

6E7112	Roll No. _____	Total No. of Pages : 2
6E7112		
B.Tech. VI-Sem. (Main/Back) Examination, April/May - 2026 Automobile Engineering 6AES-12 CIMS (EL-II) ME, AE		

Time : 3 Hours

Maximum Marks : 70

Instructions to Candidates:

Attempt All ten questions from Part A. Five questions out of Seven questions from Part B and Three questions out of five questions from Part C.

Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated Clearly. Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination. (Mentioned in form No. 205).

PART - A

(Answer should be given up to 25 words only)

All questions are compulsory.

(10×2=20)

1. Define the term "Product Cycle" in the context of CIM.
2. What is the primary difference between NC and CNC?
3. List two features of a Machine Control Unit (MCU).
4. What is the main objective of Adaptive control in machining?
5. Define "Part Families" as used in Group Technology.
6. What is the difference between Retrieval and Generative CAPP?
7. Briefly define Manufacturing Resource Planning (MRP II).
8. Name one non - contact inspection method used in quality control.
9. What is a Flexible Manufacturing System (FMS)?
10. Define "Concurrent Engineering".

PART - B

(Analytical / Problem Solving Questions)

Attempt any Five questions.

(5×4=20)

1. Explain the role of computers in the manufacturing process and data types used.
2. Describe the basic components of a Numerical Control (NC) system.
3. Explain the benefits of using APT (Automatically Programmed Tool) for part programming.

4. Compare traditional process planning with Computer Aided Process Planning (CAPP).
5. Discuss the advantages of using computer - aided inventory management.
6. Describe how computer control is applied to automated material picking and conveying.
7. Explain the concept of "Agile Manufacturing" in modern enterprises.

PART - C

(Descriptive / Analytical / Problem Solving / Design Questions) (3×10=30)

Attempt any Three questions.

1. Discuss the evolution from NC to CNC and DNC. Explain how CAD/CAM software has simplified NC cutter path verification.
 2. Explain the "Part Classification and Coding" systems in Group Technology. How do these systems facilitate the creation of machining cells?
 3. Detail the components of a Computer Aided Production management System, focusing on shop floor control and process monitoring.
 4. Analyze the impact of Computer Aided Quality Control (CAQC) on manufacturing. Compare contact and non - contact inspection methods.
 5. Define Collaborative Engineering. How do web - based design and extended enterprises contribute to faster design throughput?
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