

Computer Integrated Manufacturing

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Course Outline & Exam Help Data

Note: Reference Material is available at Photocopy shop.

This Hand out Contains

1. List of Topics Covered.
2. Questions in Class Test

List of Topics Covered.

1. Integration
 - i. Integration of Sub Systems
 - ii. The need of integration & its benefits
2. Guidelines for Implementation of CIM
3. Barriers in Implementation of CIM
4. Barriers to CIM Adaption in SMEs
5. Key Success Factors for implementation of CIM in SMEs
6. Group Technology
 - i. Definition & Introduction
 - ii. Family Formation
 - iii. Standardization
 - iv. Classification
 - a. Production Analysis Flow
 - b. Advantages & Disadvantages of GT
 - c. Guidelines for Implementation of GT
7. Computer Aided Process Planning
 - i. Introduction to CAPP
 - ii. Approaches to CAPP
 - iii. Implementation Techniques
 - iv. Summary
8. Flexible Manufacturing System
 - i. Definition & Introduction
 - ii. Components of FMS
 - a. Processing station
 - b. Material Handling & Automation
 - c. Computer Control System
 - iii. Types of FMS
9. CIM Model
 - i. CIM component
 - ii. Implementation. Guidelines of CIM
 - iii. Key success factors of CIM
 - iv. Barriers of CIM

- v. Top Management Support
- vi. Computer Aided Process Planning
- vii. Group Technology
- viii. Cellular Manufacturing.

Important Question Statements:

These Questions are exemplary.

Class Test 1.

1. Manufacturing methods have some advanced changes! How you can explain. Draw the diagram of present market situation.
2. CIM is now being adopted by many manufacturing companies. Give reasons & also give some definition of CIM with its components
3. If you are given the task to adopt CIM technology in any manual industry you work, what guidelines will you include to help management do this.

Class Test 2.

1. Group Technology is being adopted by many mass production industries. Why this is happening & when it started.
2. Describe method of G.T which are more common in manufacturing world in detail with suitable examples.
3. CAPP is now very important for industrial engineers. Explain CAPP also tell about its techniques in advance manufacturing planning.

Assignment Questions:

1. What is a flexible manufacturing system? Give example from an industry you have visited.
2. As an industrial engineer, how do you define application of flexible manufacturing systems. Write your view regarding function of Material Handling System.
3. Write Down FMS workstations with details of each station's functions.

Find these Questions in chapter 13 of CAD/CAM book.

1. What are the different types of Robot Control? Draw hierarchical control structure.
2. What do you know about accuracy & repeatability of Robots. Give some suitable examples regarding latest technology used in robots.
3. Write down a detailed note on Robot Anatomy.

Key Topics For Exams

- **Introduction to CIM**
- **Integration (Chapter 2)**
- **CIM Model**
- **Group Technology**
- **Flexible Manufacturing System**
- **Robotics**