



Department of Mechanical Engineering
Raajdhani Engineering College, Bhubaneswar, Odisha-751017
LESSON PLAN

Faculty Name	RATIKANTA SAHOO			Name of the Program	Diploma in Mechanical Engineering
Course Name	MECHATRONICS			Course Code	[Th-4]
Course Year	3 rd year	Semester	5 th	Academic Period	2023-24
No. of Classes allotted per Week	4		Planned Classes Required to Complete the Course		

Sl. No.	Topics to be covered	Module	No. of hours Required	Mode of Teaching	CO	BOOK	CHAPTER (PAGES)	OTHER SOURCE(IM)
1	INTRODUCTION TO MECHATRONICS	I	1	LM/ IM	CO1	T1		https://youtu.be/Ro_tFv1iH6g
2	Advantages & disadvantages of Mechatronics	I	1	LM/ IM	CO1	T1		https://youtu.be/-P_HMFNe4Ok
3	Application of Mechatronics	I	1	LM/ IM	CO1	T1		https://youtu.be/zIOsisUC06Q
4	Scope of Mechatronics in Industrial Sector	I	1	LM/ IM	CO1	T1		https://youtu.be/9qfnI-tZ6w8
5	Components of a Mechatronics System, Importance of mechatronics in automation	I	1	LM/ IM	CO1	T1		https://youtu.be/2LVir57UBRk
6	SENSORS AND TRANSDUCERS Defination of Transducers	2	1	LM/ IM	CO2	T1		https://youtu.be/XI49uFm5HRE
7	Classification of Transducers	2	1	LM/ IM	CO2	T1		https://youtu.be/VeYMUjmPfy8
8	Electromechanical Transducers	2	1	LM/ IM	CO2	T1		https://youtu.be/_X0CFhCIVhM



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9	Transducers Actuating Mechanisms	2	1	LM/ IM	CO2	T1	https://youtu.be/N4wiiFLotg8
10	Displacement & Positions Sensors	2	1	LM/ IM	CO2	T1	https://youtu.be/_8gwoJVGHeS
11	Velocity sensors.	2	1	LM/ IM	CO2	T1	https://youtu.be/P7odlyrLsNA
12	motion sensors.	2	1	LM/ IM	CO2	T1	https://youtu.be/RPL5W7AFqI8
13	force sensors.	2	1	LM/ IM	CO2	T1	https://youtu.be/jOeH8dnntNE
14	pressure sensors.	2	1	LM/ IM	CO2	T1	https://youtu.be/DVq10SGKHMU
15	Temperature and light sensors.	2	1	LM/ IM	CO2	T1	https://youtu.be/bgMgVyKJIt4 https://youtu.be/_AOp9w8zijjo
16	ACTUATORS-MECHANICAL, ELECTRICAL	3	1	LM/ IM	CO3	T1	https://youtu.be/LHn7O6PUaoY
17	Mechanical Actuators, Machine, Kinematic Link, Kinematic Pair	3	1	LM/ IM	CO3	T1	https://youtu.be/izeSroyGlrw



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18	Mechanism, Slider crank Mechanism	3	1	LM/ IM	CO3	T1	https://youtu.be/HIHLdvBw7VU https://youtu.be/FZllpoz4qsY
19	Gear Drive, Spur gear, Bevel gear, Helical gear, worm gear	3	1	LM/ IM	CO3	T1	https://youtu.be/F_srCY_1dAk
20	Belt & Belt drive, Bearings	3	1	LM/ IM	CO3	T1	https://youtu.be/j6woGQdUPFs
21	Electrical Actuator, Switches and relay, Solenoid	3	1	LM/ IM	CO3	T1	https://youtu.be/hgSht52Mk54
22	D.C Motors	3	1	LM/ IM	CO3	T1	https://youtu.be/LAtPHANefQo
23	AC Motors	3	1	LM/ IM	CO3	T1	https://youtu.be/IV8iPKY-3ms
24	Stepper Motors	3	1	LM/ IM	CO3	T1	https://youtu.be/09Mpkjcr0bo
25	Specification and control of stepper motors Servo Motors D.C & A.C	3	1	LM/ IM	CO3	T1	https://youtu.be/ditS0a28Sko
26	PROGRAMMABLE LOGIC CONTROLLERS(PLC) Introduction	4	1	LM/ IM	CO4	T1	https://youtu.be/kUBI0tEjXU



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27	Introduction	4	1	LM/ IM	CO4	T1	https://youtu.be/kUBI0tEjJxU
28	Advantages of PLC	4	1	LM/ IM	CO4	T1	https://youtu.be/kUBI0tEjJxU
29	Advantages of PLC	4	1	LM/ IM	CO4	T1	https://youtu.be/kUBI0tEjJxU
30	Selection and uses of PLC	4	1	LM/ IM	CO4	T1	https://youtu.be/WHDebOtJQOw
31	Selection and uses of PLC	4	1	LM/ IM	CO4	T1	https://youtu.be/WHDebOtJQOw
32	Architecture basic internal structures	4	1	LM/ IM	CO4	T1	https://youtu.be/PbAGl_mv5XI https://youtu.be/IftvADznXCU
33	Architecture basic internal structures	4	1	LM/ IM	CO4	T1	https://youtu.be/PbAGl_mv5XI https://youtu.be/IftvADznXCU
34	Architecture basic internal structures	4	1	LM/ IM	CO4	T1	https://youtu.be/PbAGl_mv5XI https://youtu.be/IftvADznXCU
35	Input/output Processing and Programming	4	1	LM/ IM	CO4	T1	https://youtu.be/E2WNPXJf-Kw



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36	Input/output Processing and Programming	4	1	LM/ IM	CO4	T1	https://youtu.be/E2WNPXJf-Kw
37	Mnemonics	4	1	LM/ IM	CO4	T1	https://youtu.be/PgWMTFR_ldg
38	Mnemonics	4	1	LM/ IM	CO4	T1	https://youtu.be/PgWMTFR_ldg
39	Master and Jump Controllers	4	1	LM/ IM	CO4	T1	https://youtu.be/TTD0tSmPrQE
40	Master and Jump Controllers	4	1	LM/ IM	CO4	T1	https://youtu.be/TTD0tSmPrQE
41	ELEMENTS OF CNC MACHINES Introduction to Numerical Control of machines and CAD/CAM, NC machines	5	1	LM/ IM	CO5	T1	https://youtu.be/G99E3NcTkro
42	CNC machines	5	1	LM/ IM	CO5	T1	https://youtu.be/FNYEXjRmDtI
43	CAD/CAM, CIM	5	1	LM/ IM	CO5	T1	https://youtu.be/e_PDuQePdOE https://youtu.be/0H60K9mhcY
44	CAD/CAM, CIM	5	1	LM/ IM	CO5	T1	https://youtu.be/e_PDuQePdOE https://youtu.be/0H60K9mhcY



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45	Software and hardware for CAD/CAM	5	1	LM/ IM	CO5	T1	https://youtu.be/tnLdzjT5j7w
46	Functioning of CAD/CAM system	5	1	LM/ IM	CO5	T1	https://youtu.be/vO1lc75jtiM
47	Features and characteristics of CAD/CAM system	5	1	LM/ IM	CO5	T1	https://youtu.be/vO1lc75jtiM
48	Application areas for CAD/CAM	5	1	LM/ IM	CO5	T1	https://youtu.be/HvRwN6HxET0
49	elements of CNC machines, Introduction	5	1	LM/ IM	CO5	T1	https://youtu.be/FNYEXjRmDtI
50	Machine Structure	5	1	LM/ IM	CO5	T1	https://youtu.be/cCuzPKgt7vs
51	Guideways/Slide ways, Introduction and Types of Guideways	5	1	LM/ IM	CO5	T1	https://youtu.be/lmX-OIE2vf4
52	Factors of design of guideways	5	1	LM/ IM	CO5	T1	https://youtu.be/iD25sRD56gA
53	Drives, Spindle drives	5	1	LM/ IM	CO5	T1	https://www.youtube.com/hashtag/industries



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54	Feed drive	5	1	LM/ IM	CO5	T1	https://youtu.be/fJK0LJ499cU
55	Spindle and Spindle Bearing	5	1	LM/ IM	CO5	T1	https://youtu.be/fJK0LJ499cU
56	ROBOTICS, Definition	6	1	LM/ IM	CO6	T1	https://youtu.be/xrwz9IxpMJg
57	Function and laws of robotics	6	1	LM/ IM	CO6	T1	https://youtu.be/xrwz9IxpMJg
58	Types of industrial robots	6	1	LM/ IM	CO6	T1	https://youtu.be/xrwz9IxpMJg
59	Robotic systems	6	1	LM/ IM	CO6	T1	https://youtu.be/6rsvc4D4iCc
60	Advantages and Disadvantages of robots	6	1	LM/ IM	CO6	T1	https://youtu.be/6rsvc4D4iCc

LM: Learner Mode: Chalk & Talk, Lecture

IM: Interactive Mode: PPT, VIDEO and Animation

T1: A textbook of Mechatronics by R.K.Rajput

T2: Mechatronics , W. Bolton, Pearson education india

T3: CAD/CAM/CIM, R. RADHAKRISHNA, S,SUBRAMANIAN, NEW AGE INTERNATIONAL PVT.LT

Signature of the Faculty

Signature of the HOD



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