UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, June 2021

Programme Name: B Tech (Food Technology)   **Semester** : II

Course Name : Engineering Graphics   **Time** : 03 hrs

Course Code : MECH 1005   **Max. Marks : 100**

Nos. of page(s) : 04
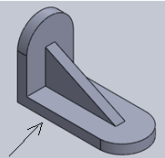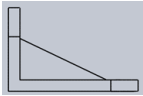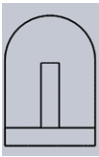
Instructions:

SECTION A

S. No.	MCQs	Marks	CO

Q 1	The dashed line represent
	   a) Hidden edge
	   b) Projection line
	   c) Centre line
	   d) Hatching line
		1.5	**CO1**

Q 2	The type of methods used for getting orthographic projections are
	   a) Second angle and third angle
	   b) First angle and third angle
	   c) First angle and fourth angle
	   d) Second angle and fourth angle
		1.5	**CO1**

Q 3	Identify the side view of the below isometric view. a) b) c) d)	1.5	**CO1**
Q 4	Center lines in orthographic sketches are represented by a) Dotted lines b) Short and long dashed lines c) Thin straight lines d) Very light thick lines	1.5	**CO1**
Q 5	In the combined dimensioning system, dimensions are arranged in straight line only. a) True b) False	1.5	**CO1**

Q 6	A line is parallel to horizontal plane and is at a distance of 10 units from it. Both the ends of line are 6 units away from the vertical plane. Which of the following statement is false? a) The line parallel to vertical plane b) The side view of line gives a point c) The length of line in front view is 10 units d) The length of line in top view is 6 units	1.5	CO2
Q 7	If FV of a line is parallel to XY, its TV gives TL. a) True b) False	1.5	CO2
Q 8	If TV of a line is a point, then the line is perpendicular to the VP. 1) True 2) False	1.5	CO2
Q 9	If a corner of a pentagonal plate is in the VP, then its TV will be a point on XY. 1) True 2) False	1.5	CO2
Q 10	A Square is placed perpendicular to vertical plane and inclined to horizontal, which of the following is true? a) Front view-line, top view- square b) Front view- line, top view- rectangle c) Front view –line, top view-line d) Top view-line, side view- rectangle	1.5	CO2
Q 11	If a right angled triangle is made to revolve about one of its perpendicular sides the solid formed is a) cube b) triangular prism c) cone d) cylinder	1.5	CO3
Q 12	The front view, side view and top view of a cylinder standing on horizontal plane will be. a) circle, rectangle and rectangle b) rectangle, rectangle and circle c) rectangle, circle and rectangle d) circle, triangle and triangle	1.5	CO3
Q 13	The length of line in isometric drawing is 20 cm. What is the true length of it? a) 24.53 cm b) 15.46 cm c) 19.31 cm d) 23.09 cm	1.5	CO3
Q 14	Top view is a square, and then in its isometric view, which angle the base, has to make with horizontal? a) 90 degrees b) 15 degrees	1.5	CO3

	c) 30 degrees d) 60 degrees		
Q 15	If an isometric projection is drawn with true measurements but not with isometric scale then the drawings are called _____ a) Isometric projection b) Isometric view c) Isometric perception d) Orthographic view	1.5	**CO3**
Q 16	When a pyramid or a cone is cut by a plane parallel to its base, thus removing the top portion, the remaining portion is called a) cylinder b) frustum c) prism d) polyhedron	1.5	**CO4**
Q 17	The development of the surface of a cube consists of ____ equal squares, the length of the side of the squares being equal to the length of the edge of the cube. a) 4 b) 6 c) 12 d) 8	1.5	**CO4**
Q 18	When the interior of an object is complicated, which of the following view is used? a) Front view b) Side view c) Top view d) Sectional view	1.5	**CO4**
Q 19	The development of the curved surface of a cone is a _____ of a _____ a) sector, circle b) segment, circle c) segment, ellipse d) arc, parabola	1.5	**CO4**
Q 20	The development of lateral surface of a pyramid consists of a number of equal _____triangle in contact. a) equilateral b) isosceles c) scalene d) right angled	1.5	**CO4**
SECTION B			
Q 21	A point is 30mm from the HP and 50mm from the VP. Draw its projection keeping it in all possible positions.	5	**CO1**
Q 22	Differentiate between first-angle and third angle projection. Why projections in second	5	**CO1**

	and fourth angle are not possible		
Q 23	A point E is 20 mm below HP and 20 mm behind VP. Another point F is 30 mm above the HP and 40 mm in front of the VP. The distance between the projectors of E and F is 50 mm. Draw the projections of points E and F. Also draw straight lines joining front and top views.	5	**CO1**
Q 24	A line AB, 60 mm long, has its end A in VP and 15 mm below HP. The line is inclined at 45° to the HP. Draw its projections.	5	**CO2**

SECTION C

Q 25	A pentagonal pyramid, base 40mm side and height 75mm rests on one edge on its base on the ground so that the highest point in the base is 25 mm above ground. Draw the projections when the axis is parallel to VP. **OR** Draw the two views of a cone having base 50 mm diameter and axis 60mm long It is resting on ground on a point of its base circle. The axis is inclined at 40^0 to ground.	15	**CO3**
Q 26	A square prism of 30mm base sides and 50mm long axis is resting on its base on HP. Edges of base is equally inclined to VP. It is cut by a section plane perpendicular to VP and inclined at 45º to HP. The plane cuts the axis at 20 mm above the base. Draw front view, sectional top view and true shape of the section and show its development. **OR** A cube of 75mm long edges has its vertical faces equally inclined to VP. A section plane perpendicular to VP cuts it such that the true shape of section is regular hexagon. Determine the inclination of cutting plane with HP. Draw the sectional top view and true shape of section.	15	**CO4**

SECTION D

Q 27	Draw the projection of a circle of 10 cm diameter, having its plane inclined at 45 degree to HP. Its center is 7 cm above the HP and 10 cm in front of VP. **OR** A top view of plane figure whose surface is perpendicular to VP and 60^0 inclined to HP is regular hexagon of 30mm sides with one side 30^0 inclined to XY. Determine its true shape.	10	**CO2**
Q 28	The top view and the front view of the line CD, measure 65mm and 53mm respectively. The line is inclined to HP and to VP by 30^0 and 45^0 respectively. The end C is on the HP and 12mm in front of VP. Other end D is in the 1st quadrant. Draw the projections of the line CD and find its true length.	10	**CO2**