

Name:

Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2019

Course: Engineering Graphics

Semester: I

Course Code: MECH1004

Programme: BTech- ASE, ASE-AVE, ADE, E&CE, EL, FSE, CivilE-Sz-Infra, GIE, GSE, Mechantronics

Time: 03 hrs.

Max. Marks: 100

SECTION A

S. No.		Marks	CO
Q 1	Classify different types of solids.	5	CO1
Q 2	Describe unidirectional and aligned system of dimensioning.	5	CO1
Q 3	Explain scaling and reflection operation in computer graphics with the help of transformation matrix.	5	CO1
Q 4	Describe ruled surface, surface of revolution, Bezier surface and fillet surface.	5	CO1

SECTION B

Q 5	Point P is 35 mm below HP and 25 mm behind VP, another point Q is 40 mm above HP and 20 mm behind VP. Draw the projections of the points if the line joining their front view makes 45° with XY.	8	CO2
Q 6	End P of a Line PQ is 20 mm above HP and 15 mm in front of VP. End Q is 50 mm above HP and the distance between their projectors is 45 mm. The line makes 40° angle from the VP. Draw the projections of the line and find TL, FVL, TVL, α , β , θ and ϕ .	8	CO2
Q 7	A circular plate of 60 mm diameter is resting on the VP and inclined at 45 degrees to the VP. Draw its projections.	8	CO2

OR

	A hexagon of side 25 mm rest on the HP on one of its side, which is perpendicular to VP. Its surface is inclined at an angle of 35° to the HP. Draw its projections.	8	CO2
Q 8	A Tetrahedron of 35mm sides is resting on the HP on one of its sides, which is perpendicular to the VP. A face connected to this side is perpendicular to the HP. Draw its projections.	8	CO2
Q 9	A point P is 20 mm behind the picture plane and 30 mm above the ground, another point Q is 15 mm in front of the picture plane and 25 mm above the ground. Draw the perspective projections of the two points if the station point is 40 mm above the ground plane and 50 mm in front of the picture plane and lies in a central plane 20 mm to the right of the point of point P and 10 mm to the left of point Q.	8	CO2

SECTION-C

Q 10	A square pyramid of base side 40 mm and height 60 mm is resting on one of its edges on the HP in such a way that one base diagonal is perpendicular to the VP. It is cut by a section plane passing through the corner on the HP and at an angle of 45° to the HP. Draw its projections and true shape.	20	CO3
Q 11	Draw the development and isometric view of the pentagonal pyramid with base side 30 mm and height 55 mm, resting on the HP with one of its base side perpendicular to the VP.	20	CO3
OR			
	Draw the development and isometric view of a hexagonal pyramid having its base 20 mm side and height 60 mm, standing in the HP with two base sides parallel to the VP.	20	CO3