

GOVERNMENT POLYTECHNIC, MALKANGIRI
DEPARTMENT OF MECHANICAL ENGINEERING

LESSON PLAN

Discipline: Mechanical Engineering	Semester: 5th	Name of the Teaching Faculty: SATYABAN KOPE
Subject: MECHATRONICS	No. of days/week class allotted 4	Semester From date: _____ To date: _____ No. of Week: 15
PRE-REQUISITE	MECHATRONICS	
Course Outcomes	<ol style="list-style-type: none"> 1. To study the definition and elements of mechatronics system. 2. To learn how to apply the principle of mechatronics for the development of productive systems. 3. To learn the CNC technology and applications of mechatronics in manufacturing automation. 4. Define different type of system and Sensors and solve the simple problems 5. Explain the concept of Mechanical actuation, Electrical actuation and solve the simple problems. 6. Find out the various types of System Models & Input /Output parts and solve the problems. 	
Week	Class Day	Theory/Practical Topics
1st	1st	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	Defination of Transducers
	4th	Classification of Transducers
3rd	1st	Electromechanical Transducers
	2nd	Transducers Actuating Mechanisms
	3rd	Displacement & Positions Sensors
	4th	Displacement & Positions Sensors
4th	1st	Velocity, motion
	2nd	force and pressure sensors
	3rd	Temperature and light sensors
	4th	Temperature and light sensors
5th	1st	Mechanical Actuators
	2nd	Machine, Kinematic Link, Kinematic Pair
	3rd	Mechanism, Slider crank Mechanism
	4th	Gear Drive, Spur gear, Bevel gear, Helical gear, worm gear
6th	1st	Belt & Belt drive
	2nd	Bearings
	3rd	Electrical Actuator
	4th	Switches and relay Solenoid
7th	1st	D.C Motors
	2nd	A.C Motors
	3rd	Stepper Motors
	4th	Specification and control of stepper motors
8th	1st	Servo Motors D.C & A.C
	2nd	Introduction
	3rd	Advantages of PLC
	4th	Advantages of PLC
9th	1st	Selection and uses of PLC
	2nd	Selection and uses of PLC
	3rd	Architecture basic internal structures
	4th	Architecture basic internal structures
	1st	Input/output Processing and Programming
	2nd	Input/output Processing and Programming
	3rd	Input/output Processing and Programming
	4th	Mnemonics