Discipline: Mechanical Engineering	Semester : 5th Semester-2020-21	Name of the Teaching Faculty: Miss,Shradha Suman Adabar Lect. In Mechanical Engineering
Subject: MECHATRONICS	No. of Days/week Class Allotted: 60	Semester from date: 01/09/ 2020 to date: 19/03/2021No of weeks: 18
week	Class Day	Theory 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	Describe design procedure. 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	Velocity, motion, force and pressure sensors.
4th	1st	Temperature and light sensors.
	2nd	Mechanical Actuators
	3rd	Machine, Kinematic Link, Kinematic Pair

	4th	Mechanism,Slider crank Mechanism
5th	1st	Gear Drive, Spur gear, Bevel gear, Helical gear, worm gear
	2nd	Belt & Belt drive
	3rd	Bearings
	4th	Electrical Actuator
6th	1st	Switches and relay
	2nd	Solenoid
	3rd	D.C Motors
	4th	D.C Motors
7th	1st	A.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	Selection and uses of PLC
9th	1st	Architecture basic internal structures
	2nd	Input/output Processing and Programming
	3rd	Mnemonics

	4th	Master and Jump Controllers
10th	1st	Introduction to Numerical Control of machines and CAD/CAM
	2nd	NC machines
	3rd	CNC machines
	4th	CAD/CAM
11th	1st	CAD
	2nd	CAM
	3rd	Software and hardware for CAD/CAM
	4th	Functioning of CAD/CAM system
12th	1st	Features and characteristics of CAD/CAM system
	2nd	Application areas for CAD/CAM
	3rd	Elements of CNC machines
	4th	Introduction
13th	1st	Machine Structure
	2nd	Guideways/Slide ways Introduction and Types of Guideways
	3rd	Factors of design of guideways
	4th	Drives Spindle drives

14th	1st	Feed drive	
	2nd	Spindle and Spindle Bearings	
	3rd	Definition, Function and laws of robotics	
	4th	Types of robots	
15th	1st	Robotic systems	
	2nd	Advantages and Disadvantages of robots	
	3rd	Revision of Chapter – 1	
	4th	Revision of Chapter – 2	
16th	1st	Revision of Chapter – 3	
	2nd	Revision of Chapter – 4	
	3rd	Revision of Chapter – 4	
	4th	Revision of Chapter – 5	
17th	1st	Revision of Chapter – 5	
	2nd	Revision of Chapter – 6	
	3rd	Discussion of Probable Questions and Answers (1)	
	4th	Discussion of Probable Questions and Answers(2)	
18th	1st	Discussion of Probable Questions and Answers (3)	
	2nd	Discussion of Probable Questions and Answers(4)	
	3rd	Discussion of Probable Questions and Answers (5)	
	4th	Discussion of Probable Questions and Answers (6)	