

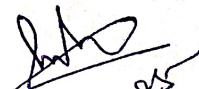
ORISSA SCHOOL OF MINING ENGINEERING, KEONJHAR
DEPARTMENT OF MECHANICAL ENGINEERING

LESSON PLAN

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|--|---|---|
| Discipline: Mechanical Engineering | Semester 3rd | Name of the Teaching Faculty: Er.GEETANJALI MARDI |
| COMPUTER-INTEGRATED MANUFACTURING | No. of days/week class allotted 3 | Semester From date:22.12.2025 To date:18.04.2026 No. of Week: 15 |
| PRE-REQUISITE | CIM encompasses the entire range of product development and manufacturing activities | |
| Course Outcomes | 1.Describe basic components and networks involved in CIM. 2.Illustrate hardware, software and product modeling at industry level. 3.Apply process planning and program coding of task.. 4.Design a manufacturing cell and cellular manufacturing system.. 5.Design automated material handling and storage systems for a typical production system. | |
| Week | Class Day | Theory/Practical Topics |
| 1st | 1st | Concept of Computer Integrated Manufacturing (CIM) |
| | 2nd | Basic components of Concept of Computer Integrated Manufacturing |
| | 3rd | Basic components of Concept of Computer Integrated Manufacturing |
| 2nd | 1st | Distributed database system |
| | 2nd | distributed communication system |
| | 3rd | distributed communication system |
| 3rd | 1st | computer networks for manufacturing |
| | 2nd | computer networks for manufacturing |
| | 3rd | future automated factory |
| 4th | 1st | social and economic factors of Concept of Computer Integrated Manufacturing |
| | 2nd | Introduction of Computer Aided Design (CAD) |
| | 3rd | Introduction of Computer Aided Design (CAD) |
| 5th | 1st | CAD hardware and software |
| | 2nd | product modelling, |
| | 3rd | product modelling, |
| 6th | 1st | automatic drafting |
| | 2nd | engineering analysis; |
| | 3rd | FEM design review and evaluation |
| 7th | 1st | FEM design review and evaluation |
| | 2nd | Group Technology Centre. |
| | 3rd | Introduction of Computer Aided Manufacturing |
| 8th | 1st | Computer assisted NC part programming for plain turning and step turning |
| | 2nd | Computer assisted NC part programming for plain turning and step turning |
| | 3rd | Computer assisted robot programming |
| 9th | 1st | Computer assisted robot programming |
| | 2nd | computer aided process |
| | 3rd | planning (CAPP); computer aided material requirements planning (MRP) |
| 10th | 1st | planning (CAPP); computer aided material requirements planning (MRP) |
| | 2nd | Introduction of Computer aided production scheduling |
| | 3rd | Computer aided production scheduling |
| 11th | 1st | computer aided inspection planning; |
| | 2nd | computer aided inspection planning; |
| | 3rd | computer aided inventory planning |
| 12th | 1st | computer aided inventory planning |
| | 2nd | Flexible manufacturing system (FMS); |
| | 3rd | Flexible manufacturing system (FMS); |
| 13th | 1st | concept of flexible manufacturing |
| | 2nd | concept of flexible manufacturing |
| | 3rd | Integrating NC machines, robots, AGVs, and other NC equipment |
| 14th | 1st | Integrating NC machines, robots, AGVs, and other NC equipment |
| | 2nd | Integrating NC machines, robots, AGVs, and other NC equipment |
| | 3rd | Computer aided quality control |
| 15th | 1st | business functions |
| | 2nd | computer aided forecasting |
| | 3rd | office automation |

Learning Resources:

1. CAD, CAM, CIM by P. 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


25