| Question Paper Code | 12547 |

B.E./B.Tech - DEGREE EXAMINATIONS, NOV / DEC 2023
First Semester
Civil Engineering
(Common to All Branches)
20ESGE101 - ENGINEERING GRAPHICS
(Regulations 2020)

Duration: 3 Hours   Max. Marks: 100

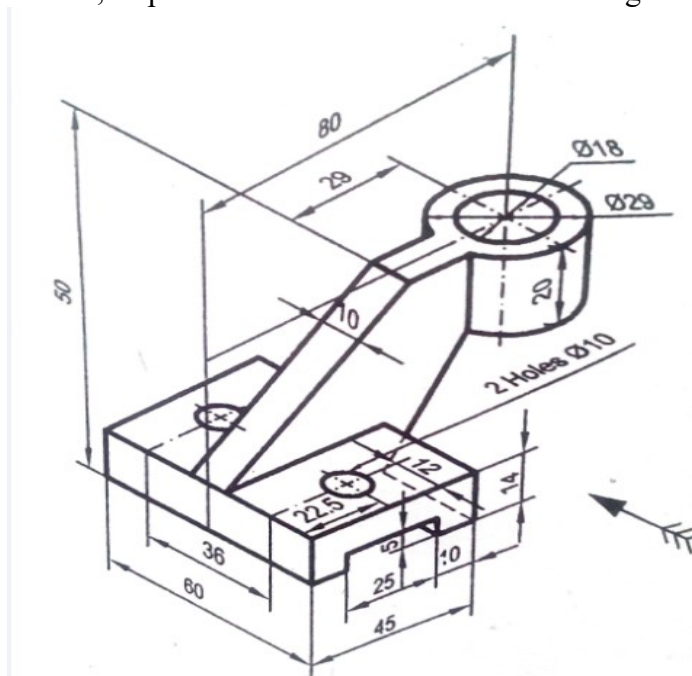### PART - A (5 × 20 = 100 Marks)
Answer ALL Questions

Marks,
K-Level , CO

1. a) Construct a hyperbola when the distance between the focus and directrix is 40mm the eccentricity is 4/3. Draw a tangent and normal at any point on the hyperbola.   *20,K2,CO1*

OR

  b) Draw the Front, Top and Left side view of the below diagram.   *20,,K2,CO1*

2. a) The line NS, 80 mm long has its end N, 10 mm above the HP and 15 mm in front of the VP. The other end S 65 mm above the HP and 50 mm in front of the VP. Draw the projections of the line and find the true inclinations with the HP and VP.   *20,,K3,CO2*

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create   **12547**

b) A regular pentagonal lamina of 30mm sides has one edge in HP and inclined at angle of 30° to VP. Draw its projections when its surface is inclined at 45° to HP.

20,K3,CO2

3. a) A hexagonal pyramid of base side 30 mm and axis length 60mm is resting on HP on one of its triangular faces with its axis parallel to VP. Draw its projections.

20,K3,CO3

OR

b) A pentagonal prism, side of base 25mm and axis50mm long, rest with one of its edges on HP such that the base containing that edge makes an angle of 30^0 to HP and axis parallel to VP. Draw its Projections.

20,K3,CO3

4. a) A cone base 40mm diameter and axis 60mm long., rest with its base on HP. it is cut by a section plane perpendicular to VP, parallel to one of the end generator and passing through a point on the axis 25mm from the apex. Draw sectional top view and true shape of the section.

20,K4,CO4

OR

b) A cylinder of diameter 40 mm and height 50 mm is resting vertically on one of its end on the HP. It is cut by a plane perpendicular to the VP and inclined at 30° to the HP. The plane meets the axis at a point 30 mm from the base. Draw the development of the lateral surface of the lower portion of the truncated cylinder.

20,K4,CO4

5. a) A cone of base diameter 50 mm and height 70 mm stands on HP with its base. It is cut by a cutting plane inclined to 30^0 to HP cutting the axis of the cone at the height 40 mm from its base. Draw the isometric view of the remaining part of the cone.

20,K4,CO5

OR

b) A pentagonal pyramid of 30 mm base side and axis height 40 mm is standing on its base on the ground plane with the base side parallel to and 25 mm behind PP. The central plane is 35 mm to the left of the apex and the station point is 45 mm in front of PP and 20 mm above the ground plane. Draw the perspective view of the pyramid.

20,K4,CO5