Roll No. | | | | | | | | | | |

ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E / B. Tech (Full Time) END SEMESTER EXAMINATIONS – APRIL/ MAY 2025

DEPARTMENT OF MECHANICAL ENGINEERING

I Semester

GE5151 Engineering Graphics

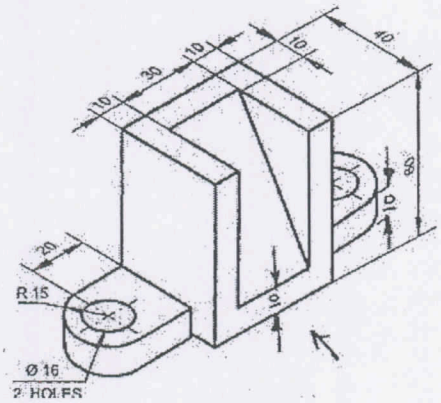
Regulation: 2019

Time: 3 Hours | Max. Marks 100

PART- A (5 x 20 = 100 Marks)

Answer all the Questions

Q.No	Questions	Marks
1.	a) Construct a hyperbola when the distance between the focus and the directrix is 50 mm and the eccentricity is 3/2. Draw the tangent and normal at any point on the curve.	20
	OR	
	b) Draw the free hand sketching of top, front, and side views of the part shown in Figure below: (All dimensions are in mm)	20



2.	a) A line AB of true length 80 mm has its end point A 50 mm above HP and 60 mm infront of VP and its another point B 20 mm above HP and 30 mm infront of VP. Draw its projections and find the true and apparent inclinations.	20
	OR	
	b) A thin square plate ABCD of 40 mm side is having its corner C on HP. Diagonal AC is inclined at an angle of 40° to HP and diagonal BD is inclined at an angle of 30° to VP and parallel to HP. Draw the projections.	20
3.	a) A rectangular prism of base sides 30 mm × 60 mm and height 80 mm is resting on VP by shorter edge of the base. The lateral face corresponding to the resting edge is inclined to VP by 30° and the front view of the resting edge is inclined to HP by 50°. Draw its projections.	20
	OR	
	b) A cone of base circle diameter 50 mm and axis length 80 mm is freely suspended from a point on its base such that the apex is touching HP. Draw its projections.	20

Q.No	Questions	Marks
4.	a) A cylinder of 60 mm diameter and 75 mm length has its axis parallel to VP. It is cut by a plane inclined to HP by 50° and bisects the axis. Draw the sectioned top, front views and true shape of the section.	20
	OR	
	b) A hexagonal pyramid of base side 20 mm and axis height 60 mm resting on HP with two of its base sides parallel to VP. It is sectioned by a plane passing through a point on the apex 20 mm below the apex and inclined to 40° with HP. Draw its lateral surface development.	20
5.	a) Draw the isometric view of a square slab of dimension 80 mm × 80 mm × 20 mm placed on a cylinder of base diameter 50 mm and length 80 mm such that one of the lateral sides of the slab is parallel to VP and the center of gravities of both solids are collinear.	20
	OR	
	b) A square prism of 50 mm side and 80 mm length is lying on the ground plane on one of its square faces, in such a way that one of its rectangular faces is parallel to and 15 mm behind the picture plane. The observer is looking the prism from a point which is 60 mm infront of the PP and 100 mm above the ground plane. The central plane is 60 mm away from the axis of the prism towards the left. Draw the perspective projection of the prism.	20