



GANDHI SCHOOL OF ENGINEERING

BHABANDHA, BERHAMPUR

SESSION PLAN

5TH SEMESTER, BRANCH-MECHANICAL(GROUP 1)

MECHATRONICS(TH-4)

Name of the Faculty – ER. SUNIL KUMAR SAHU						
Topics to be taken				Actually taken		
SL NO & CHAPTER	No. of Periods assigned by SCTE & VT	Details of the topics	PLANNED DATE	Details of the topics	ACTUAL DATE	Remarks
1. INTRODUCTION TO MECHATRONICS	5	1.1 Definition of Mechatronics 1.2 Advantages & disadvantages of Mechatronics 1.3 Application of Mechatronics 1.4 Scope of Mechatronics in Industrial Sector 1.5 Components of a Mechatronics System 1.6 Importance of mechatronics in automation	16/09/2022 TO 14/10/2022	1.1 Definition of Mechatronics 1.2 Advantages & disadvantages of Mechatronics 1.3 Application of Mechatronics 1.4 Scope of Mechatronics in Industrial Sector 1.5 Components of a Mechatronics System 1.6 Importance of mechatronics in automation	16.09.2022 23.09.2022 24.09.2022 30.09.2022 14.10.2022	
2. SENSORS AND TRANSDUCERS	10	2.1Defination of Transducers 2.2 Classification of Transducers 2.3 Electromechanical Transducers 2.4 Transducers Actuating Mechanisms 2.5 Displacement &Positions Sensors 2.6 Velocity, motion, force and pressure sensors. 2.7 Temperature and light sensors.	15/10/2022 TO 19/11/2022	2.1Defination of Transducers 2.2 Classification of Transducers 2.3 Electromechanical Transducers 2.4 Transducers Actuating Mechanisms 2.5 Displacement &Positions Sensors 2.6 Velocity, motion, force and pressure sensors. 2.7 Temperature and light sensors.	15.10.2022 21.10.2022 22.10.2022 28.10.2022 29.10.2022 4.11.2022 5.11.2022 11.11.2022 12.11.2022 19.11.2022	

<p>3. ACTUATORS- MECHANICAL, ELECTRICAL</p>	<p>10</p>	<p>3.1 Mechanical Actuators 3.1.1 Machine, Kinematic Link, Kinematic Pair 3.1.2 Mechanism, Slider crank Mechanism 3.1.3 Gear Drive, Spur gear, Bevel gear, Helical gear, worm gear 3.1.4 Belt & Belt drive 3.1.5 Bearings 3.2 Electrical Actuator 3.2.1 Switches and relay 3.2.2 Solenoid 3.2.3 D.C Motors 3.2.4 A.C Motors 3.2.5 Stepper Motors 3.2.6 Specification and control of stepper motors 3.2.7 Servo Motors D.C & A.C</p>	<p>25/11/2022 TO 24/12/2022</p>	<p>3.1 Mechanical Actuators 3.1.1 Machine, Kinematic Link, Kinematic Pair 3.1.2 Mechanism, Slider crank Mechanism 3.1.3 Gear Drive, Spur gear, Bevel gear, Helical gear, worm gear 3.1.4 Belt & Belt drive 3.1.5 Bearings 3.2 Electrical Actuator 3.2.1 Switches and relay 3.2.2 Solenoid 3.2.3 D.C Motors 3.2.4 A.C Motors 3.2.5 Stepper Motors 3.2.6 Specification and control of stepper motors 3.2.7 Servo Motors D.C & A.C</p>	<p>25.11.2022 26.11.2022 2.12.2022 3.12.2022 9.12.2022 10.12.2022 16.12.2022 17.12.2022 23.12.2022 24.12.2022</p>	
<p>6. ROBOTICS</p>	<p>5</p>	<p>6.1 Definition, Function and laws of robotics 6.2 Types of industrial robots 6.3 Robotic systems 6.4 Advantages and Disadvantages of robots</p>	<p>30/12/2022 TO 13/01/2023</p>	<p>6.1 Definition, Function and laws of robotics 6.2 Types of industrial robots 6.3 Robotic systems 6.4 Advantages and Disadvantages of robots</p>	<p>30.12.2022 31.12.2022 6.01.2023 7.01.2023 13.01.2023</p>	

Name of the Faculty – ER. BEDA PRAKASH NAYAK

		Topics to be taken		Actually taken	
4. PROGRAMMABLE LOGIC CONTROLLERS(PLC)	15	4.1 Introduction	21/09/2022 TO 18/01/2023	4.1 Introduction	21.09.2022
		4.2 Advantages of PLC		4.2 Advantages of PLC	28.09.2022
		4.3 Selection and uses of PLC		4.3 Selection and uses of PLC	12.10.2022
		4.4 Architecture basic internal structures		4.4 Architecture basic internal structures	26.10.2022
		4.5 Input/output Processing and Programming		4.5 Input/output Processing and Programming	2.11.2022
		4.6 Mnemonics		4.6 Mnemonics	9.11.2022
		4.7 Master and Jump Controllers		4.7 Master and Jump Controllers	30.11.2022
				7.12.2022	
				14.12.2022	
				21.12.2022	
				28.12.2022	
				4.01.2023	
				11.01.2023	
				18.01.2023	

Name of the Faculty – ER. MANASI BHOI

Topics to be taken		Actually taken		
5. ELEMENTS OF CNC MACHINES	15	5.1 Introduction to Numerical Control of machines and CAD/CAM	5.1 Introduction to Numerical Control of machines and CAD/CAM	15.09.2022
		5.1.1 NC machines	5.1.1 NC machines	22.09.2022
		5.1.2 CNC machines	5.1.2 CNC machines	29.09.2022
		5.1.3.CAD/CAM	5.1.3.CAD/CAM	13.10.2022
		5.1.3.1 CAD	5.1.3.1 CAD	20.10.2022
		5.1.3.2 CAM	5.1.3.2 CAM	27.10.2022
		5.1.3.3 Software and hardware for CAD/CAM	5.1.3.3 Software and hardware for CAD/CAM	2.11.2022
		5.1.3.4 Functioning of CAD/CAM system	5.1.3.4 Functioning of CAD/CAM system	9.11.2022
		5.1.3.4 Features and characteristics of CAD/CAM system	5.1.3.4 Features and characteristics of CAD/CAM system	
		5.1.3.5 Application areas for CAD/CAM	5.1.3.5 Application areas for CAD/CAM	
		5.2 elements of CNC machines	5.2 elements of CNC machines	
		5.2.1 Introduction	5.2.1 Introduction	
		5.2.2 Machine Structure	5.2.2 Machine Structure	
		5.2.3 Guideways/Slide ways	5.2.3 Guideways/Slide ways	
		5.2.3.1 Introduction and Types of Guideways	5.2.3.1 Introduction and Types of Guideways	23.11.2022
		5.2.3.2 Factors of design of guideways	5.2.3.2 Factors of design of guideways	30.11.2022
		5.2.4 Drives	5.2.4 Drives	8.12.2022
		5.2.4.1 Spindle drives	5.2.4.1 Spindle drives	15.12.2022
		5.2.4.2 Feed drive	5.2.4.2 Feed drive	22.12.2022
		5.2.5 Spindle and Spindle Bearings	5.2.5 Spindle and Spindle Bearings	29.12.2022
		5.01.2023		

15/09/2022
TO
5/01/2023

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Baba Prakash Nayak
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H.O.D
Mechanical Engineering
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GANDHI SCHOOL OF ENGINEERING

BHABANDHA, BERHAMPUR

SESSION PLAN

5TH SEMESTER, BRANCH-MECHANICAL(GROUP 2)

MECHATRONICS(TH-4)

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2. SENSORS AND TRANSDUCERS	10	2.1Defination of Transducers 2.2 Classification of Transducers 2.3 Electromechanical Transducers 2.4 Transducers Actuating Mechanisms 2.5 Displacement &Positions Sensors 2.6 Velocity, motion, force and pressure sensors. 2.7 Temperature and light sensors.	22/10/2022 TO 3/12/2022	2.1Defination of Transducers 2.2 Classification of Transducers 2.3 Electromechanical Transducers 2.4 Transducers Actuating Mechanisms 2.5 Displacement &Positions Sensors 2.6 Velocity, motion, force and pressure sensors. 2.7 Temperature and light sensors.	22.10.2022 29.10.2022 5.11.2022 12.11.2022 14.11.2022 19.11.2022 21.11.2022 26.11.2022 28.11.2022 3.12.2022	

<p>3. ACTUATORS- MECHANICAL, ELECTRICAL</p>	<p>10</p>	<p>3.1Mechanical Actuators 3.1.1 Machine, Kinematic Link, Kinematic Pair 3.1.2 Mechanism, Slider crank Mechanism 3.1.3 Gear Drive, Spur gear, Bevel gear, Helical gear, worm gear 3.1.4 Belt & Belt drive 3.1.5 Bearings 3.2 Electrical Actuator 3.2.1 Switches and relay 3.2.2 Solenoid 3.2.3 D.C Motors 3.2.4 A.C Motors 3.2.5 Stepper Motors 3.2.6 Specification and control of stepper motors 3.2.7 Servo Motors D.C & A.C</p>	<p>5/12/2022 TO 2/01/2023</p>	<p>3.1Mechanical Actuators 3.1.1 Machine, Kinematic Link, Kinematic Pair 3.1.2 Mechanism, Slider crank Mechanism 3.1.3 Gear Drive, Spur gear, Bevel gear, Helical gear, worm gear 3.1.4 Belt & Belt drive 3.1.5 Bearings 3.2 Electrical Actuator 3.2.1 Switches and relay 3.2.2 Solenoid 3.2.3 D.C Motors 3.2.4 A.C Motors 3.2.5 Stepper Motors 3.2.6 Specification and control of stepper motors 3.2.7 Servo Motors D.C & A.C</p>	<p>5.12.2022 10.12.2022 10.12.2022 12.12.2022 17.12.2022 19.12.2022 24.12.2022 26.12.2023 31.12.2023 2.01.2023</p>	
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		4.7 Master and Jump Controllers		4.7 Master and Jump Controllers	30.11.2022
				7.12.2022	
				14.12.2022	
				21.12.2022	
				28.12.2022	
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Name of the Faculty – ER. MANASI BHOI

		Topics to be taken		Actually taken	
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		5.1.3.2 CAM		5.1.3.2 CAM	27.10.2022
		5.1.3.3 Software and hardware for CAD/CAM		5.1.3.3 Software and hardware for CAD/CAM	2.11.2022
		5.1.3.4 Functioning of CAD/CAM system		5.1.3.4 Functioning of CAD/CAM system	9.11.2022
		5.1.3.4 Features and characteristics of CAD/CAM system		5.1.3.4 Features and characteristics of CAD/CAM system	
		5.1.3.5 Application areas for CAD/CAM		5.1.3.5 Application areas for CAD/CAM	
		5.2 elements of CNC machines		5.2 elements of CNC machines	23.11.2022
		5.2.1 Introduction		5.2.1 Introduction	30.11.2022
		5.2.2 Machine Structure		5.2.2 Machine Structure	8.12.2022
		5.2.3 Guideways/Slide ways		5.2.3 Guideways/Slide ways	15.12.2022
		5.2.3.1 Introduction and Types of Guideways		5.2.3.1 Introduction and Types of Guideways	22.12.2022
		5.2.3.2 Factors of design of guideways		5.2.3.2 Factors of design of guideways	29.12.2022
		5.2.4 Drives		5.2.4 Drives	5.01.2023
5.2.4.1 Spindle drives	5.2.4.1 Spindle drives				
5.2.4.2 Feed drive	5.2.4.2 Feed drive				
5.2.5 Spindle and Spindle Bearings	5.2.5 Spindle and Spindle Bearings				

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