

Reg. No.

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**B. E / B. TECH.DEGREE EXAMINATIONS, MAY 2023****First Semester****(Common to AD, CS, IT)****ME22251 – TECHNICAL DRAWING****(Regulation 2022)****TIME:3 HOURS****MAX. MARKS:100**

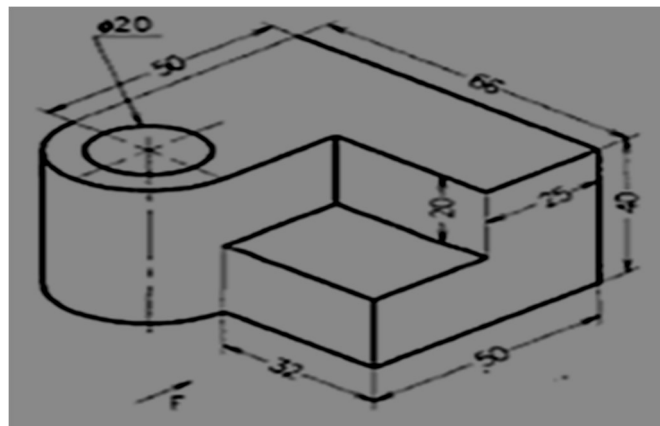
<b>COURSE OUTCOMES</b>	<b>STATEMENT</b>	<b>RBT LEVEL</b>
<b>CO 1</b>	Construct Engineering curves and sketch the orthographic views of lines as per drawing standards.	<b>3</b>
<b>CO 2</b>	Draw orthographic projections of plane surfaces and simple solids in various positions.	<b>3</b>
<b>CO 3</b>	Draw the various views of sectioned solids and develop the lateral surfaces of simple solids.	<b>3</b>
<b>CO 4</b>	Draw isometric projections of simple solids and their combinations and the orthographic projection of the intersection of surfaces of simple solids.	<b>3</b>
<b>CO 5</b>	Sketch the orthographic projections of a given isometric view and vice versa using free hand.	<b>3</b>

**PART- A (5 x 16 = 80Marks)****(Answer all Questions)**

		<b>Marks</b>	<b>CO</b>	<b>RBT LEVEL</b>
<b>1. (a)</b>	A circle of 60 mm diameter rolls over a line without slipping for one revolution. Draw the locus of a point on the circle, which is in contact with line and draw a tangent and a normal to the curve at any point.	<b>(16)</b>	<b>1</b>	<b>3</b>
	<b>(OR)</b>			
<b>(b)</b>	Draw the involute of a pentagon of 30 mm side and draw a tangent and normal to the curve at any point.	<b>(16)</b>	<b>1</b>	<b>3</b>
<b>2. (a)</b>	A line AB 70 mm long has its end B, 25 mm above HP and 30 mm in front of VP. The end A is 55 mm away from the reference planes. Draw the projections and find its inclinations with VP and HP.	<b>(16)</b>	<b>2</b>	<b>3</b>
	<b>(OR)</b>			
<b>(b)</b>	A pentagonal plane of side 30 mm is parallel to VP and perpendicular to HP. Draw its projections when one of its corners is on HP and the side containing the resting corner is inclined at 25° to HP.	<b>(16)</b>	<b>2</b>	<b>3</b>
<b>3. (a)</b>	A square pyramid of base side 30 mm and axis length 50 mm rests on the HP on one of its base edge. Draw its projections when the solid axis is inclined at 40° to HP and parallel to VP.	<b>(16)</b>	<b>3</b>	<b>3</b>

**(OR)**

- (b) A pentagonal pyramid of base side 30 mm and altitude 75 mm rests on the HP on one of its base edges, such that the triangular face containing the resting edge is perpendicular to both HP and the VP. Draw its projections. (16) 3 3
- 4 (a) A hexagonal pyramid of base side 25 mm and altitude 50 mm is resting vertically on its base on the ground with two of the side of the base perpendicular to the VP. It is cut by a plane perpendicular to VP and inclined at  $40^\circ$  to the HP. The cutting plane bisects the axis of the pyramid. Draw the development of the lateral surfaces of the pyramid. (16) 4 3
- (OR)
- (b) A right circular cone of base diameter 60 mm and height 70 mm is resting on its base on the ground. It is cut by a plane inclined at  $30^\circ$  to HP and perpendicular to VP. The cutting plane bisects the axis of the cone. Draw the development of the lateral surface of the truncated cone. (16) 4 3
- 5(a) Draw the isometric view of pentagonal prism of base side 25 mm and axis height 50 mm when it rests on one of its ends on the HP with one of its base sides parallel to VP. (16) 5 3
- (OR)
- (b) (i) Draw the orthographic view from the Isometric view given. (16) 5 3



**PART- B (1x 20=20Marks)**

(Q.No.16 is compulsory)

- |   | Marks | CO | RBT LEVEL |
|---|-------|----|-----------|
| 6. A manhole has to be made on a sump for cleaning purpose. Create a suitable profile for them manhole of major axis 100 mm and minor axis of 60 mm. Also draw tangent and normal at any point. | (20)  | 1  | 4         |

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