Reg. No. | | | | | | | | | | | | | |

B.E. / B.TECH. DEGREE EXAMINATIONS, MAY 2023

First Semester

CE22102 – Engineering Drawing for Civil Engineers

(Civil Engineering)

(Regulation 2022)

TIME: 3 HOURS **MAX. MARKS: 100**

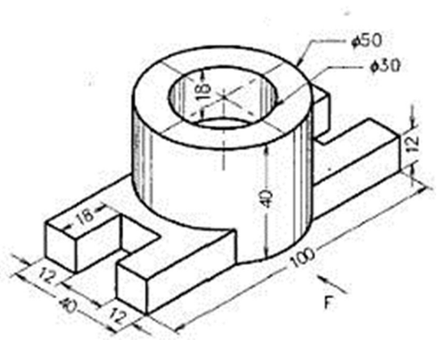
COURSE OUTCOMES	STATEMENT	RBT LEVEL
CO 1	Apply the basic engineering drawing principles to construct conic sections and sketch the orthographic views of lines as per drawing standards	3
CO 2	Draw projections of plane surfaces and simple solids in various positions	3
CO 3	Draw projections of sectioned solids and develop the lateral surfaces of simple solids.	3
CO 4	Draw orthographic and isometric projections of simple solids and their combinations	3
CO 5	Apply the engineering drawing fundamentals to draw solids and building plan using software application	3

PART- A (16 x 5 = 80 Marks)

(Answer all Questions)

			Marks	CO	RBT LEVEL
1. (a)	The eccentricity of the curve is 5/3. The distance from the focus to the vertex of a curve is 30 mm. Draw the curve and also draw tangent and normal for any one point on the circumference of the curve.		**(16)**	**1**	**3**
	(OR)				
(b)	**(i)**	Draw the projections of the following points i. Point P, 20 mm below HP and 25 mm in front of VP ii. Point Q, on HP and 40 mm behind of VP iii. Point R, 25 mm above HP and 15 mm in front of VP. iv. Point S, is contained by both HP and VP.	**(8)**	**1**	**3**
	(ii)	A line MN, has one of its end M on HP and 20 mm infront of VP. The other end N is 60 mm above HP and infront of VP. Draw its projections when the line is inclined at 400 to HP and parallel to VP. Also determine the true length of the line.	**(8)**	**1**	**3**

			Marks	CO	RBT LEVEL
2. (a)	**(i)**	A pentagonal plane of side 35 mm is resting on the HP on one of its edge. Draw its projections when the plane is inclined at 40º to HP and perpendicular to VP.	**(8)**	**2**	**3**
	(ii)	A hexagonal plane of side 25 mm has one of its side parallel to VP and 15 mm away from it. Draw its projections when the plane is parallel to HP and perpendicular to VP.	**(8)**	**2**	**3**
		(OR)			
(b)		A Hexagonal pyramid of base side 30 mm and axis length 60 mm lies on the HP on one of its corners of the base with its axis parallel to both HP and VP. One of the base edges containing the resting corner is inclined at an angle of 30º to HP. Draw its plan and elevation.	**(16)**	**2**	**3**
3. (a)		A cylinder of diameter 50 mm and height 60 mm rests on its base on HP. It is cut by a plane perpendicular to VP and inclined at 45º to HP. The cutting plane meets the axis at a distance of 15 mm from the top face. Draw the sectional plan and true shape of the section.	**(16)**	**3**	**3**
		(OR)			
(b)		A regular pentagonal pyramid of side 40mm and altitude 75 mm has its base on HP with a side of base perpendicular to VP. The pyramid is cut by a section plane perpendicular to VP and inclined at 30° to the HP. The cutting plane meets the axis of the pyramid at a point 30 mm below the vertex. Obtain the development of the remaining part of the pyramid.	**(16)**	**3**	**3**
4. (a)		Draw the top view, front view and side views of the following object. All the dimensions are in mm.	**(16)**	**4**	**3**



(OR)

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(b)	A Pentagonal prism of base side 35 mm and axis length 70 mm rests on the ground with its two adjacent rectangular faces equally inclined to VP and nearer to the observer. A section plane perpendicular to the VP and inclined at 45° to the HP passes through a point on the axis 50 mm above the base of the prism. Draw the isometric projection of the truncated prism.	**(16)**	**4**	**3**
5. (a)	Explain the usage of the following commands in AutoCAD. a) OSNAP b) FILLET c) MIRROR d) SUBTRACT e) BREAK f) REVOLVE g) EXPLODE h) LIMITS	**(16)**	**5**	**3**
	(OR)			
(b)	Draw the cross section of a load bearing wall and explain the parts.	**(16)**	**5**	**3**

PART- B (20 x 1 = 20 Marks)

(Q.No.6 is compulsory)

		Marks	CO	RBT LEVEL
6.	Draw the locus of a point which moves in such a manner, so that its distance from a fixed point is equal to twice its distance from a fixed straight line. Take the distance between the fixed point and the fixed line as 75 mm. Name the curve and draw the tangent and normal at any point on it.	**(20)**	**1**	**5**

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