Total number of printed pages:6

D/1st/DME104

2021

ENGINEERING DRAWING

Full Marks: 100

Time: Four hours

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

Q.1 *is mandatory. Answer* ***any four*** *questions from* Q.2 *to* Q.8

1. a) (i) The edge of the board on which T-square is made to slide is called its. 1x10=10

a) working edge
b) straight edge
c) chisel edge
d) bevel edge

(ii) To draw or measure angles, _____ is used.

a) Set-squares
b) T-square
c) Protractor.
d) Compass

(iii) A circle will appear on isometric drawing as a

a) Ellipse
b) Cycloid
c) Circle
d) Parabola

(iv) In first angle projection method, object is assumed to be placed in

a) First quadrant
b) Second quadrant
c) Third Quadrant
d) Fourth quadrant

(v) The following line is used for visible outlines
a) Continuous thick
b) Continuous thin
c) Chain thin line
d) Short zigzag thin

(vi) The dotted lines represents

a) Hidden edges
b) Projection line
c) Centre line
d) Hatching line

(vii) The Length: Width in case of an arrow head is

a) 1:1
b) 2:1
c) 3:1
d) 4:1

(viii)The internal angle of regular hexagon is ___ degree.

a) 72
b) 108
c) 120
d) 150

(ix) 'Representative fraction' (RF) is defined as

a) Length of an object in the drawing / Actual length of the object
b) Length of an object in the drawing / Isometric length of the object
c) Actual length of the object / Length of an object in the drawing
d) Isometric length of the object / Length of an object in the drawing

(x) A point 'P' is above Horizontal Plane (HP) and in front of Vertical Plane (VP). The point is in

a) First quadrant
b) Second quadrant
c) Third quadrant
d) Fourth quadrant

b) Fill in the blanks 1 x 5=5

(i) The two parts of the T-square are ____ and ___

(ii) To remove unnecessary lines _____ is used.

(iii) The isometric projection of a sphere is a ____

(iv) Writing of titles, notes etc. on a drawing is called ____

(v) The front view of a rectangle, when its plane is parallel to HP and perpendicular to VP, is ____

c) Write True/False 1 x 5=5

(i) In a butt joint the plates to be connected overlap each other.
(ii) When the measurements are used in three units, plain scale is used.

(iii) All the angles of equilateral triangle are 60 degrees.
(iv) Bow divider is used for setting-off short equal distances.
(v) A screw is specified by its minor diameter.

2. a) Draw a scale of 1: 60 to show metres and decimetres and long enough to measure up to 6 metres. 10

b) Draw the following with sketches (Any two). 5x2=10

(i) Outlines
(ii) Section lines
(iii) Border lines

3. a) A point P is 15 mm above the H.P. and 20 mm in front of the V.P. Another point Q is 25 mm behind the V.P. and 40 mm below the H.P. Draw projections of P and Q keeping the distance between their projectors equal to 90 mm. 10

Draw straight lines joining (i) their top views and (ii) their front views.

b) The length of the top view of a line parallel to the V.P. and inclined at 45° to the H.P. is 50 mm. One end of the line is 12 mm above the H.P. and 25 mm in front of the V.P. Draw the projections of the line and determine its true length. 10

4. a) Giving importance on the shape of letters write the following in single stroke vertical style. Consider the height of letters 35 mm. 10

GROW MORE FOOD

b) Write short notes on following with appropriate sketches. 5x2=10

i) Dimension line
ii) Extension line

5. a) Draw the isometric view of the frustum of the cone as shown in the figure 1. 11

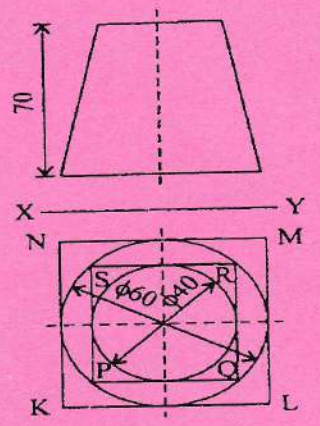

Fig. 1

b) Show by means of neat, dimensioned sketches the shapes of the following rivets of diameter 25 mm: (Any three) 9

(i) Cup head
(ii) Pan head
(iii) Conical head
(iv) Countersunk head.

6. a) Draw the three views of a hexagonal nut for a 28 mm diameter bolt, according to approximately standard dimensions. 10

b) Sketch neatly two views of a double riveted lap joint using rivets in zig-zag arrangement. 10
Take thickness of plates 10 mm and diameter of rivets 20 mm. Give all other dimensions.

7. a) Construct a regular hexagon of side 50 mm. 7

b) Inscribe a circle in an equilateral triangle of side 50 mm. 7

c) Construct a rectangle of sides 65 mm 40 mm long 6

8. Fig. 2 shows pictorial view of an object. Draw the following views: (Use first angle projection method) 20

(i) Front view
(ii) Top view
(iii) Side view from left.

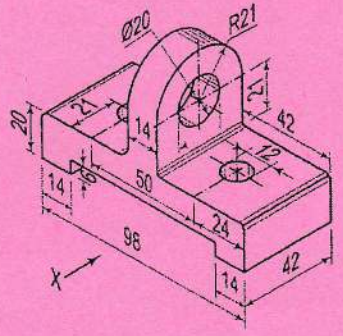

Fig. 2