

Discipline: Mechanical Engineering	Semester : 5th Semester	Name of the Teaching Faculty: Miss,Shradha Suman Adabar Lect. In Mechanical Engineering
Subject: MECHATRONICS	No. of Days/week Class Allotted: 60	No of weeks: 18
week	Class Day	Theory Topics
1 st	1 st	Definition of Mechatronics
	2 nd	Advantages & disadvantages of Mechatronics
	3 rd	Application of Mechatronics
	4 th	Scope of Mechatronics in Industrial Sector
2 nd	1 st	Components of a Mechatronics System
	2 nd	Describe design procedure. Importance of mechatronics in automation
	3 rd	Defination of Transducers
	4 th	Classification of Transducers
3 rd	1 st	Electromechanical Transducers
	2 nd	Transducers Actuating Mechanisms
	3 rd	Displacement & Positions Sensors
	4 th	Velocity, motion, force and pressure sensors.
4 th	1 st	Temperature and light sensors.
	2 nd	Mechanical Actuators
	3 rd	Machine, Kinematic Link, Kinematic Pair

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

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

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