UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2019

Course: Engineering Graphics Semester: II
Course Code: MECH1004
Programme: BTech- APE- GAS, APE-UP, CE+RP, Mechanical
Time: 03 hrs. Max. Marks: 100

SECTION A

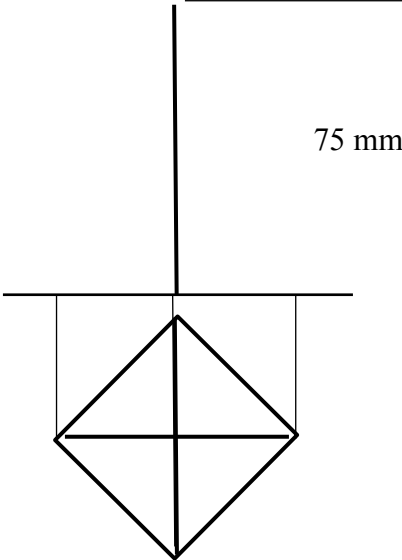| S. No.		Marks	CO
Q 1	Explain the difference between first angle and third angle projection.	5	CO1
Q 2	Describe the use of any five types of lines used in engineering drawing.	5	CO1
Q 3	Explain translation and rotation operation in computer graphics.	5	CO1
Q 4	Enlist different types of analytic and synthetic surfaces.	5	CO1
	SECTION B		
Q 5	Point A is 20 mm above HP, 30 mm in front of VP and 25 mm in front of PP. Find out the shortest distance from the intersection of HP and VP.	8	CO2
Q 6	Line AB of 50 mm length is 30° inclined to HP. One of the end-points is 10 mm from HP and 15 mm from VP. Draw the projection of line by considering the line lies in (a) 1st quadrant (b) 4th quadrant.	8	CO2
Q 7	An isosceles triangle of base side 30 mm and slant height of 50 mm rests on one of the side, which is perpendicular to HP. Its surface is inclined in such a way that it looks like an equilateral triangle in the front view. Draw its projections.	8	CO2
	OR		
	A pentagon ABCDE of side 25 mm rest on the HP on one of its side AB, which is perpendicular to VP. The corner D is 30 mm above HP. Draw its projections.	8	CO2
Q 8	A square pyramid has base sides 30 mm and axis 70 mm. It lies on one of its triangular faces on HP and the base side associated with that face is perpendicular to the VP. Draw its projections.	8	CO2
Q 9	Draw the perspective projection of a point P, if the point is situated, (a) 15 mm in front of the picture plane and 20 mm above the ground plane (b) 15 mm behind the picture plane and 20 mm above the ground plane The station point is 35 mm above the ground plane and 40 mm in front of the picture plane and lies in a central plane 10 mm to the right of the point.	8	CO2
	SECTION-C		
Q 9	A cone of base diameter 40 mm and height 60 mm is resting on one of its generators on the HP. It is cut by a horizontal plane passing through the center of the base. Draw its projections and true shape.	20	CO3
Q 10	Draw the development and isometric view of the frustum of a triangular pyramid	20	CO3

having its base an equilateral triangle with side 35 mm and top with side 15 mm and height 40 mm, standing in a position as shown in Figure.
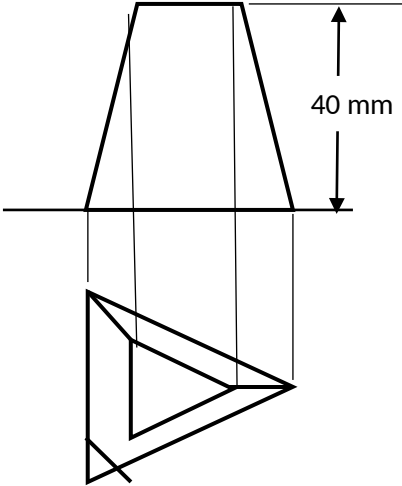
40 mm

| | **OR** | | |

Draw the development and isometric view of a square pyramid having its base 40 mm side and height 75 mm, standing in a position shown in Figure.

75 mm

20   **CO3**