=10

   (a) T-square is used for drawing —— lines.

   (b) When the measurements are required in two units, —— scale is used.

   (c) Uses of T-square, set square, scale and protector are combined in the _____.

   (d) A line 2m is shown by 2 cm on a scale. Its representative fraction is _____.

   (e) When two plates are joined by overlapping one another, the joint is called _____.

[Turn over

(f) The outermost part of a thread is called _____.

(g) The measurements from the scale to the drawing are transferred by _____.

(h) All the angles of an equilateral triangle are _____.

(i) Rivets are designated by their _____.

(j) The diagonal of a quadrilateral is a line joining the _____.

2. Answer the following questions : 5

(a) Write four names of drawing instruments used in engineering drawing. 2

(b) What is Isometric Scale ? 1

(c) State two differences between 1st angle and 3rd angle projection. 2

3. Show on a drawing and briefly describe the use of the following lines : 10

(a) Hidden line (b) Section line

(c) Leader (d) Centre line

(e) Dimension line.

PART – B

Marks – 75

Answer any *five* questions.

1. (a) Construct a diagonal scale of 1 : 4000 to show metres and long enough to measure upto 600 metres. Measure a distance of 456m on the scale. 7

   (b) Draw the projection of the following points on the same ground line keeping projector 25mm apart. 2×4=8

   (i) 30mm above HP and 40mm behind the VP.

   (ii) In the HP and 30mm infront of VP.

   (iii) 25mm below HP and 25mm behind VP.

   (iv) 40mm above HP and 25mm infront of VP.

2. (a) Giving importance on the shape of letters, write the following in single stroke vertical style. Consider the height of letters 15 mm. 10

"INDIA IS MY COUNTRY".

(b) Write the two systems of planning dimension on a drawing. 5

3. (a) Construct a regular hexagon of side 40 mm. 5

(b) Determine the length of circumference of a given circle of radius 30 mm. 5

(c) Draw a line AB and AC making an angle 75°. Draw a circle of radius 25 mm touching them. 5

4. Draw the following thread forms taking pitch = 20 mm : 5×3=15

(i) Square thread

(ii) Acme thread

(iii) Knuckle thread.

5. (a) Draw projection of a straight line AB 60 mm long parallel to HP and inclined at an angle 40° to the VP. The end 'A' is 30 mm above HP and 20 mm infront of VP. 7

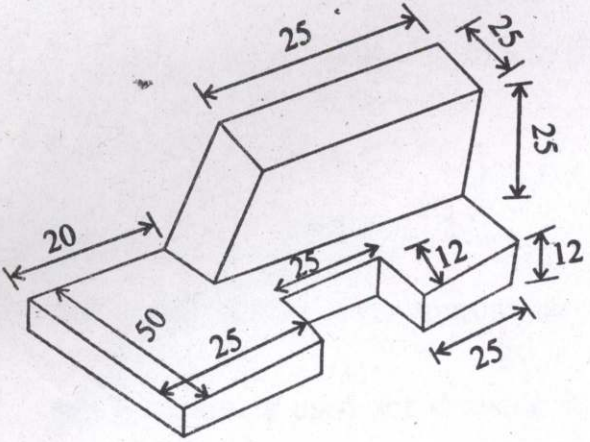
(b) A line AB, 90 mm long, is inclined at 30° to HP. Its end A is 12 mm above HP and 20 mm infront of the VP. Its front view measures 65 mm. Draw the top view and determine the inclination with VP. 8

6. Draw the orthographic view of an object using 1st angle projection. 15

(i) Front view

(ii) Top view

(iii) Both side views.



Dimensions are in mm.

7. (a) Draw the sectional front view, top view and a side view of a single riveted lap joint for 12mm thick plates. Show the pitch, margin and width of overlap. (Use snap head rivet). 10

(b) Draw any *two* rivets from the following : $2\frac{1}{2} \times 2 = 5$

(i) Pass head rivet

(ii) Conical

(iii) Snap head rivet

(iv) Flat counter sunk rivet.