Question Paper Code	13071

B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2024
First Semester
Civil Engineering
(Common to All Branches)
20ESGE101 - ENGINEERING GRAPHICS
Regulations - 2020

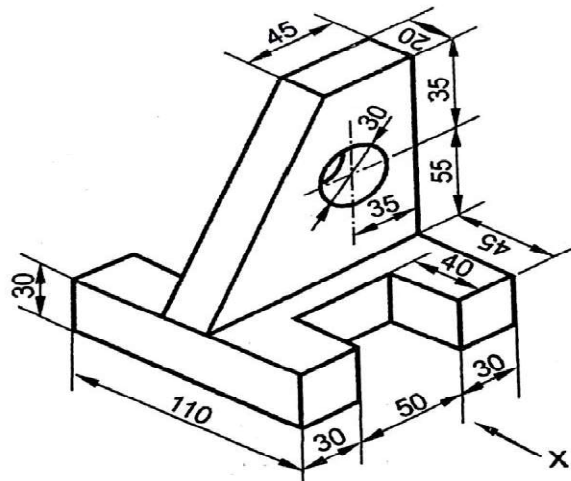Duration: 3 Hours   Max. Marks: 100

PART - A (5 × 20 = 100 Marks)
Answer ALL Questions

			Marks	K – Level	CO

1. a) Construct a hyperbola, given the distance of the focus from the directrix is 50mm and the eccentricity is 3/2. — 20 K3 CO1

OR

   b) Draw free hand sketches of the front, top and side views of the block given below. — 20 K3 CO1

All the dimensions are in mm

2. a) A line AB measuring 80 mm is inclined at an angle of 30° to HP and 45° to VP. The point A is 20 mm above HP and 30 mm in front of VP. Draw its projections. — 20 K3 CO2

OR

   b) A rectangular plate of side 50 x 25 mm is resting on its shorter side on HP. Its surface is inclined at 60° to HP and side inclined at 30° to VP. Draw its projections. — 20 K3 CO2

3. a) A cone of base diameter 40 mm and axis length of 65 mm is resting on HP on a point on the circumference of the base with its axis inclined at an angle of 40° to the HP and parallel to the VP. Draw its Projections. — 20 K3 CO3

OR

   b) A pentagonal prism of base side 30 mm and axis length 60 mm is on VP on one of its base edge with its axis inclined at 45° to VP and parallel to HP. Draw its Projections. — 20 K3 CO3

4. a) A square pyramid has a base side of 25 mm and altitude 60 mm. It rests with its base on HP such that one side of the parallel to VP. The pyramid is cut by a plane which bisects the axis and is inclined at 45° to HP. Draw the front view, sectional top view and true shape of the section.   *20   K3   CO4*

OR

   b) A cylinder of base diameter 40 mm and axis length of 60 mm is resting on the HP on its base is cut by a plane inclined at 60° to the HP and perpendicular to the VP. The cutting plane is passing through a point on the axis which is at a distance of 30 mm from the top surface. Draw the development of the lateral surface of the remaining portion of the cylinder.   *20   K3   CO4*

5. a) A hexagonal prism of base edge 20 mm and height 60 mm is resting on the HP on its base with two of its rectangular faces parallel to the VP. It is cut by a plane inclined at an angle of 30° to the HP cutting the axis of the prism at height of 45 mm from its base. Draw the isometric view of the truncated prism.   *20   K3   CO5*

OR

   b) A cube of 35 mm edge lies with a face on the ground and an edge on the picture plane. All the vertical faces are equally inclined to picture plane. The station point is 80 mm in front of the PP and 60 mm above the ground. The edge of the cube in contact with the picture plane is situated 45 mm to the right of the station point. Draw the perspective projection of the cube.   *20   K3   CO5*