Reg. No. ☐☐☐☐☐☐☐☐☐☐☐☐☐

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

Second Semester

GE18151 – ENGINEERING DRAWING

(Common to all branches)

(Regulation 2018)

TIME: 3 HOURS   MAX. MARKS: 100

COURSE OUTCOMES	STATEMENT	RBT LEVEL
CO 1	Students will construct conic sections and curves and sketch the orthographic views of lines as per drawing standards.	3
CO 2	Obtain orthographic 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 isometric projections of simple solids and their combinations. Also perform free hand sketching of orthographic views of given objects.	3
CO 5	Draw perspective projections for the given objects in different positions.	3

PART- A (5 x 18 = 90 Marks)

(Answer all Questions)

		Marks	CO	RBT LEVEL

1. (a) Draw the involute of a circle of diameter 50 mm when a string is unwound in the clockwise direction. Also draw a tangent and normal at a point located on the involute.   **(18)**   **1**   **3**

(OR)

(b) A line PQ, 75 mm long is inclined at 30° to HP and 45° to VP. The end P is 25 mm above HP and 20 mm infront of VP. Draw the projections of the line.   **(18)**   **1**   **3**

2. (a) (i) A square lamina PQRS of side 40mm rests on the VP on its corner P in such a way that the diagonal PR is inclined at 45° to the VP. Draw its projections.   **(9)**   **2**   **3**

(ii) A rectangular plate 70 mm x 40 mm has one of its shorter edges in the VP. Draw its top view if its front view is a square of side 40 mm.   **(9)**   **2**   **3**

(OR)

(b) A pentagonal prism of base side 25 mm and axis length 55 mm rests on the HP on its base in such a way that one of its base is parallel to VP and nearer to it. Draw its projections when the solid axis is parallel to VP and perpendicular to HP.   **(18)**   **2**   **3**

3. (a) A hexagonal prism of base side 25 mm and axis length 50 mm rests on the HP on its base in such a way that one of its rectangular face is parallel to VP. It is cut by a plane inclined at 50° to the base and bisecting the solid axis. Draw the front view, sectional top view and true shape of the section.   **(18)**   **3**   **3**

(OR)

(b) A cylinder of diameter 50 mm and axis length 65 mm is cut by a plane perpendicular to VP and inclined at 60° to the HP into two equal parts. Draw the development of the lateral surface of the truncated solid.   **(18)**   **3**   **3**

4. (a) Three square rods of 30 mm x 30 mm cross section and lengths 100 mm, 100 mm, and 60 mm are so nailed that they form letter 'H'. Draw the isometric view of the letter 'H'.   **(18)**   **4**   **3**

(OR)

(b) Draw the orthographic projection for the given fig.1.   **(18)**   **4**   **3**
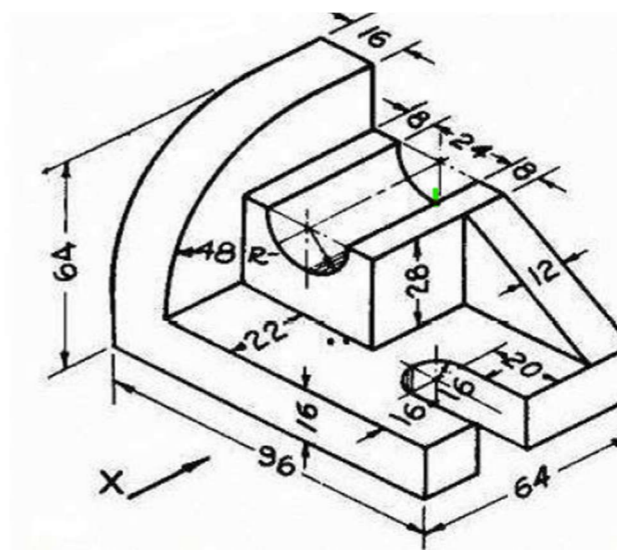

FIG.1

5. (a) A hexagonal prism of base side 25 mm and height 50 mm is resting with its base on the GP such that one of its rectangular faces is inclined at 30° to the PP and vertical edge nearer to PP is 15 mm behind it. The station point is 45 mm in front of the PP, 70 mm above the GP and lies in a central plane, which is 15 mm to the left of the vertical edge nearer to the PP. Draw the perspective view of the solid. **(18) 5   3**

(OR)

(b) A square pyramid of base side 30 mm and altitude 40 mm rests on its base on the ground plane such that one of its base sides is parallel to the picture plane and 10 mm infront of it. The station point is 50 mm infront of the picture plane, 25 mm to the left of the axis of the pyramid and 55 mm above the ground plane. Draw the perspective view of the pyramid. **(18) 5   3**

PART- B (1 x 10 = 10 Marks)
(Q.No.6 is compulsory)

	Marks	**CO**	**RBT LEVEL**

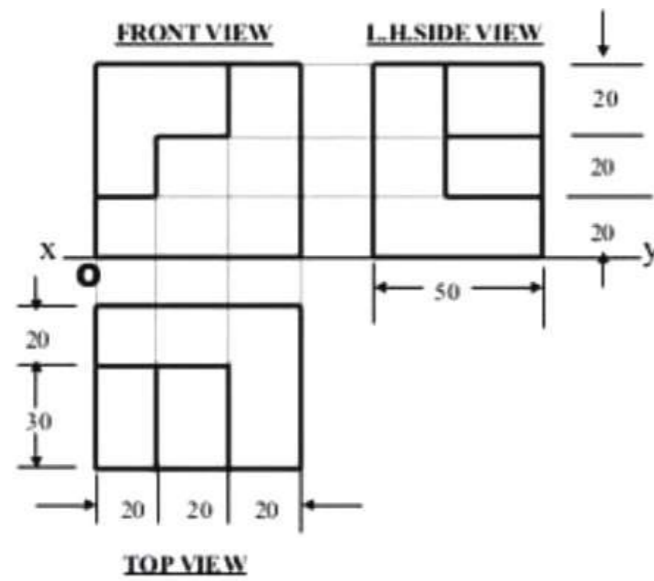6. Draw the isometric view for the given orthographic projections shown figure.2. **(10) 4   4**

FIG.2

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