LESSON PLAN

SUB: MECHATRONIC

BRANCH:- MECHANICAL ENGG.

SEMESTER: 5TH

NAME OF FACULTY: ER. BIKASH MURMU

GOVERNMENT POLYTECHNIC, BHADRAK

SESSION:2025-26

Hod ,Mechanical

Academic Co-ordinator

Academic Co-ordinator

Principal
Govt. Polytechnic, Bhadrak

Discipline: MECHANICAL	Semester: 5th	Name of the Teaching Faculty: BIKASH MURMU,SR.LECTURER
Subject: mechatronic	No. of days/per week class allotted: 4	Semester From date: 14/07/2025 To date:15-11-25 No of weeks: 15
Week	**Class Day**	**Theory Topics:**
1st	1st	**INTRODUCTION:** 1 Definition of Mechatronics
	2nd	Advantages & disadvantages of Mechatronics
	3rd	Application of Mechatronics
	4th	Scope of Mechatronics in Industrial Sector
2nd	1st	Components of a Mechatronics System
	2nd	Importance of mechatronics in automation
	3rd	SENSORS AND TRANSDUCERS
	4th	Defination of Transducers
3rd	1st	Classification of Transducers
	2nd	Electromechanical Transducers
	3rd	Transducers Actuating Mechanisms
	4th	Displacement &Positions Sensors
4th	1st	Velocity, motion, force and pressure sensors
	2nd	Temperature and light sensors.
	3rd	ACTUATORS-MECHANICAL, ELECTRICAL
	4th	1Mechanical Actuators
5th	1st	Machine, Kinematic Link, Kinematic Pair
	2nd	Mechanism, Slider crank Mechanism
	3rd	Gear Drive, Spur gear, Bevel gear, Helical gear, worm gear
	4th	Belt & Belt drive

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6th	1st	Bearings , Electrical Actuator)
	2nd	Switches and relay , Solenoid , D.C Motors
	3rd	A.C Motors ,Stepper Motors
	4th	Specification and control of stepper motors Servo Motors D.C & A.C.
7th	1st	Revision of Chapter-II
	2nd	PROGRAMMABLE LOGIC CONTROLLERS(PLC): 1 Introduction
	3rd	Advantages of PLC
	4th	Selection and uses of PLC.
8th	1st	Architecture basic internal structures.
	2nd	Input/output Processing and Programming.
	3rd	Mnemonics Master and Jump Controllers
	4th	ELEMENTS OF CNC MACHINES
9th	1st	Introduction to Numerical Control of machines and CAD/CAM
	2nd	NC machines.
	3rd	CNC machines
	4th	3.CAD/CAM.
10th	1st	CAD ,CAM,
	2nd	Software and hardware for CAD/CAM
	3rd	Functioning of CAD/CAM system
	4th	Features and characteristics of CAD/CAM system

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11th	1st	Application areas for CAD/CAM
	2nd	elements of CNC machines
	3rd	Introduction
	4th	Machine Structure
12th	1st	Guideways/Slide ways.
	2nd	1 Introduction and Types of Guideways,
	3rd	Factors of design of guideways
	4th	Spindle drives
13th	1st	Feed drive
	2nd	Spindle and Spindle Bearings
	3rd	Revision class ch-3
	4th	Definition, Function and laws of robotics
14th	1st	Types of industrial robots.
	2nd	Robotic systems
	3rd	Advantages and Disadvantages of robots
	4th	**Revision-chapter-4**
15th	1st	DISCUSSION OF PYQ
	2nd	**Revision-chapter-5**
	3rd	DISCUSSION OF PYQ
	4th	DISCUSSION OF PYQ

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