

Dicipline: Mechanical	Semester: 5th	Name of the Teaching Faculty: Tapan Kumar Jena	
Subject: Mechatronics	No of Days/Week Class Allotted: 4	Semester From date: 01.10.21 To date: 12.01.22	No. of Weeks: 15

WEEK	Class Day	Theory Topics
1st	1st	1.1. Defn of mechatronics
	2nd	1.2. Advantages & Disadvantages of mechatronics
	3rd	1.3. Application of mechatronics
	4th	1.4. scope of mechatronics in Industrial sector.
	5th	
2nd	1st	1.5. components of mechatronics
	2nd	1.6. Importance of mechatronics in Automation.
	3rd	2.1. Defn & classification of ^{sensors} transducer
	4th	2.3 Electromechanical transducers
	5th	
3rd	1st	2.4 Transducers actuating mechanisms.
	2nd	2.5. Displacement & position sensors.
	3rd	2.6 force & pressure sensors.
	4th	2.6 force & pressure sensors.
	5th	

WEEK	Class Day	Theory Topics
4th	1st	2.7 Temperature & light sensors
	2nd	3.0 Mechanical Actuators ^{Actuators}
	3rd	3.1. Machine, kinematic link. kinematic pair.
	4th	3.4. Types of pair
	5th	
5th	1st	3.2 Mechanism, slider crank mechanism
	2nd	3.3 Types of gear.
	3rd	3.4 Belt drive & types of belt drive
	4th	3.5 Bearings & types of bearing.
	5th	
6th	1st	3.6 Electrical Actuators switch relay, solenoid
	2nd	3.7 D.C motor & explanation
	3rd	3.8 A.C motors (Induction & synchronous)
	4th	3.9 stepper motor & its control
	5th	

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WEEK	Class Day	Theory Topics
7th	1st	3.10 servo motor, AC & DC.
	2nd	4.1. Introduction to PLC & its use
	3rd	4.2 Advantages of PLC Uses of PLC
	4th	4.4 Internal structure.
	5th	
8th	1st	4.5 Input/output processing & programming
	2nd	4.6 Ladder Logic.
	3rd	4.7 timer & jump controllers.
	4th	5.0 Introduction to CNC, NC, DNC.
	5th	
9th	1st	5.1 components of NC system
	2nd	5.2. CAD /CAM (Introduction to CAD)
	3rd	5.3 CAD programming & software
	4th	5.4 Hardware of CAD
	5th	

WEEK	Class Day	Theory Topics
10 th	1st	S.5 Introduction to CAM
	2nd	S.6/S.7 / Features of CAD/CAM Application Areas For CAD/CAM
	3rd	S.8 elements of CNC machines.
	4th	S.9 types of guideways.
	5th	
11 th	1st	S.10. TYPES OF DRIVE
	2nd	G.1. DEFN & Introduction
	3rd	G.2 characteristics of Robot TYPES OF Industrial Robot.
	4th	G.3 co-ordinate system of Robot
	5th	
12 th	1st	G.4 parts of Robot. (General parts)
	2nd	G.5 uses of Robot
	3rd	
	4th	
	5th	