Discipline : MECHANICAL ENGINEERING	Semester:- 5TH	Name of the Teaching Faculty: - BHAGABAN PARIDA
Subject:- MECHATRONICS (TH-4)	No of Days/per Week Class Allotted :- 04	Semester From:- 15.09 .2022To:- 22.12.2022
Week	**Class Day**	**Theory**
1st	1st	Definition of Mechatronics
	2nd	Advantages & disadvantages of Mechatronics
	3rd	Application of Mechatronics ,Scope of Mechatronics in Industrial Sector
	4th	Components of a Mechatronics System
2nd	1st	Importance of mechatronics in automation
	2nd	Definition of Transducers
	3rd	Classification of Transducers
	4th	Electromechanical Transducers
3rd	1st	Transducers Actuating Mechanisms
	2nd	Contd...Transducers Actuating Mechanisms
	3rd	Displacement sensors
	4th	Positions Sensors
4th	1st	Velocity, motion sensors
	2nd	force and pressure sensors
	3rd	Temperature and light sensors.
	4th	Actuators ,Mechanical 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
6th	1st	Bearings
	2nd	Electrical Actuator

		3rd	Switches and relay ,Solenoid
		4th	D.C Motors ,A.C Motors , Stepper Motors
7th		1st	Specification and control of stepper motors , Servo Motors D.C & A.C
		2nd	Introduction to PLC
		3rd	PLC system
		4th	Advantages of PLC
8th		1st	PLC in industries and circuits
		2nd	Selection of PLC
		3rd	uses of PLC
		4th	Architecture basic internal structures
9th		1st	Basic internal structures
		2nd	Input/output Processing
		3rd	Input/output Programming
		4th	Mnemonics
10th		1st	Mnemonics
		2nd	Master Controllers
		3rd	Jump Controllers
		4th	Introduction to Numerical Control of machines
11th		1st	Introduction to CAD/CAM
		2nd	NC machines and CNC machines
		3rd	CAD and CAM
		4th	Software and hardware for CAD/CAM
12th		1st	Functioning of CAD/CAM system
		2nd	Features and characteristics of CAD/CAM system
		3rd	Application areas for CAD/CAM
		4th	Introduction to CNC machines
13th		1st	Machine Structure of CNC Machine
		2nd	Introduction and Types of Guide ways
		3rd	Factors of design of guide ways
		4th	Spindle drives, Feed drive
		1st	Spindle
		2nd	Spindle Bearings

14th	3rd	Definition
	4th	Function and laws of robotics
15th	1st	Types of industrial robots
	2nd	Robotic systems
	3rd	Advantages and Disadvantages of robots
	4th	Practical example of Robotic system

TEACHING FACULTY

HOD, MECHANICAL