



C20-M-506

7660

**BOARD DIPLOMA EXAMINATION, (C-20)
OCTOBER/NOVEMBER—2024
DME – FIFTH SEMESTER EXAMINATION**

COMPUTER AIDED MANUFACTURING SYSTEMS

Time : 3 Hours]

[Total Marks : 80

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. Define CAM.
2. Write the advantages of Group Technology.
3. Draw the line diagram of CNC Machine.
4. Write any three differences between NC and CNC machines.
5. What is material handling system? Write its types.
6. Write a short note on cutter nose radius compensation in part programming.
7. How do you classify Robots?
8. State the advantages of FMS.
9. Draw the line diagram of design function module in CIMS.
10. What are the benefits of Rapid Prototyping?

PART—B

8×5=40

- Instructions :** (1) Answer **all** questions.
(2) Each question carries **eight** marks.
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

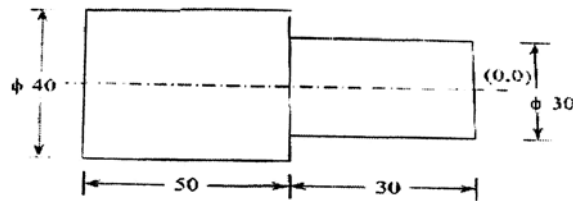
11. Explain the manufacturing methodology adopted in NC system.

(OR)

Explain in detail the components of CNC-CMM with a neat sketch.

12. Write a manual part program for the component shown in figure. The machining parameters are spindle speed = 800 r.p.m., feed = 120 mm/min and depth of cut should not exceed 2 mm.

Raw material size $\phi 40 \times 80$ mm



(OR)

Write the differences between Manual and Computer aided part programming.

13. What is AGV's? Explain in detail various AGV's used in industry.

(OR)

Explain the components of an Industrial Robot with a neat sketch.

14. Explain the principle components of flexible manufacturing system with a neat sketch.

(OR)

Explain in detail types of flexibilities exhibited by the manufacturing systems.

15. Describe CIMS showing the principal components.

(OR)

Explain the working of stereo-lithography with a neat sketch.

PART—C

10×1=10

- Instructions :** (1) Answer the following question.
(2) The question carries **ten** marks.
(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

16. What is APT? Explain various statements used in APT with examples.

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