Question Paper Code : X 60858

B.E./B.Tech. DEGREE EXAMINATIONS, NOV./DEC. 2020

Seventh Semester

Mechanical Engineering

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

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

(Regulations 2008/2010)

Time : Three Hours   Maximum : 100 Marks

Answer ALL questions.

PART – A   (10×2=20 Marks)

1. Distinguish between surface modelling and solid modelling in relation to design packages.

2. What are the functions of design workstations and also draw the configuration of CAD system ?

3. Define Computer integrated manufacturing.

4. What are the various types of communication in CIM ?

5. Write the reasons for using a coding scheme in group technology.

6. Define Route sheet.

7. Define Master Production Schedule.

8. Write the main elements of Flexible Manufacturing System.

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 CIM and company strategy. What are the various process in CIM ? **(10)**

      ii) What is CASA/Sme model of CIM ? Write the rules for CASA/Sme model. **(6)**

                       (OR)

  b) i) Explain briefly the seven layers of OSI model. **(8)**

      ii) Explain in detail the communication matrix in CIM. **(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) Explain in detail the phases of shop floor control system. **(16)**

                       (OR)

  b) i) List and explain the various functions that are performed by the FMS computer control system. **(10)**

      ii) Discuss the benefits of FMS. **(6)**

15. a) Explain in detail about Direct Digital Control.

                       (OR)

  b) Compare Lean and Agile Manufacturing.

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