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 **REG NO:**

**SIR ISSAC NEWTON COLLEGE OF ENGINEERING AND TECHNOLOGY**
Mechanical Engineering
**ME 2402 — COMPUTER INTEGRATED MANUFACTURING**
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. What is meant by CAPP?

6. What is cellular manufacturing?

7. What are the phases of SFC?

8. What is meant by factory data collection system?

9. What are the important functions of PPC?

10. What is lean production?

 **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 formulated by ISO. **(8)**

(ii) Explain communication matrix. **(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)Explain automated data collection system. **(8)**

(ii) Explain 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 the 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)**

**SINCET/IV MECH/MODEL/CIM/SET-3/NOV-DEC 2015//AU-ND 2013//**