Jharkhand University of Technology, Ranchi

1st Semester Diploma Examination, 2022

Subject : Engg. Graphics-I

Time Allowed : 4 Hours

Subject Code : 105

Full Marks : 40

Pass Marks : 13

Answer in your own words.

Answer any five *questions in which* Question No. 1 *is compulsory and* answer *any four* from rest question.

All questions carry equal marks.

1. Multiple choice questions: 1×8=8

(i) Which of the following represents reducing scale?

(a) 1 : 1

(b) 1 : 2

(c) 2 : 1

(d) 10 : 1

(ii) Representative fraction (RF) is defined as

(a) length of an object in the drawing / actual length of the object

(b) actual length of the object / length of an object in the drawing

(c) length of an object in the drawing / isometric length of object

(iii) The principal views associated with orthographic projection are

(a) Front view

(b) Right side view

(c) Top view

(d) All of these

(iv) When a line is parallel to a plane, the projection of the line on to that plane will be its _____ length.

(a) shortened

(b) true

(c) enlarged

(d) point

(v) A straight line is the _____ distance between two points.

(a) shortest

(b) longest

(c) half

(d) infinite

(vi) A plane surface has _____ dimension(s).

(a) one

(b) two

(c) three

(d) no dimension

(vii) A regular hexagonal lamina has

    (a) equal sides   (b) equal angles

    (c) Both (a) and (b)   (d) None of these

(viii) A solid has _____.

    (a) zero dimension   (b) one dimension

    (c) two dimensions   (d) three dimensions

2.   (a) Write in single stroke capital letters in the ratio 6 : 5 with height of 25mm, the following statement.   6

<p align="center">'Honesty is the best policy.'</p>

    (b) Compare first angle and third angle projections.

<p align="center">Or,</p>

A hexagonal prism, edge of base 25mm and height 55mm rest on one at its base edges in HP such that its axis is parallel to V.P. Draw the projection of solid when its base makes an angle of 45° with H.P   8

3. Construct a diagonal scale of 1 : 50 to show metre, decimetre and centimetre and long enough to measure upto 6 metres. Also indicate on this scale a distance of 4m 5dm and 4·54m.   8

4. The major axis of an ellipse is 130mm and the minor axis 80mm long. Draw the ellipse by 'arc of circle method'.   8

5.   (a) A point B is 30mm in front of V.P. and 20mm above H.P. Draw the projections of the point. 2

    (b) A line AB, 65mm long, has its end A 20mm above the H.P. and 25mm in front of the V.P. The end B is 40mm above the H.P. and 65mm in front of the V.P. Draw the projections of AB and show its inclinations with the H.P. and the V.P.   6

6. A right circular cone of 60mm base diameter and axis 80mm long resting on its base on the H.P. It is cut by the section plane incline at 45 degree to H.P. and perpendicular to V.P., bisecting the axis of cone. Draw

    (i) Front view,
    (ii) Sectional top view,
    (iii) True shape of section,
    (iv) Development of lateral surfaces.

   8

7. Draw the projections of a cube 25mm when it is resting on one of its corners of base in such a way that the base makes an angle of 45° with H.P. and the vertical edges of the cube equally inclined to the V.P.

   8

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