



22658

12223

3 Hours / 70 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Illustrate your answers with neat sketches wherever necessary.
 - (3) Figures to the right indicate full marks.
 - (4) Assume suitable data, if necessary.
 - (5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following :

10

- (a) Draw conventional product development cycle.
- (b) Define 'CAD'.
- (c) State the benefits of CAPP.
- (d) Enlist various types of database.
- (e) Write characteristics of dedicated FMS.
- (f) Enlist advantages of CIM.
- (g) Define the term 'Automation'.

2. Attempt any THREE of the following :

12

- (a) Explain CIM concept.
- (b) Classify various CIM elements with a neat sketch.
- (c) Explain various activities in CAD/CAM/CIM product cycle.
- (d) Define the term 'Networking'. Describe 'Virtual Private Network'.



- 3. Attempt any THREE of the following :** **12**
- (a) Compare between Star and ring topology with neat sketch.
 - (b) State the importance of application software in CIM with suitable example.
 - (c) Describe the relational database in brief.
 - (d) Define 'Group Technology'. Explain the concept of part families.
- 4. Attempt any THREE of the following :** **12**
- (a) Enlist the benefits of cellular manufacturing.
 - (b) Explain various components of FMS.
 - (c) Describe FMS ladder layout with a neat sketch.
 - (d) 'Integration of workstation is to be observed during Automation.' Comment.
 - (e) Explain basic elements of an Automated System.
- 5. Attempt any TWO of the following :** **12**
- (a) Compare geometric modeling and finite element analysis software with examples.
 - (b) Explain the concept of ERP. State applications of ERP software.
 - (c) Describe PLC system with a neat sketch.
- 6. Attempt any TWO of the following :** **12**
- (a) Explain various elements of a Robotic system.
 - (b) Show by sketch basic configuration of Cartesian type robot and explain in brief.
 - (c) Sketch a jointed arm robot. Describe various wrist motions with respect to a Robot.

