Subject : Engineering Drawing (1st Paper)

Subject Code: 180

Time : 3 Hours

Full Marks : 60

[N.B. All questions are of equal value]

Group-A : Plane Geometry

1. Draw a triangle whose length of base is 45 mm. and proportion of angles are 3:4:5 have given.

Or,

Draw a tangent from any external point on the circumference of an ellipse.

2. Draw a square equal in half of area to a given square.

Or,

Draw a diagonal scale of meter, decimeter and centimeter measures taking the representative fraction $\frac{1}{50}$. Mark 2 m, 6 decimeter and 5 centimeters of 2.65 meters on the scale.

Group B: Solid Geometry

3. A side of a square of a square pyramid is 30 mm. and height is 60 mm. The pyramid is resting on an edge on horizontal plane in such a way staying that, its axis line is parallel to both plane. Draw projection of the pyramid.

Or,

The each sides of base of a pentagonal prism are 25 mm. and height is 65 mm. The prism is resting on its an small edge on horizontal plane in such a way staying that, its pentagonal surface making an angle of 45° with horizontal plane and its long sides are making at an angle of 30° to the vertical plane. Draw projection of the prism.

4. A cube of 30 mm. sides resting on its corner on horizontal plane in such a way staying that, its base making at an angle of 30° with horizontal plane and axis line is 40° with vertical plane. Draw projection of the cube.

Or,

The diameter of base of a cylinder is 40 mm. and height is 70 mm. The cylinder stands on the ground vertically. A cutting plane keeping at an angle of 45° to the horizontal plane and perpendicular to the vertical plane cut at the middle point of its axis. Draw surface development of lower portions of the cylinder.

Group C: Technical Drawing

5. Draw the actual view and write dimension of the block with the help of following views.

Given views.
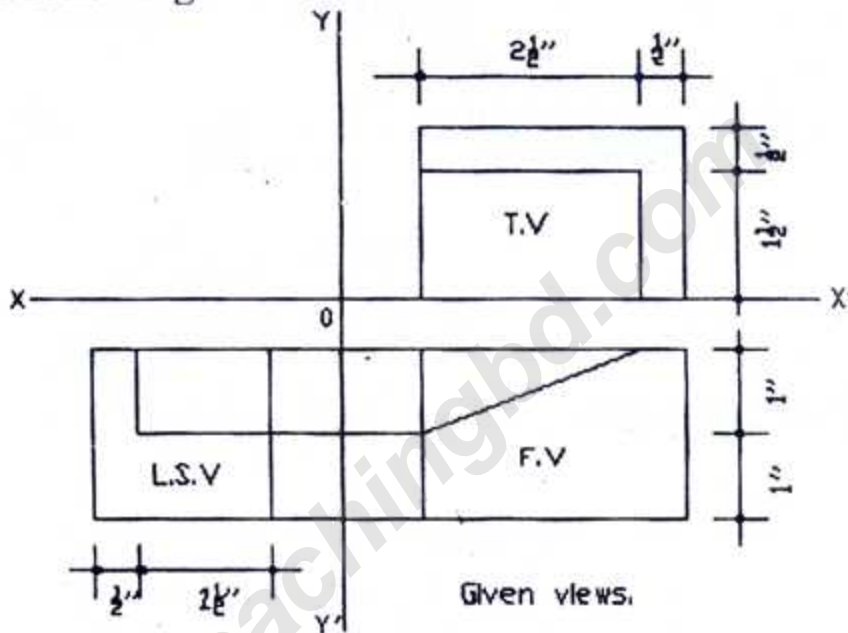
Draw the front view of a single shutter full panel door. Measurement of the door is 210 cm. × 100 cm. [Scale 1:10]

6. Draw top view of a double riveted lap joint (chain) showing six rivets.

Diameter of the rivet, (D) = 12 mm. Pitch, (P) = 40 mm. Pitch of row (P_r) = 32 mm. Lap, (L) = 18 mm.

Or,

Draw sectional front view of a wall from foundation bed up to floor with the help of following data:—

Depth of foundation = 2'-3". Width of foundation = 2'-9". Height of the plinth = 2'-0". Width of plinth's wall = 15". Take other required measurements logically. [Scale 1" = 1'-0"]