Roll No.												

PRESIDENCY UNIVERSITY

BENGALURU

Mid - Term Examinations – March 2026

Date: 12- 03-2026 **Time:** 02:00pm – 03:30pm

School: SOE	**Program**: B.Tech (Mechanical Engineering)	
Course Code: MEC3017	**Course Name:** CAD for Additive Manufacturing	
Semester: VI	**Max Marks**:50	**Weightage**:25%

CO - Levels	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Marks	**26**	**24**	**-**	**-**	**-**

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks. **5Q x 2M=10M**

1	What is geometric modelling?	**2 Marks**	**L1**	**CO1**
2	Explain briefly how does geometric modelling fit into the modern design sequence?	**2 Marks**	**L2**	**CO1**
3	What is world coordinate system?	**2 Marks**	**L1**	**CO1**
4	Explain the briefly how transformation of model can be done from one position to other.	**2 Marks**	**L2**	**CO2**
5	What is reflection in computer graphics?	**2 Marks**	**L1**	**CO2**

Part B

Answer the Questions. **Total Marks 40M**

6.	**a.**	Explain with design flow chart of generic design process used to create the CAD models.	**10 Marks**	**L2**	**CO1**
		Or			
7.	**a.**	What's wrong with using a IGES file? Why STEP is better than IGES File? Give explanation taking an example	**10 Marks**	**L2**	**CO1**

8.	**a.**	Different design approaches were used in industry for designing the graphical model for the product design. Explain any five-approach used in practical application	**10 Marks**	**L2**	**CO1**
		Or			
9.	**a.**	Explain the analytical, explicit and implicit form of curve representation in CAD. With example explain parametric line representation	**10 Marks**	**L2**	**CO1**

10.	**a.**	Given a square with coordinates points A (0,3), B (3,3) C (3,0) D (0,0). Apply the translation with distance 1 towards X axis and 1 towards Y axis. Obtain the new coordinates of the square in analytical and matrix methods. Plot the output result in graph.	**10 Marks**	**L3**	**CO2**
		Or			
11.	**a.**	Given a triangle with coordinate points A (3,4), B (6,4) C (5,6). Apply the reflection on the X axis and obtain the new coordinates of the objects in analytical and matrix methods. Plot the output in graph	**10 Marks**	**L3**	**CO2**

12.	**a.**	Given a triangle with corner coordinates (0,0), (1,0) and (1,1). Rotate the triangle by 90-degree anticlockwise direction and find out the new coordinates. Plot the output in graph	**10 Marks**	**L3**	**CO2**
		Or			
13.	**a.**	Given a square object with coordinate points A (0,2), B (2,3), C (2,0), D (0,0). Apply the scaling parameters 1 towards x axis and 2 towards Y axis and obtain the new coordinates of the object. Draw the graph shoeing old and new coordinates	**10 Marks**	**L3**	**CO2**