


<b>Name:</b>	 <b>UPES</b> UNIVERSITY WITH A PURPOSE
<b>Enrolment No:</b>	

**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**  
**End Semester Examination, December 2021**

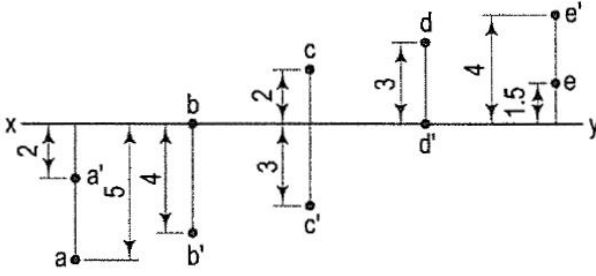
**Course: Engineering Graphics**  
**Program: B. Tech ADE, AM&NT, FSE, Civil, Mechanical,**  
**Mechatronics, Chemical, APE-(Gas)**

**Semester: I**  
**Time: 3 hrs**

**Course Code: MECH1005**

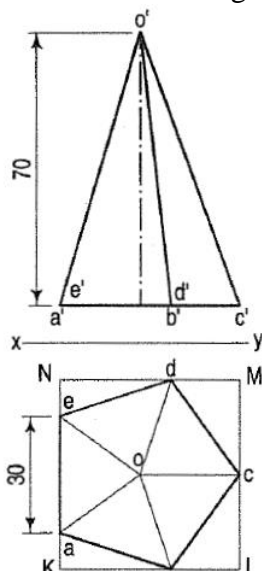
**Max. Marks: 100**

**SECTION A**

S. No.	Questions	Marks	CO
Q 1	Write the correct line type for following: 1. Centre lines, locus lines and pitch circles are drawn as _____ 2. Dimension lines, hatching and extension lines are drawn as _____ 3. The position of cutting plane is shown by _____ 4. Long breaks are shown by _____	4	CO1
Q2	Explain clearly the difference between the first-angle projection method and the third-angle projection method.	4	CO1
Q3	Define the perspective projection. Explain the significance of it.	4	CO1
Q4	Projections of various points are given in figure below. State the position of each point with respect to the planes of projection, giving the distances in centimetres. <div style="text-align: center;">  </div>	4	CO1
Q5	Explain the following in CAD 1. Translation                      2. Rotate                      3. Shear                      4. Scaling	4	CO1

**SECTION B**

Q1	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.	10	CO2
Q2	A regular pentagon of 25 mm side has one side on the ground. Its plane is inclined at 45° to the H.P and perpendicular to the V.P. Draw its projections.	10	CO2

Q3	<p>The projection of pentagonal pyramid is shown in figure below. Draw its isometric view.</p> 	10	CO3
Q4	<p>Draw the development of the lateral surface of frustum of a square pyramid, side of the base 20 mm long and all the sides of the base equally inclined to the V.P. height of axis is 40mm and the height of the frustum is 30mm.</p> <p style="text-align: center;"><b>OR</b></p> <p>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.</p>	10	CO2
<b>SECTION C</b>			
Q1	<p>Draw the projections of a pentagonal prism, base 25 mm side and axis 50 mm long, resting on one of its rectangular faces on the H.P., with the axis inclined at <math>45^\circ</math> to the V.P.</p>	20	CO3
Q2	<p>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 <math>45^\circ</math> 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.</p> <p style="text-align: center;"><b>OR</b></p> <p>A square pyramid, base 40 mm side and axis 65 mm long, has its base on the H.P. and all the edges of the base equally inclined to the V.P. It is cut by a section plane, perpendicular to the V.P., inclined at <math>45^\circ</math> to the H.P. and bisecting the axis. Draw its sectional top view, sectional side view and true shape of the section.</p>	20	CO4