AR16

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI
(AUTONOMOUS)
I B.Tech I / I B.Tech II Semester Supplementary Examinations, November-2021
ENGINEERING DRAWING
(Common to all Branches)

Time: 3 Hours　　　　　　　　　　　　　　　　　　　　　**Max Marks: 70**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

UNIT-I

1. Draw an ellipse by using concentric circles method by taking major axis as 100 mm and minor axis as 60 mm.　14M

(OR)

2. Draw an involute of a circle of 40 mm diameter. Also, draw a normal and a tangent to it at a point 100 mm from the centre of the circle.　14M

UNIT-II

3. 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.　14M

(OR)

4. 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. draw straight lines joining (i) their top views and (ii) their front views.　14M

UNIT-III

5. Draw the projections of a circle of 50 mm diameter, having its plane vertical and inclined at 30° to the V.P. its centre is 30 mm above the H.P. and 20 mm infront of the V.P.　14M

(OR)

6. The top view of a plate, the surface of which is perpendicular to the V.P. and inclined at 60^0 to the H.P. is a circle of 60 mm diameter. Draw its three views.　14M

UNIT-IV

7. A hexagonal prism, base 30 mm side and axis 75 mm long, has an   14M
    edge of the base parallel to the H.P. and inclined at 45^0 to the V.P. Its
    axis makes an angle of 60^0 with the H. P. Draw its projections.

                                   (OR)

8. Draw the projections of a cone, base 75 mm diameter and axis 100 mm   14M
    long, lying on the H.P. on one of its generators with the axis parallel to
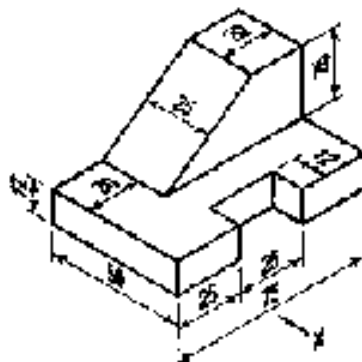   the V.P.

UNIT-V

9. Draw the isometric projection of the block whose orthographic   14M
    projections are shown in figure below.
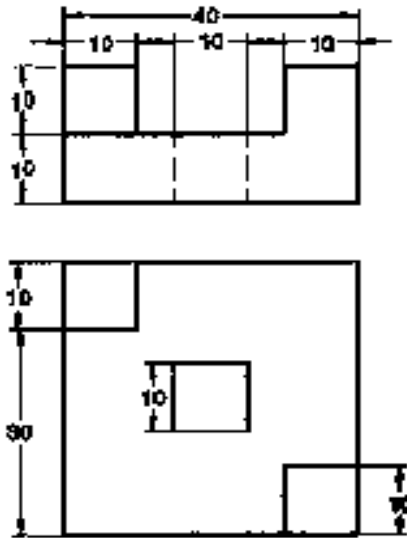
                                   (OR)

10. Draw the front view, top view and right hand side view of the block   14M
    shown in the below figure.

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AR13

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ENGINEERING DRAWING
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Time: 3 Hours   Max Marks: 70

PART-A
ANSWER ALL QUESTIONS   [1 x 10 = 10 M]

1. a) Give the difference between reducing and increasing scales.
    b) What is meant by an orthographic projection?
    c) Define representative fraction(R.F) .
    d) What are the different types of solids?
    e)   What do you mean by right regular prism?
    f) State the relation between true length and isometric length?
    g) What type of triangles is there in a regular square pyramid?
    h) A cylinder is obtained from _____
    i) How are the projections of a point marked for its front view and top view?
    j) If a line is parallel to both VP and HP, in which view we can get the true length of the line?

PART-B
Answer one question from each unit   [5x12=60M]
UNIT-I

2. If 1 centimetre long line on a map represents a real length of 4 meters. Calculate the R.F. and draw a plain scale long enough to measure up to 50 meters. Show a distance of 44 m on it.   12

(OR)

3. Draw an ellipse by using concentric circles method by taking major axis as 100 mm and minor axis as 60 mm.   12

UNIT-II

4. 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. draw straight lines joining (i) their top views and (ii) their front views.   12

(OR)

5. a) Draw the projections of the following points on the same ground line, keeping the Projectors 30 mm apart.   6
        i) Point A, 20 mm below the H.P. and 45 mm behind the V.P.
        ii) Point B, on the H.P. and 45 mm in front of the V.P.
        iii) Point C, 30 mm above the H.P and 10 mm in front of the V.P.
    b) Draw the projections of a straight line AB, 70 mm long when inclined at 45° to HP with one end 20 mm above HP and parallel to and 30 mm in front of VP.   6

UNIT-III

6. Draw the projections of a circle of 50 mm diameter, having its plane vertical and inclined at 30° to the V.P. its centre is 30 mm above the H.P. and 20 mm infront of the V.P.   12

(OR)

7. A thin circular plate of 70 mm diameter is resting on its circumference such that its plane is inclined 60° to the HP and 30° to the VP. Draw the projections of the plate.   12
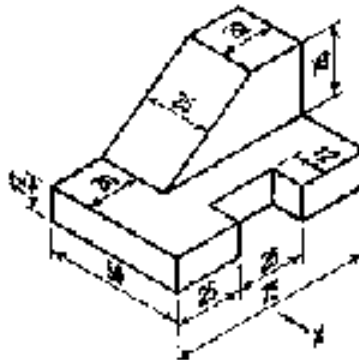
UNIT-IV

8. Draw the projections of a cone, base 75 mm diameter and axis 100 mm long, lying on the H.P. on one of its generators with the axis parallel to the V.P.   12

(OR)

9. Draw the projections of a hexagonal prism, side of base 25 mm and axis 60 mm long, lies with one of its rectangular faces on the HP such that the axis is perpendicular to the VP.   12

UNIT-V

10. Draw the front view, top view and right hand side view of the block shown in the below figure.   12

(OR)

11. Draw the isometric view: 12