Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 60864

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2016.

Seventh Semester

Mechanical Engineering

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

(Regulations 2008/2010)

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

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. What are the types of relay for interconnections in OSI model?

4. Compare simplex and duplex in CIM data transmission.

5. What are the types of machine cells and layout for GT?

6. What are the factors to be considered for designing CAPP in engine block manufacturing system?

7. What do you mean by OCR?

8. Draw the layout of open field FMS.

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) Explain in detail about the classification of geometric models in CAD. (10)

(ii) What are the reasons for using a CAD system to support the engineering design function? (6)

Or

(b) (i) Write short notes on 3D scaling and 3D translation geometric transformation. (8)

(ii) Explain the objectives and features of CAD packages. (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 the role of GT in CAD/CAM integration. What are the benefits of GT? (10)

(ii) What are the steps to be carryout for production flow analysis? (6)

Or

(b) (i) Explain in detail about four basic approaches of computer aided process planning. (10)

(ii) What are the advantages and disadvantages of generative CAPP system? (6)

14. (a) (i) Mention the technologies available for use in automatic identification system. Explain them. (12)

(ii) What are the activities of CIM based SFC? (4)

Or

(b) (i) Draw and explain the structure of FMS application software system. (10)

(ii) Write short notes on single machine cell. (6)

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)