LESSON PLAN

DEPARTMENT OF MECHANICAL ENGINEERING, ITT, CHOUDWAR

SUBJECT: Mechatronics **Periods:** 4 per week **SEMESTER:** 5th
NAME OF FACULTY: LEEZA MISHRA, LECT (MT) **No. of weeks:** 15

Week	Class Day	Theory / Practical Topics
1st	1st	Introduction to mechatronics
	2nd	Discussion about Definition of Mechatronics and its Advantages & disadvantages
	3rd	Scope of Mechatronics in Industrial Sector
	4th	Discussion about Application of Mechatronics
2nd	1st	Discussion about Components of a Mechatronics System
	2nd	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
	4th	Kinematic Pair, Assignment given to the students
5th	1st	Mechanism,Slider crank Mechanism
	2nd	Gear Drive, Spur gear, Bevel gear
	3rd	Helical gear, worm gear
	4th	Belt & Belt drive, Submission of Assignments.
6th	1st	Open belt drive, prove the length of open belt drive
	2nd	Close belt drive, Derive the length of Cross belt drive
	3rd	Bearings, Various types of bearings and its uses
	4th	Electrical Actuator, Switches and relay and its uses
7th	1st	Question Answers discussion with students.
	2nd	Solenoid, Discussion about different types of switches.
	3rd	D.C Motors and where D.C motors are used
	4th	A.C Motors and its uses
8th	1st	Stepper Motors, examples of stepper motor
	2nd	Specification and control of stepper motors
	3rd	A.C servo motors, D.C servo motors
	4th	Doubt clearing class.
9th	1st	Introduction to programmable logic controller
	2nd	Advantages of PLC
	3rd	Selection and uses of PLC
	4th	Architecture basic internal structures
10th	1st	Input/output Processing and Programming
	2nd	Mnemonics, Master and Jump Controllers
	3rd	Revision previous year Questions.

11th	1st	Introduction to Numerical Control of machines and CAD/CAM
	2nd	NC machines
	3rd	Block diagram of N.C machines,
	4th	Elements of N.C machines
12th	1st	CAD/CAM
	2nd	Software and hardware forCAD/CAM
	3rd	Functioning of CAD/CAM system
	4th	Features and characteristics of CAD/CAM system
13th	1st	Application areas for CAD/CAM
	2nd	CNC machines, elements of CNC machines
	3rd	Machine Structure Guide ways/Slide ways, Practicing simple Programming of Lathe.
	4th	Introduction and Types of Guide ways
14th	1st	Factors of design of guide ways Drives
	2nd	Spindle drives, Feed drive, discussion about programming
	3rd	Spindle and Spindle Bearings
	4th	Definition of Robotics
15th	1st	Function and Laws of Robotics
	2nd	Types of industrial robots and its Advantages and Disadvantages
	3rd	What is Robotic systems and its application in Industry.
	4th	Doubt clearing and revision.

Leeza Mishra

Sign. of Faculty