Reg. No. :

Question Paper Code : 20823

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2018.

Seventh/Eighth Semester

Mechanical Engineering

ME 6703 — COMPUTER INTEGRATED MANUFACTURING SYSTEMS

(Common to : Mechanical and Automation Engineering/Robotics and Automation Engineering)

(Regulations 2013)

(Also common to : PTME 6703 – Computer Integrated Manufacturing Systems for B.E. (Part-Time) – Sixth Semester – Regulations – 2014)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the major communication used in manufacturing Industry?

2. Define automation.

3. What are the prerequisites for process planning?

4. What are the applications of GT?

5. List out the methods for part family formation.

6. Name few of the CAPP system.

7. What are the Objectives of FMS?

8. List any two advantages and disadvantages of FMS implementation.

9. Why industrial robots are important?

10. What are the two types of Lead through Programming?

PART B — (5 × 13 = 65 marks)

11. (a) Explain the basic elements an automated system. (13)

Or

(b) What are all the nature and role of the elements of CIM system? (13)

12. (a) Write short notes on the following :

(i) Retrieval-type CAPP systems, (7)

(ii) Generative CAPP systems. (6)

Or

(b) What is MRP? Explain the inputs to MRP and various MRP outputs. Also list the various benefits of MRP. (13)

13. (a) (i) Enumerate Role of process planning in CAD/CAM integration. (3)

(ii) Enumerate the role of GT in CAD/CAM integration. (4)

(iii) What are all the advantage and disadvantage of varient type CAPP? (6)

Or

(b) Explain D CLASS and OPTIZ coding systems with suitable examples. (13)

14. (a) Discuss Automated guided vehicle system in detail. (13)

Or

(b) Discuss the functions, application, advantage and disadvantage of a FMS. (13)

15. (a) Explain in details Robot Anatomy and its related attributes. (13)

Or

(b) Explain in details about the types of robot part programming. (13)

PART C — (1 × 15 = 15 marks)

16. (a) Explain Machine Cell design and layout with neat diagram. (15)

Or

(b) With respect to principles, tools and examples explain Lean manufacturing and Just-in-time production systems. (15)

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