

LESSON PLAN	
JHARSUGUDA ENGINEERING SCHOOL, JHARSUGUDA	
Name of the faculty: Er. Puja Swain / Er. Alok Bara	Academic year: 2022-23(WINTER SESSION)
Course no.: TH 4	Course name: MECHATRONICS
Program: Diploma	Branch: Mechanical Engineering
Year/Sem: 3 rd / 5 th	Section: All

Period	Time (min)	Unit/ Chap.	Topic to be Covered	Teaching Method
1.	60	1	Introduction to mechatronics ,Definition of Mechatronics	Online /blackboard
2.	60	1	Advantages & disadvantages of Mechatronics, Application of Mechatronics	Online /blackboard
3.	60	1	Scope of Mechatronics in Industrial Sector ,Components of a Mechatronics System	Online /blackboard
4.	60	1	Importance of mechatronics in automation	Online /blackboard
5.	60	1	Revision of chapter-1 and discuss questions	Online /blackboard
6.	60	2	Introduction of sensors and transducers , Definition of Transducers	Online /blackboard
7.	60	2	Classification of Transducers	Online /blackboard
8.	60	2	Electromechanical Transducers	Online /blackboard
9.	60	2	Transducers Actuating Mechanisms	Online /blackboard
10.	60	2	Transducers Actuating Mechanisms	Online /blackboard
11.	60	2	Displacement & Positions Sensors	Online /blackboard
12.	60	2	Velocity, motion, force and pressure sensors	Online /blackboard
13.	60	2	Velocity, motion, force and pressure sensors	Online /blackboard
14.	60	2	Temperature and light sensors	Online /blackboard
15.	60	2	Revision of chapter-2 and discuss questions	Online /blackboard
16.	60	3	Introduction on actuators-mechanical and electrical	Online /blackboard
17.	60	3	Mechanical Actuators :Machine, Kinematic Link, Kinematic Pair	Online /blackboard
18.	60	3	Mechanism, Slider crank Mechanism	Online /blackboard
19.	60	3	Gear Drive, Spur gear, Bevel gear, Helical gear, worm gear	Online /blackboard
20.	60	3	Belt & Belt drive, Bearings	Online /blackboard
21.	60	3	Introduction on Electrical Actuator : Switches and relay, Solenoid	Online /blackboard
22.	60	3	D.C Motors , A.C Motors	Online /blackboard
23.	60	3	Stepper Motors, Specification and control of stepper motors	Online /blackboard
24.	60	3	Servo Motors D.C & A.C	Online /blackboard
25.	60	3	Revision of chapter-3 and discuss questions	Online /blackboard
26.	60	4	Programmable logic controllers(plc): Introduction ,Advantages of PLC	Online /blackboard
27.	60	4	Selection and uses of PLC	Online /blackboard
28.	60	4	Selection and uses of PLC	Online /blackboard
29.	60	4	Architecture basic internal structures	Online /blackboard
30.	60	4	Architecture basic internal structures	Online /blackboard
31.	60	4	Architecture basic internal structures	Online /blackboard

32.	60	4	Input/output Processing and Programming	Online /blackboard
33.	60	4	Input/output Processing and Programming	Online /blackboard
34.	60	4	Input/output Processing and Programming	Online /blackboard
35.	60	4	Input/output Processing and Programming	Online /blackboard
36.	60	4	Mnemonics	Online /blackboard
37.	60	4	Mnemonics	Online /blackboard
38.	60	4	Master and Jump Controllers	Online /blackboard
39.	60	4	Master and Jump Controllers	Online /blackboard
40.	60	4	Revision of chapter-4 and discuss questions	Online /blackboard
41.	60	5	ELEMENTS OF CNC MACHINES: Introduction to Numerical Control of machines and CAD/CAM	Online /blackboard
42.	60	5	NC machines , CNC machines	Online /blackboard
43.	60	5	CAD/CAM :CAD ,CAM	Online /blackboard
44.	60	5	Software and hardware for CAD/CAM	Online /blackboard
45.	60	5	Functioning of CAD/CAM system	Online /blackboard
46.	60	5	Features and characteristics of CAD/CAM system,Application areas for CAD/CAM	Online /blackboard
47.	60	5	Elements of CNC machines :Introduction , Machine Structure	Online /blackboard
48.	60	5	Guideways /Slide ways: Introduction and Types of Guideways	Online /blackboard
49.	60	5	Types of Guide ways	Online /blackboard
50.	60	5	Factors of design of guideways	Online /blackboard
51.	60	5	Drives :Spindle drives ,Feed drive	Online /blackboard
52.	60	5	Spindle and Spindle Bearings	Online /blackboard
53.	60	5	Revision of chapter-5 and discuss questions	Online /blackboard
54.	60	6	ROBOTICS :Definition, Function and laws of robotics	Online /blackboard
55.	60	6	Types of industrial robots	Online /blackboard
56.	60	6	Robotic systems	Online /blackboard
57.	60	6	Advantages and Disadvantages of robots	Online /blackboard
58.	60	6	Revision of chapter-6 and discuss questions	Online /blackboard
59.	60		Revision of all chapter/units and discuss questions	Online /blackboard
60.	60		Revision of all chapter/units and discuss questions	Online /blackboard

Books:

1. Mechatronics by W. Bolton, Pearson Education India publication
2. Text book of Mechatronics by R.K Rajput, S. Chand Publication
3. CAD/CAM/CIM by R. RADHAKRISHNA, S.SUBRAMANIAN,NEW AGE INTERNATIONAL PVT.LTD Publication
4. CAD/CAM by MIKELL GROVER


