PART—A　　　　　　　　　　　　　3×10=30

Instructions :　(1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Illustrate the concept of integrated CAD/CAM.

2. Name the basic components of NC system.

3. State the advantages of CNC-CMM.

4. What is a feedback device? Classify the feedback devices used in CNC systems.

5. Illustrate an ATC of a CNC machine.

6. Define part programming. State the types of part programming.

7. Name the motion statements used in APT programming.

8. What is an AGVS? State its applications.

9. Define Flexible manufacturing systems.

10. State the concept of Lean manufacturing.

Instructions : (1) Answer *any* **five** questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. What is CAM? Explain its importance in present-day manufacturing industry.

12. Discuss main constructional features of NC system, with a schematic diagram.

13. Define DNC. Explain basic components of DNC, with a block diagram.

14. What are the tool holding devices of CNC machining centre? Explain them with neat sketches.

15. Write a CNC program in G and M codes, on Plain turning of a billet of size 30 mm diameter × 50 mm length, turning up to a depth of 2 mm, with cutting speed as 1000 rpm, and feed as 50 mm/min.

16. Draw neat sketch of an industrial robot and explain the function of each component.

17. What are the features, advantages and limitations of FMS?

18. What are the various modules of CIMS? Explain them with illustration.

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