MECHANICAL ENGG. DEPARTMENT GIET POLY

GANAPATI INSTITUTE OF ENGINEERING AND TECHNOLOGY(POLYTECHNIC)JAGATPUR,CUTTACK

LESSON PLAN

Discipline : Mechanical Engineering	Semester:4th	Name of the Teaching Faculty:- ANANDITA NANDA
Subject: Computer-integrated Manufacturing (CIM) [MEPC-206 TH-3]	No. of Days/per week class allotted:03	Semester From Date : 22.12.2025 To Dates 18.04.2026 No. of Weeks:15

Week	Class Day	Theory Topics
1ST	1st	**Unit-1:Introduction of CIM**
	2nd	Concept of Computer Integrated Manufacturing (CIM)
	3rd	Basic components of CIM
2ND	1st	Distributed database system
	2nd	distributed communication system computer networks for manufacturing
	3rd	computer networks for manufacturing
3RD	1st	future automated factory
	2nd	Social and economic factors.
	3rd	**Unit-2:Introduction of Computer Aided Design(CAD)**
4TH	1st	CAD hardware and software
	2nd	product modelling, automatic drafting
	3rd	Engineering analysis
5TH	1st	Introduction of Finite Element Method (FEM)
	2nd	FEM design review and evaluation
	3rd	Group Technology Centre.
6TH	1st	**Unit-3: Introduction of Computer Aided Manufacturing (CAM).**
	2nd	Introduction of Numerical Control (NC)
	3rd	Computer assisted NC part programming for plain turning
7TH	1st	Computer assisted NC part programming for step turning
	2nd	Computer assisted robot programming
	3rd	Introduction of CAPP
8TH	1st	Computer aided process planning system(CAPP)
	2nd	Computer aided material requirements planning (MRP).
	3rd	**Class Test-1**
9TH	1st	**Unit-4:Introduction of CAPS**
	2nd	Benefits of Computer aided production scheduling
	3rd	Introduction of CAIP

Ananda
23/12/2025

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Head of the Dept
Mechanical Engg. Dept
GIET (Polytechnic) Jagatpur

23.12.25
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GIET (Polytechnic)
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10TH	1st	Benefits of Computer aided inspection planning
	2nd	Introduction of computer aided inventory planning
	3rd	Benefits of computer aided inventory planning
11TH	1st	Introduction of Flexible manufacturing system (FMS)
	2nd	Concept of flexible manufacturing
	3rd	Components of FMS
12TH	1st	Types of Flexible manufacturing system
	2nd	**Unit-5:** Integrating NC machines
	3rd	Introduction of Robots
13TH	1st	Types of Robots
	2nd	Introduction of AGVs
	3rd	AGVs, and other NC equipment
14TH	1st	Computer aided quality control
	2nd	Business functions
	3rd	computer aided forecasting
15TH	1st	Office automation.
	2nd	**Class Test-2**
	3rd	Revision

Learning Resources:

1. CAD, CAM, CIM byP. Radhakrishnan and S. Subramanyan, New Age International Publishers.

2. Computer Integrated Manufacturing by Paul G. Rankey, Prentice Hall.

3. Robotics Technology and Flexible Automation – S.R. Deb, TMH

Nanda 23/12/2025

Prepared By

ANANDITA NANDA

Lecturer, Mechanical Engg Deptt
G.I.E.T (Poly), Jagatpur, Cuttack.

23/12/25

Signature of sr.lect.
GIET(polytechnic)
Jagatpur,cuttack

23.12.25

Signature of Principal.
GIET(polytechnic)
Jagatpur, Cuttack

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