Name:

Enrolment No:

UPES

End Semester Examination, May 2025

Course: Engineering Graphics **Semester : II**

Program: B. Tech/ Biotechnology **Duration : 3 Hours**

Course Code: MECH1001 **Max. Marks: 100**

Instructions: Attempt all the questions. Use suitable data if missing.

Section A			
S. No.		**Marks**	**COs**
Q 1	Define orographic projection. Also, differentiate between first angle and third angle projection method.	**4**	**CO1**
Q 2	Give the classification of solids with suitable examples.	**4**	**CO1**
Q 3	Explain in short, the purpose of sectioning of a solid.	**4**	**CO1**
Q 4	A 90 mm long line is parallel to both the principal planes (HP & VP). Draw its projection if one end of the line is 20 mm below the HP and in the VP.	**4**	**CO1**
Q 5	Line PQ 60 mm long is placed in the first quadrant. One end of the line is 20 mm above HP and 30 mm in front of VP. Draw its projections if it is 30^{o} inclined to VP and parallel to HP.	**4**	**CO1**
Section B			
Q 6	The top view of a 90 mm long line AB measures 75 mm and makes an angle 45^{0} with reference line (xy). End A of the line is 20 mm above the HP and 10 mm in front of the VP. Draw the projections of the line and find its true inclinations.	**10**	**CO2**
Q 7	A rectangular lamina of 20 mm x 50 mm side appears as a square of 20 mm side in its front view. Draw the projection of the lamina. Also, find its inclination with the VP.	**10**	**CO2**
Q 8	Draw the projections of a pentagonal prism, base 30 mm edge and axis 50 mm long, having its base on the H.P and an edge of the base parallel to and away from the VP. Also draw its side view.	**10**	**CO2**
Q 9	A hexagonal pyramid, base side 30 mm and axis 50 mm long, has its base on the V.P. and an edge of the base is perpendicular to the H.P. Draw its isometric view. OR A hexagonal prism, base side 30 mm and axis 50 mm long, has its base on the V.P. and an edge of the base is perpendicular to the H.P. Draw its isometric view.	**10**	**CO3**

Section C			
Q 10	A pentagonal pyramid is resting on HP on its base with one of the edges of the base is parallel to and nearer to VP. It is cut by a section plane which is perpendicular to VP, inclined at 30 ^{o} to the HP and bisecting the axis. Draw the development of the remaining part. Side of base 3 cm long; axis 6 cm long.	**20**	**CO3**
Q 11	A square pyramid, base 30 mm side and axis 65 mm long, is resting on its base on the HP with one of the edges of the base parallel to the VP. It is cut by a section plane, perpendicular to the VP, inclined at 45° to the HP. and intersecting the axis at a point 30 mm above the base. Draw the front view, sectional top view, and true shape of the section. OR A cone, 50 mm base diameter and 70 mm axis is standing on its base on HP. It cut by a section plane which is perpendicular to VP and inclined at 45° to HP and bisecting the axis. Draw projections, sectional views and true shape of section.	**20**	**CO3**