Name: Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2022

Course: Engineering Graphics   **Semester**   **: II**
rogram: B. Tech ASE, EE, ECE, RSEE, APE (UP)   **Time**   **: 03 hrs.**
Course Code: MECH1005   **Max. Marks : 100**

Instructions:

SECTION A
(5Qx4M=20Marks)

S. No.		Marks	CO
Q 1	Explain clearly the difference between the first-angle projection method and the third-angle projection method.	4	CO1
Q 2	A point A is situated in the first quadrant. Its shortest distance from the intersection point of H.P., V.P. and auxiliary plane is 60 mm and it is equidistant from the principal planes. Draw the projections of the point and determine its distance from the principal planes.	4	CO2
Q 3	Define the perspective projection. Explain the significance of it.	4	CO1
Q 4	Explain the following in CAD 1. Translation 2. Rotate 3. Shear 4.Scaling	4	CO1
Q 5	Show by sketches the difference between (i) Combined Dimensioning and (ii) Progressive Dimensioning. What are the advantages of one above the other?	4	CO1

SECTION B
(4Qx10M= 40 Marks)

Q6	The two points A and B are in the H.P. The point A is 30 mm in front of the V.P., while B is behind the V.P. The distance between their projectors is 75 mm and the line joining their top views makes an angle of 45º with XY. Find the distance of the point B from the V.P.	10	CO2
Q7	A thin rectangular plate of sides 60 mm and 30 mm has its shorter side in the VP. Its front view is a square of 30 mm long sides. Find its inclination with the VP.	10	CO2
Q8	Draw the projections of a pentagonal pyramid, base side 30 mm and axis 50 mm long, having its base on the HP and an edge of the base parallel to the VP.	10	CO3
Q9	A line AB, 75 mm long, is inclined at 45° to the H.P. and 30° to the V.P. Its end B is in the H.P. and 40 mm in front of the V.P. Draw its projections. (OR)	10	CO2

	The front view of a 75 mm long line measures 55 mm. The line is parallel to the H.P. and one of its ends is in the V.P. and 25 mm above the H.P. Draw the projections of the line and determine its inclination with the V.P.		
	SECTION-C **(2Qx20M=40 Marks)**		
Q10	Draw the isometric view of a pentagonal prism, base 25 mm side and axis 50 mm long, resting on the V.P. with its axis perpendicular to the V.P. and one of its base sides parallel to H.P. Develop the surface of the prism.	**20**	**CO3**
Q11	A cylinder of 40 mm diameter, 60 mm height and having its axis vertical, is cut by a section plane, perpendicular to the V.P., inclined at 45° to the H.P. and intersecting the axis 32 mm above the base. Draw its front view, sectional top view, sectional side view and true shape of the section (OR) A pentagonal prism, 30 mm base side & 50 mm axis is standing on HP on it's base whose one side is perpendicular to VP. It is cut by a section plane 45° inclined to HP, through mid-point of axis. Draw FV, Sectional TV & Sectional SV. Also draw true shape of section.	**20**	**CO4**