NILASAILA INSTITUTE OF SCIENCE & TECHNOLOGY
SERGARH-756060, BALASORE (ODISHA)
(Approved by AICTE& affiliated to SCTE&VT, Odisha)

LESSON PLAN

SUBJECT: TH-4(CAD/CAM & AUTOMATION)

CHAPTERWISE DISTRIBUTION OF PERIORDS

SLNO	NAME OF THE CHAPTER AS PER SYLLABUS	NO OF SYLLABUS AS PER SYLLABUS	NO OF PERIODS ACTUALLY NEEDED
1	INTRODUCTION TO CAD/CAM	6	6
2	GEOMETRICMODELING	12	12
3	INTRODUCTION TO COMPUTER NUMERICAL CONTROL	6	6
4	PARTPROGRAMMING	14	14
5	INDUSTRIAL ROBOTICS	12	12
6	AUTOMATION	10	10
	TOTAL PERIOD	60	60

Discipline: AUTOMOBILE ENGINEERING	Semester: 6th	Name of the Teaching Faculty: Er.BISHNU CHARAN JENA
Week	**Class Day**	**Theory / Practical Topics**
1st	1st	*1. Introduction to CAD / CAM*
	2nd	Computers in industrial manufacturing.
	3rd	Computers in industrial manufacturing.
	4th	Product Cycle, CAD /CAM Hardware:Basic structure, CPU, Memory, I/O devices, Storage devices and system configuration.
	5th	Product Cycle, CAD /CAM Hardware:Basic structure, CPU, Memory, I/O devices, Storage devices and system configuration.
2nd	1st	Product Cycle, CAD /CAM Hardware:Basic structure, CPU, Memory, I/O devices, Storage devices and system configuration.
	2nd	CLASS TEST
	3rd	2. Geometric Modelling :
	4th	Requirement of geometric modeling.
	5th	Requirement of geometric modeling.
3rd	1st	Types of Geometric models.
	2nd	*Types of Geometric models.*
	3rd	*Types of Geometric models.*
	4th	*Types of Geometric models.*
	5th	Geometri construction method-sweep, solid moedlling – Primitives & Boolean operations, free formed surfaces (Classification of surface only) (No numerical treatment).

4th	1st	Geometri construction method-sweep, solid moedlling – Primitives & Boolean operations, free formed surfaces (Classification of surface only) (No numerical treatment).
	2nd	Geometri construction method-sweep, solid moedlling – Primitives & Boolean operations, free formed surfaces (Classification of surface only) (No numerical treatment).
	3rd	Geometri construction method-sweep, solid moedlling – Primitives & Boolean operations, free formed surfaces (Classification of surface only) (No numerical treatment).
	4th	CLASS TEST
	5th	3. Introduction to computer numerical Control
5th	1st	Introduction – NC, CNC, DNC,
	2nd	Introduction – NC, CNC, DNC,
	3rd	*Advantages of CNC*
		Advantages of CNC
	4th	The coordinate system in CNC
6th	1st	The coordinate system in CNC
	2nd	Motion control system – point to point, straight line, Continuous path
	3rd	Motion control system – point to point, straight line, Continuous path
	4th	Motion control system – point to point, straight line, Continuous path
7th	1st	Application of CNC.
	2nd	CLASS TEST
	3rd	4. Part programming :
	4th	Fundamentals,
	5th	Fundamentals,

8th	1st	*Manual part programming*
	2nd	Manual part programming
	3rd	NC- Words, Programming format
	4th	NC- Words, Programming format
9th	1st	NC- Words, Programming format
	2nd	Part programming
	3rd	Part programming
	4th	use of subroutines and do loops,
10th	1st	use of subroutines and do loops,
	2nd	computer aided part programming
	3rd	*computer aided part programming*
	4th	*computer aided part programming*
	5th	CLASS TEST
11th	1st	5. Industrial Robotics
	2nd	Introduction, physical configuration
	3rd	Introduction, physical configuration
	4th	basic robot motions, technical features such as work volume,precision and speed of movement,weight carrying capacity , drive system,End effectors,robot sensorsa
	5th	basic robot motions, technical features such as work volume,precision and speed of movement,weight carrying capacity , drive system,End effectors,robot sensorsa

12th	1st	basic robot motions, technical features such as work volume,precision and speed of movement,weight carrying capacity , drive system,End effectors,robot sensorsa
	2nd	basic robot motions, technical features such as work volume,precision and speed of movement,weight carrying capacity , drive system,End effectors,robot sensorsa
	3rd	Application- Material transfer, machine loading,welding,spray coating,processing operation,assembly,inspection.
	4th	Application- Material transfer, machine loading,welding,spray coating,processing operation,assembly,inspection.
13th	1st	Application- Material transfer, machine loading,welding,spray coating,processing operation,assembly,inspection.
	2nd	Application- Material transfer, machine loading,welding,spray coating,processing operation,assembly,inspection.
	3rd	CLASS TEST
	4th	6. Automation :
14th	1st	Basic elements of automated system,
	2nd	Basic elements of automated system,
	3rd	advanced automation functions
	4th	advanced automation functions
	5th	advanced automation functions
15th	1st	levels of automation.
	2nd	levels of automation.
	3rd	Flexible manufacturing : Introduction FMS equipments, FMS application. Introduction to CIM.
	4th	Flexible manufacturing : Introduction FMS equipments, FMS application. Introduction to CIM.
	5th	CLASS TEST