<u>**LESSON PLAN**</u>

Subject: COMPUTER INTEGRATED MANUFACTURING
Subject Code: BPEPE 806

Course: B. Tech 8th Semester, Production Engineering

COURSE OBJECTIVES:
1. Understanding the concept of computer integrated manufacturing as an open system.
2. Development of common database for CAD/CAM integration to CAPP.
3. Identify flexible manufacturing systems components along with shop floor control.
4. Understanding CIM automation protocols and its architecture.
5. Development of database with data communication networks.

Lecture No.	Module No.	Topic covered
1.	I	Introduction: The meaning and origin of CIM, The changing manufacturing and management scenario
2.	I	External communication, Islands of automation and software
3.	I	Dedicated and open systems
4.	I	Manufacturing automation protocol
5.	I	Product related activities of a company, Marketing engineering, Production planning
6.	I	Plant operations, Physical distribution, Business and financial management
7.	II	Computer Aided Process planning: Role of process planning in CAD/CAM integration
8.	II	Approaches to computer aided process planning
9.	II	Variant approach and Generative approaches
10.	II	CAPP and CMPP process planning systems
11.	III	Shop Floor Control and FMS: Shop floor control-phases
12.	III	Factory data collection system
13.	III	Automatic identification methods- Bar code technology
14.	III	Automated data collection system
15.	III	FMS-components of FMS
16.	III	- types -FMS workstation,
17.	III	Material handling and storage systems
18.	III	FMS layout
19.	III	Computer control systems
20.	III	Application and benefits
21.	III	**Quiz Test-1**
22.	IV	CIM System: Open System Open systems inter connection
23.	IV	Manufacturing automations protocol
24.	IV	Technical office protocol (MAP /TOP).
25.	IV	CIM Implementation: CIM and company strategy
26.	IV	System modelling tools-IDEF models
27.	IV	Activity cycle diagram
28.	IV	CIM open system architecture (CIMOSA
29.	IV	Manufacturing enterprise wheel, CIM architecture
30	IV	Product data management, CIM implementation software
31	V	Data Communication: Communication fundamentals

| 32 | **V** | Local area networks, Topology, LAN implementations, |

		Network management and installations
33.	**V**	Database for CIM: Development of databases
34.	**V**	Database terminology
35.	**V**	Architecture of database systems
36.	**V**	Data modelling
37.	**V**	Data associations
38.	**V**	Relational data bases, Database operators
39.	**V**	Advantages of data base
40.	**V**	**Quiz Test-2**

Text Book(S):
1. Automation, Production Systems and Computer Integrated Manufacturing- M.P.Groover, Pearson Education.
2. Computer Integrated Manufacturing System- Y. Koren, McGraw-Hill.

Reference(S):
1. CAD/CAM/CIM- P. Radhakrishnan, S. Subramanyan and V. Raju- New Age International.
2. Computer Integrated Manufacturing- Paul G. Ranky, Prentice Hall International.