

Discipline :	Semester: 5TH	Name of the Teaching Faculty :SANYASI SWAIN
Subject :TH-5 MECHATRONICS	No. of Days 4/ per week class	Semester From date : 14.07.2025 to Dt :15.11.2023 No. of Weeks : 15
Week	Class Day	Topics
1ST	1st	CH-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	CH-2 Defination of Transducers
	4th	Classification of Transducers
3RD	1st	Electromechanical Transducers
	2nd	Transducers Actuating Mechanisms
	3rd	Displacement &Positions Sensors , Velocity, motion, force and pressure sensors.
	4th	Temperature and light sensors
4TH	1st	CH-3 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
5TH	1st	BEARINGS
	2nd	Switches and relay
	3rd	Solenoid
	4th	D.C Motors
6TH	1st	A.C Motors
	2nd	Stepper Motors
	3rd	Specification and control of stepper motors
	4th	Servo Motors D.C & A.C
7TH	1st	CH-4 Introduction of PLC
	2nd	Advantages of PLC
	3rd	Selection and uses of PLC
	4th	Architecture basic internal structures
8TH	1st	Input/output Processing and Programming
	2nd	Mnemonics

	3rd	Master and Jump Controllers
	4th	Master and Jump Controllers
9TH	1st	CH-5 Introduction of NC machines
	2nd	CNC machines
	3rd	CAD/CAM
	4th	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
11TH	1st	Application areas for CAD/CAM
	2nd	Introduction of CNC MACHINE
	3rd	Machine Structure
	4th	Guideways/Slide ways
12TH	1st	Introduction and Types of Guideways
	2nd	Factors of design of guideways
	3rd	Spindle drives
	4th	Feed drive
13TH	1st	Spindle and Spindle Bearings
	2nd	CH-6 Definition, Function and laws of robotics
	3rd	Types of industrial robots
	4th	Robotic systems
14TH	1st	Advantages and Disadvantages of robots
	2nd	Advantages and Disadvantages of robots
	3rd	REVISION
	4th	PREVIOUS YEAR QUESTIONS
15th	1st	PREVIOUS YEAR QUESTIONS
	2nd	REVISION
	3rd	REVISION
	4th	PREVIOUS YEAR QUESTIONS

Signature of Lecturer

Signature of H.O.D

Signature of Principal