Reg. No. : ☐☐☐☐☐☐☐☐☐☐☐☐

Question Paper Code : 31577

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2013.

Seventh Semester

Mechanical Engineering

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

(Regulation 2008/2010)

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

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the advantages to be gained by the adoption of CAD?

2. Specify the range of applications for which typical geometric modeling information is used.

3. Differentiate IGES and GKS Graphic standards.

4. Differentiate Modulation and Demodulation.

5. Explain opitz coding system.

6. Define Group technology.

7. Mention the importance of Shop Floor Control Systems (SFC).

8. What are the inputs and outputs of MRP?

9. Describe CIM data transmission methods.

10. List different types of production monitoring systems.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain the requirements for a graphic database.   (8)

        (ii) Brief the importance of editing, dimensioning and labeling features of CAD.   (8)

Or

(b)   (i)   Describe various types of information normally stored in a geometric database for products in a CIM environment.   (8)

       (ii)   Explain the concept of obtaining a rotation about an arbitrary point in XY plane.   (8)

12.   (a)   (i)   Explain the Open System Interconnection Architecture (OSI) formulated by ISO.   (8)

       (ii)   Illustrate the communication matrix used in CIM.   (8)

Or

   (b)   (i)   What are the different network topologies available? Discuss them in detail.   (8)

       (ii)   Brief the significance of MAP in CIM environment.   (8)

13.   (a)   (i)   Explain generative and variant computer aided process planning approaches in detail.   (8)

       (ii)   Discuss the role of CAPP in CAD/CAM integration.   (8)

Or

   (b)   (i)   Discuss DCLASS and MCLASS coding systems.   (8)

       (ii)   Define part classification and coding. How is it useful in forming group technology layout?   (8)

14.   (a)   (i)   Explain bar code technology in detail.   (8)

       (ii)   Illustrate different FMS layout configurations.   (8)

Or

   (b)   (i)   Discuss the technology behind automated data collection system.   (8)

       (ii)   Explain the types of material handling and storage systems used in FMS.   (8)

15.   (a)   (i)   Discuss the benefits of direct digital control.   (8)

       (ii)   Discuss the activities under computer aided manufacturing planning and manufacturing control.   (8)

Or

   (b)   (i)   Describe the features of MRP-I and MRP-II systems.   (8)

       (ii)   Brief Lean and Agile manufacturing concepts.   (8)

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