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Question Paper Code : 91670

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2014.

Seventh Semester

Mechanical Engineering

ME 2402/ ME 72/ 10122 ME 703 — COMPUTER INTEGRATED
MANUFACTURING

(Regulation 2008 / 2010)

(Common to PTME 2402 / 10122 ME 703 — Computer Integrated Manufacturing for
B.E. (Part-Time) Sixth Semester – Mechanical Engineering – Regulation 2009/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Distinguish between 2D and 3D wire frame models.
2. What is sculptured surface?
3. What are the specific characteristics that have to be incorporated in the CIM system models?
4. What does the term transmission mode refer to? Also list various types of transmission modes?
5. List any four design considerations guiding the cell- formation.
6. What are the various components of a generative CAPP system?
7. What are the objectives of FDC system?
8. Differentiate between primary and secondary material handling systems.
9. What is direct digital control?
10. What is Master Production Schedule (MPS)?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Describe briefly the surface modelling facilities available in an advanced modeller. (8)
- (ii) Write a short notes on generative NC machining based on solid modelling. (8)

Or

- (b) (i) Explain the characteristics of solid modeling packages. (8)
- (ii) Briefly describe the basic 3D transformation for scaling, translation and rotation. (8)
12. (a) (i) Discuss how CIM can act as an enabling technology for concurrent engineering. (8)
- (ii) Discuss the hierarchical structure of computer control of manufacturing system. (8)

Or

- (b) (i) Explain the two modes for transmitting binary data across a link. (8)
- (ii) List and briefly discuss the various guided and unguided transmission media. (8)
13. (a) (i) Discuss with examples the following: monocode, polycode and mixed code. (8)
- (ii) Briefly discuss the various benefits of implementing a GT in a firm. Also bring out the advantages and limitations of using GT. (8)

Or

- (b) Explain briefly on CMPP. In what ways, CMPP is considered very significant. What factors should be considered while selecting the best CAPP system? (16)
14. (a) (i) List and briefly explain the various priority sequencing rules used for job sequencing. (8)
- (ii) Explain briefly the technologies used in Automatic Identification systems for computer process monitoring. (8)

Or

- (b) (i) List and explain the functions of the material handling system in a FMS. (8)
- (ii) Write short notes on Automated guided vehicle systems. (8)
15. (a) Briefly explain about production planning process in discrete part manufacturing. (16)

Or

- (b) What is MRP? Explain the inputs to MRP and various MRP outputs. Also list the various benefits of MRP. (16)