LESSON PLAN

Discipline: Mech. Engg.	**Semester:** Fifth (5th)	**Name of the Faculty:** Er Sandip Ku. Behera and Er.Debasmita Mohapatra
Subject: Mechatronics	**No. of days/week class allotted:** Six (6)	**Semester from Date:** 15.09.22 **to Date:** 22.12.22 **No. of Weeks:** 15
WEEK	**CLASS DAY**	**THEORY TOPICS**
1st	1st	Introduction to Mechatronics
	2nd	Definition of Mechatronics, Advantages & disadvantages of Mechatronics
	3rd	Application of Mechatronics, Scope of Mechatronics in Industrial Sector
	4th	Components of a Mechatronics System
	5th	Importance of mechatronics in automation
	6th	**Review class**
2nd	1st	Introduction to sensors
	2nd	Introduction to Transducers
	3rd	Definition of Transducers.
	4th	Classification of Transducers
	5th	Electromechanical Transducers
	6th	Transducers Actuating Mechanisms
3rd	1st	Displacement and Positions Sensors
	2nd	Velocity, motion,
	3rd	force pressure sensors
	4th	Temperature and light sensors

	5th	**Review class**
	6th	Mechanical Actuators Introduction
4th	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
	5th	Belt & Belt drive
	6th	**Monthly Test 01**
5th	1st	Bearings
	2nd	Electrical Actuator
	3rd	Switches
	4th	relay
	5th	Continue
	6th	Solenoid
6th	1st	D.C Motors
	2nd	A.C Motors
	3rd	Continue
	4th	Stepper Motors
	5th	Specification and control of stepper motors
	6th	Servo Motors D.C
7th	1st	Servo Motors A.C
	2nd	**Review Class**
	3rd	Programmable logic controllers
	4th	Advantages of PLC

	5th	Selection and uses of PLC
	6th	**Monthly Test 02**
8th	1st	Architecture basic internal structures
	2nd	Input/output Processing and Programming
	3rd	Mnemonics
	4th	Master
	5th	Jump Controllers
	6th	**Review Class**
9th	1st	Introduction to Numerical Control of machines CAD
	2nd	Introduction to Numerical Control of machines CAM
	3rd	NC machines
	4th	CNC machines
	5th	CAD/CAM
	6th	CAD
10th	1st	CAM
	2nd	Software and hardware for CAD/CAM
	3rd	Functioning of CAD/CAM system
	4th	Features and characteristics of CAD/CAM system
	5th	Application areas for CAD/CAM
	6th	**Monthly Test 03**
11th	1st	Elements of CNC machines Introduction
	2nd	Machine Structure
	3rd	Continue

	4th	Guideways/Slide ways
	5th	Introduction and Types of Guideways
	6th	Factors of design of guideways
12th	1st	Drives
	2nd	Spindle drives
	3rd	Feed drive
	4th	Spindle
	5th	Spindle Bearings
	6th	**Review class**
13th	1st	Robotics Introduction
	2nd	Definition of Robotics
	3rd	Function and laws of robotics
	4th	Robotic systems
	5th	Continue
	6th	Advantages of robots
14th	1st	Disadvantages of robots
	2nd	**Review class**
	3rd	**Monthly Test 04**
	4th	Revision class
	5th	Revision class
	6th	Revision class

15th	1st	Revision class
	2nd	Revision class
	3rd	Revision class
	4th	Revision class
	5th	Revision class
	6th	Revision class