

May 2025**B.Tech. (Mechanical) (Sixth Semester)**
CAD/CAM (PCC-ME-601/21)**Time : 3 Hours****[Maximum Marks : 75]**

Note : It is compulsory to answer all the questions (1.5 marks each) of Part A in short. Answer any *four* questions from Part B in detail. Different sub-parts of a question are to be attempted adjacent to each other.

Part A

1. (a) What is Internet of Things ? 1.5
- (b) Name any *two* CAM softwares. 1.5
- (c) How is Failure analysis done using ANSYS ? 1.5
- (d) What is Machine Learning ? 1.5
- (e) What is Augmented Reality ? 1.5
- (f) What is DNC ? 1.5
- (g) What is CSG modeling ? 1.5
- (h) What is the main difference between CAD and manual designing ? 1.5

(i) What is Simulation ?	1.5
(j) What is Cloud Manufacturing ?	1.5
Part B	
2. (a) Write the benefits of CAD over Manual Designing for generating best designs.	10
(b) Write down various transformations and their matrices.	5
3. (a) What are the disadvantages of Bezier curves over B-Spline ?	5
(b) Explain parts and working of a CNC machine with live examples.	10
4. Explain the components of Industry 4.0 with examples and neat sketches.	15
5. (a) What is a Retrieval type CAPP ? Explain with examples.	5
(b) Explain the various types of surfaces used in CAD modeling with their properties and applications.	10

6. (a) Mention the procedure of Reverse Engineering.	5
(b) What are the main parts of a FMS ? Specify various Sensors used in Robotics.	10
7. What is the need of an AI ? Specify its benefits and applications with examples.	15

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