C16-M-RAC–505

6641

BOARD DIPLOMA EXAMINATION, (C-16)

JUNE/JULY—2022

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. Write any three benefits of CAM.

2. Define numerical control.

3. Write any three principal differences between NC and CNC.

4. Write any three requirements of CNC machine bed.

5. Write any three advantages of recirculating ball screws.

6. What are the methods of part programming? Define manual part programming.

7. Mention the functions of following codes :

(a) G03

(b) G71

(c) G90

(d) M02

(e) M04

(f) M98

8. Define automated guided vehicle system.

9. List out any six types of flexibilities applied in an automated manufacturing system.

10. Define lean manufacturing.

PART—B

10×5=50

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 product cycle? Explain in detail product cycle used in computer aided manufacturing environment.

12. Explain in detail basic components of NC system with a block diagram.

13. Explain the salient features of CNC and CMM with a neat sketch.

14. Explain the principle and working of recirculating ball screw with a neat sketch.

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

16. *(a)* Define a robot. How do you classify robots?

(b) Give the detailed list of various areas of applications of robot in an automated manufacturing environment.

17. Explain in detail the features of FMS with a neat FMS layout.

18. Explain in detail the principal components of CIMS with a neat sketch.

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