

BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK
DEPARTMENT OF MECHANICAL ENGINEERING



LESSON PLAN

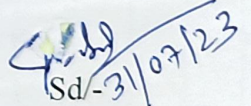
SUBJECT: MECHATRONICS (TH 4)

FACULTY: Er. CHIRANJEEVI PATTNAIK

ACCADEMIC SESSION: 2023-24

SEMESTER: 5TH

SEC: A


Sd/- 31/07/23
H.O.D (MECH. Engg.)

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Discipline: Mechanical Engineering	Semester: 5th A		Name of the teaching faculty: Er. CHIRANJEEVI PATTNAIK
Subject: Mechatronics	No. of Days/ per week class allotted: 04 periods per week (Tue-1 period, Wed-1 period, Thu-1 period, Fri -1 period)		Semester From Date: 01-08-2023 To Date: 30-11-2023 No. of weeks: 20 weeks
Week	Class Day	No of period available	Theory Topics
1ST	01 -Aug-2023	1	1.0 INTRODUCTION TO MECHATRONICS 1.1 Definition of Mechatronics
	02-Aug-2023	1	1.2 Advantages & disadvantages of Mechatronics.
	03-Aug-2023	1	1.3 Application of Mechatronics
	04-Aug-2023	1	1.4 Scope of Mechatronics in Industrial Sector
2ND	08-Aug-2023	1	1.5 Components of a Mechatronics System
	09-Aug-2023	1	1.6 Importance of mechatronics in automation
	10-Aug-2023	1	2.0 SENSORS AND TRANSDUCERS 2.1 Definition of Transducers
	11-Aug-2023	1	2.2 Classification of Transducers
3RD	16-Aug-2023	1	2.3 Electromechanical Transducers
	17-Aug-2023	1	2.4 Transducers Actuating Mechanisms
	18-Aug-2023	1	2.5 Displacement & Positions Sensors

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4TH	22-Aug-2023	1	2.6 Velocity, motion, force and pressure sensors.
	23-Aug-2023	1	2.7 Temperature and light sensors
	24-Aug-2023	1	3.0 ACTUATORS-MECHANICAL, ELECTRICAL 3.1 Mechanical Actuators
	25-Aug-2023	1	3.1.1 Machine, Kinematic Link, Kinematic Pair
5TH	29-Aug-2023	1	3.1.2 Mechanism, Slider crank Mechanism
	31-Aug-2023	1	3.1.3 Gear Drive, Spur gear, Bevel gear, Helical gear, worm gear
6TH	01-Sep-2023	1	3.1.4 Belt & Belt drive
7TH	05-Sep-2023	1	3.1.5 Bearings
	07-Sep-2023	1	3.2 Electrical Actuator
	08-Sep-2023	1	3.2.1 Switches and relay
8TH	12-Sep-2023	1	3.2.2 Solenoid.
	13-Sep-2023	1	3.2.3 D.C Motors
	14-Sep-2023	1	3.2.4 A.C Motors
	15-Sep-2023	1	3.2.5 Stepper Motors
9TH	21-Sep-2023	1	3.2.6 Specification and control of stepper motors
	22-Sep-2023	1	3.2.7 Servo Motors D.C & A.C

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10TH	26-Sep-2023	1	4.0PROGRAMMABLE LOGIC CONTROLLERS(PLC) 4.1Introduction 4.2Advantages of PLC
	27-Sep-2023	1	4.3Selection and uses of PLC 4.4 Architecture basic internal structures
	29-Sep-2023	1	4.5 Input/output Processing and Programming
11TH	03-Oct-2023	1	4.6 Mnemonics
	04-Oct-2023	1	4.7 Master and Jump Controllers
	05-Oct-2023	1	2.7 Temperature and light sensors
	06-Oct-2023	1	3.0 ACTUATORS-MECHANICAL, ELECTRICAL 3.1Mechanical Actuators 3.1.1 Machine, Kinematic Link, Kinematic Pair
12TH	10-Oct-2023	1	3.1.2 Mechanism,Slider crank Mechanism
	11-Oct-2023	1	3.1.3 Gear Drive, Spur gear, Bevel gear, Helical gear, worm gear
	12-Oct-2023	1	3.1.4 Belt & Belt drive 3.1.5 Bearings

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12TH	13-Oct-2023	1	3.2 Electrical Actuator 3.2.1 Switches and relay
13TH	17-Oct-2023	1	3.2.2 Solenoid. 3.2.3 D.C Motors
	18-Oct-2023	1	3.2.4 A.C Motors 3.2.5 Stepper Motors .
	19-Oct-2023	1	3.2.6 Specification and control of stepper motors
14TH	25-Oct-2023	1	3.2.7 Servo Motors D.C & A.C CLASS TEST-01
	26-Oct-2023	1	4.0 PROGRAMMABLE LOGIC CONTROLLERS(PLC) 4.1 Introduction 4.2 Advantages of PLC 4.3 Selection and uses of PLC
	27-Oct-2023	1	4.4 Architecture basic internal structures
15TH	31-Oct-2023	1	4.5 Input/output Processing and Programming
16TH	01-Nov-2023	1	4.6 Mnemonics 4.7 Master and Jump Controllers
	02-Nov-2023	1	5.1 Introduction to Numerical Control of machines and CAD/CAM 5.1.1 NC machines

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16TH			5.1.2 CNC machines
	3-Nov-2023	1	5.1.3.1 CAD 5.1.3.2 CAM 5.1.3.4 Functioning of CAD/CAM system
17TH	7-Nov-2023	1	5.1.3.4 Features and characteristics of CAD/CAM system
	8-Nov-2023	1	5.1.3.5 Application areas for CAD/CAM
	9-Nov-2023	1	5.2 Elements of CNC machines 5.2.1 Introduction 5.2.2 Machine Structure
	10-Nov-2023	1	5.2.3 Guideways/Slide ways 5.2.3.1 Introduction and Types of Guideways
18TH	15-Nov-2023	1	5.2.3.2 Factors of design of guideways
	16-Nov-2023	1	5.2.4 Drives 5.2.4.1 Spindle drives 5.2.4.2 Feed drive
	17-Nov-2023	1	5.2.5 Spindle and Spindle Bearings CLASS TEST-02

Chinmayee Pattnaik

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19TH	22-Nov-2023	1	6.0 ROBOTICS 6.1 Definition, Function and laws of robotics
	23-Nov-2023	1	6.2 Types of industrial robots
	24-Nov-2023	1	6.3 Robotic systems
20TH	28-Nov-2023	1	6.4 Advantages and Disadvantages of robots CLASS TEST-03
	29-Nov-2023	1	REVISION
	30-Nov-2023	1	REVISION

Chiranjeevi Pattaik