Roll No											

PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF ENGINEERING
END TERM EXAMINATION - JAN 2023

Semester : Semester V - 2020
Course Code : MEC3017
Course Name : Sem V - MEC3017 - CAD for Additive Manufacturing
Program : B.Tech. Mechanical Engineering

Date : 9-JAN-2023
Time : 9.30AM - 12.30PM
Max Marks : 100
Weightage : 50%

Instructions:
(i) Read all questions carefully and answer accordingly.
(ii) Question paper consists of 3 parts.
(iii) Scientific and non-programmable calculator are permitted.

PART A

ANSWER ALL THE FIVE QUESTIONS **5 X 2 = 10M**

1. How does the geometric modelling fit into the modern design sequence?
(CO1) [Knowledge]

2. Design tools are used to design any componrnts or parts. What is CAD in computer graphics.
(CO1) [Knowledge]

3. What is IGES file?
(CO2) [Knowledge]

4. What is surface modelling in computer aided design?
(CO3) [Knowledge]

5. Differentiate between CSG approach and B-representation in solid modelling.
(CO4) [Knowledge]

PART B

ANSWER ALL THE SIX QUESTIONS **6 X 10 = 60M**

6. Geometric modelling is a basic engineering tool for design. Explain how design process serves a backbone of the geometric modelling.
(CO1) [Comprehension]

7. The CAD design process is an iterative process that ensures compatibility of desing. Explain the general design process used in CAD.

(CO1) [Comprehension]

8. Translation is a process moving an object from one place to other in a two-dimension plane. Explain the concept considering a point object 'O' has to be moved from one position to another in a 2D plane in both analytical and matrix method with graphical representation.

(CO2) [Comprehension]

9. Surface obtained without stretching or tearing is called developable surface. Explain the developable surfaces by taking an example of sheet metal for making drum and conical funnel.

(CO3) [Comprehension]

10. What is B-Spline surface? Explain open and closed surface with representation.

(CO3) [Comprehension]

11. What is sweep representation in solid modelling? Explain the types of sweep representation
..

(CO4) [Comprehension]

PART C

ANSWER ALL THE TWO QUESTIONS **2 X 15 = 30M**

12. Given a triangle with coordinates points A (3,4), B (6,4), and C (5,6) . Apply the reflection on the y Axis and obtain the new coordinates of the objects. Show the graphical representation of the reflection.

(CO2) [Application]

13. Describe any 5 common primitives used in solid modelling with diagram.

(CO4) [Application]

*****