



End Term (Even) Semester Examination May-June 2025

Roll no.....

Name of the Program and semester: B.Tech/ VI
Name of the Course: Computer Aided Manufacturing
Course Code: TME 606

Time: 3 hour

Maximum Marks: 100

Note:

- (i) All the questions are compulsory.
- (ii) Answer any two sub questions from a, b and c in each main question.
- (iii) Total marks for each question is 20 (twenty).
- (iv) Each sub-question carries 10 marks.

- Q1. (2X10=20 Marks)
- a. Explain the basic elements of Computer Aided Manufacturing (CAM) and discuss its advantages over conventional manufacturing processes. **C01**
 - b. Differentiate between NC and CNC machine tools with suitable examples. **C02**
 - c. What is Industry 4.0? How does it impact modern manufacturing industries? **C02**
- Q2. (2X10=20 Marks)
- a. Distinguish between Direct Numerical Control (DNC) and Distributed Numerical Control (DNC). **C03**
 - b. Explain various DNC software features and communication methods used in modern manufacturing. **C03**
 - c. Describe different network topologies (Bus, Ring, Star, Mesh, Tree) with neat diagrams. **C03**
- Q3. (2X10=20 Marks)
- a. What is Group Technology (GT)? Explain the concept of part families and classification systems. **C03**
 - b. Discuss the types and benefits of Computer Aided Process Planning (CAPP). **C04**
 - c. Explain the structure and advantages of a Flexible Manufacturing System (FMS). **C05**
- Q4. (2X10=20 Marks)
- a. Classify automation systems. What are the advantages and disadvantages of automation? **C05**
 - b. Compare and contrast open-loop and closed-loop control systems with suitable examples. **C05**
 - c. How can the accuracy and productivity of NC machines be improved? Discuss in detail. **C06**
- Q5. (2X10=20 Marks)
- a. Write a manual NC part program for a simple drilling operation. **C06**
 - b. Differentiate between NC machine tools and Robots. Also explain the types and generations of Robots. **C06**
 - c. Discuss the role of Artificial Intelligence (AI) in Intelligent Manufacturing Systems. **C06**

Note For the question paper setters:

- Question paper should cover all the COs of the course.
- Please specify COs against each question.