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Question Paper Code : 80856

B.E./BTech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2021.

Seventh Semester

Mechanical Engineering

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

(Regulations 2008/2010)

(Common to PT ME 2402 for B.E. (Part-Time) Sixth Semester – Mechanical Engineering – Regulations 2009)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. List the types of wire frame geometric modeling.
2. Define the term concatenation.
3. What is meant by topology?
4. Write the types of Guided media.
5. Explain opitz coding system.
6. Define Group technology.
7. What are the various types of layouts used in FMS design?
8. List out the advantages of Radio frequency identification.
9. Define the terms lead time and reorder point in relation to inventory management.
10. Write the four principles of lean production and agile manufacturing.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Discuss any two basic approaches of solid modeling. (10)
- (ii) What is CAD? Discuss the fundamental reasons for implementing the CAD. (6)

Or

- (b) (i) Compare the computer graphics display device techniques. (6)
- (ii) A point is defined by (3,1) and it might be one of several points defining a geometric element. Express the point in matrix notation and perform the following transformations.
- (1) Scale the point by the factor of 2.0
- (2) Rotate the original point by 45°
- (3) Concatenated transformation matrix for the sequence (10)

12. (a) (i) State the special features of MN Also describe the various elements of LAN. (8)
- (ii) What is meant by Product Data Management Explain why it is important in CAD/CAM integration. (8)

Or

- (b) (i) What is meant by serial transmission and explain the types in detail. (8)
- (ii) Describe about seven layer OSI model in computer networking. (8)
13. (a) Briefly explain about the OPTIZ coding system generally used in group technology.

Or

- (b) Explain in detail about production flow analysis.

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) Write brief about computer integrated production planning and control. (10)

(ii) Explain the importance of material requirements planning. (6)

Or

(b) (i) Explain the different types of production monitoring systems. Differentiate between them. (10)

(ii) Comparison of lean production and agile manufacturing attributes. (6)
