Graphic Era
HILL UNIVERSITY
Established by an Act of the State Legislature of Uttarakhand (Adhiniyam Sankhya 12 of 2011)
University under section 2(f) of UGC Act, 1956

Term Evaluation (Even) Semester Examination March 2025

Roll no...........................

Name of the Course: B.Tech
Semester: 6th
Name of the Paper: Computer Aided Manufacturing
Paper Code: TME 606
Time: 1.5 hour   **Maximum Marks: 50**

Note:
- *(i)* Answer all the questions by choosing any one of the sub-questions
- *(ii)* Each question carries 10 marks.

Q1.   (10 Marks)
a. Explain the basic elements of Computer-Aided Manufacturing (CAM). How does CAM improve efficiency compared to conventional manufacturing processes?   **CO1**

OR

b. Differentiate between NC and CNC machine tools. Discuss the advantages of CNC machines over conventional machine tools.   **CO1**

Q2.   (10 Marks)
a. What are the limitations of NC and CNC machine tools? Explain with suitable examples.   **CO1**

OR

b. Explain the significance of the Industrial Revolution in manufacturing. How has Industry 4.0 transformed modern manufacturing systems?   **CO1**

Q3.   (10 Marks)
a. Describe Direct Numerical Control (DNC). How does it differ from Distributed Numerical Control?   **CO2**

OR

b. Discuss the key features of DNC software. How do these features improve manufacturing operations?   **CO2**

Q4.   (10 Marks)
a. Explain the different types of network topologies used in DNC systems. Compare their advantages and disadvantages.   **CO2**

OR

b. What are the major advantages of using DNC in manufacturing? How does it improve productivity and efficiency?   **CO2**

Q5.   (10 Marks)
a. Compare and contrast conventional manufacturing processes with CAM. Provide examples of industries benefiting from CAM implementation.   **CO2**

OR

b. Discuss the role of communication in DNC systems. How do different network topologies influence DNC performance?   **CO2**