

RAJA KISHORE CHANDRA ACADEMY OF TECHNOLOGY

NILGIRI,BALASORE

DEPARTMENT OF MECHANICAL ENGINEERING

LESSON PLAN

SUBJECT- MECHATRONICS

BRANCH-Mechanical Engg.

NAME OF THE FACULTY- ER. SANJAY KUMAR BEHERA
SESSION-

SEMESTER-5TH

UNIT	DATE	LECTUR E NO.	TOPIC TO BE COVERED
1		1	Introduction to Mechatronics, Advantages & Disadvantages of Mechatronics
		2	Application of Mechatronics, Scope of Mechatronics in Industrial Sector
		3	Components of a Mechatronics System
		4	Importance of Mechatronics in Automation
		5	Test on unit 1 & doubt clearing
2		6	Introduction to Transducers, Classification of Transducers
		7	Electromechanical Transducers
		8	Transducers Actuating Mechanisms
		9	Introduction to Sensors,Types of sensors
		10	Displacement & Position Sensors, Velocity & Motion Sensors
		11	Force & Pressure Sensors
		12	Temperature & Light Sensors
		13	Doubt clearing of unit 2
		14	Test on unit 2 & discussion of important questions of unit 1
		15	Discussion of important questions of unit 2
3		16	Introduction to Actuators, Mechanical Actuators & Machine
		17	Discussion of performance test questions
		18	Kinematic Link, Kinematic Pair
		19	Problems
		20	Types of kinematic pairs
		21	Mechanism & Slider crank Mechanism
		22	Gear Drive, Spur gear, Bevel gear, Helical gear, worm gear
		23	Belt & Belt drive
		24	Bearings
		25	Electrical Actuator, Switches and relay

		26	Solenoid, D.C Motors
		27	Types of dc motors
		28	A.C Motors & their types
		29	Stepper Motors, Specification and control of stepper motors
		30	Servo Motors D.C & A.C
4		31	Introduction to PLC & Advantages of PLC
		32	Selection and uses of PLC
		33	Architecture basic internal structures
		34	Input/output Processing and Programming
		35	Mnemonics, Master and Jump Controllers
		36	Test on unit 3 & 4 and doubt clearing
5		37	NC machines, CNC machines
		38	CNC machines, Introduction to CAD/CAM
		39	Software and hardware for CAD/CAM, Functioning of CAD/CAM system
		40	Class test 1
		41	Discussion of class test 1 questions
		42	Features and characteristics of CAD/CAM system, Application areas for CAD/CAM
		43	elements of CNC machines, Machine Structure
		44	Introduction and Types of Guideways
		45	Factors of design of guideways
		46	Spindle Drives
		47	Feed Drives
		48	Spindle and Spindle Bearings
		49	Test on unit 5 & doubt clearing
		50	Discussion of important questions
6		51	Definition, Function and laws of robotics

		52	Types of industrial robots
		53	Robotic systems
		54	Advantages and Disadvantages of robots
		55	Test on unit 6 & Doubt clearing
		56	Discussion of important questions
		57	Class test 2
		58	Mcq test of complete syllabus
		59	Previous year question discussion
		60	Final Revision for semester exam

SIGNATURE OF FACULTY MEMBER

COUNTER SIGNATURE OF H.O.D

