Name:	
Enrolment No:	UPES UNIVERSITY OF TOMORROW

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
Supplementary Examination, December 2023

Course: Engineering Graphics   **Semester: I**
Program: B. Tech ADE, APE (Gas), Civil   **Time: 3 hrs**
Course Code: MECH1005   **Max. Marks: 100**
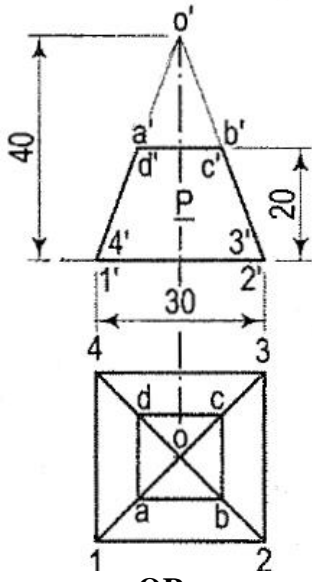
SECTION A
(5Qx4M=20Marks)

S. No.	Questions	Marks	CO
Q 1	Define orthographic projection. Describe briefly the method of obtaining an othographic projection of an object.	4	CO1
Q2	Show by sketches the difference between (i) chain dimensioning and (ii) parallel dimensioning. What are the advantages of one above the other?	4	CO1
Q3	Explain the following in CAD 1. Reflection 2. Rotate 3. Shear 4.Scaling	4	CO1
Q4	A point P is 20 mm below H.P. and lies in the third quadrant. Its shortest distance from xy is 40 mm. Draw its projections.	4	CO1
Q5	Define the perspective projection. Explain the significance of it.	4	CO1

SECTION B
(4Qx10M= 40 Marks)

Q1	A line PQ, 90 mm long, is in the H.P. and makes an angle of 30° with the V.P. Its end P is 25 mm in front of the V.P. Draw its projections	10	CO2
Q2	A square ABCD of 40 mm side has a corner on the H.P. and 20 mm in front of the V.P. All the sides of the square are equally inclined to the H.P. and parallel to the V.P. Draw its projections and show its traces.	10	CO2
Q3	Draw the projections of a cylinder 75 mm diameter and 100 rnm long, lying on the ground with its axis inclined at 30o to the V.P. and parallel to the ground.	10	CO3

Q4	Draw the development of the lateral surface of the frustum of the square pyramid shown in figure below.		
		10	CO2
	OR		
	Draw the development of the lateral surface of the frustum a cone of base diameter 50mm and axis 80mm long resting on horizontal plane by its base, Take height of frustum 60mm.		
SECTION-C **(2Qx20M=40 Marks)**			
Q1	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 and develop its surface.	20	CO3
Q2	A cone 40 mm diameter and 50 mm axis is resting on one generator on HP which is parallel to VP. Draw it's projections if it is cut by a horizontal section plane through it's base center. **OR** A pentagonal pyramid, base 30 mm side and axis 65 mm long, has its base horizontal and an edge of the base parallel to the V.P. A horizontal section plane cuts it at a distance of 25 mm above the base. Draw its from view and sectional top view.	20	CO4