Lesson Plan

Name of the Institute:	C. V. Raman Polytechnic
Department:	Mechanical Engineering
Semester/Division/Branch:	5thSem/ME
Subject Name with code:	Mechatronics (Th-4)
Total No. of Class (Required):	60
Faculty Name:	Dr. Brundaban Sahoo

Class No.	Brief description of the Topic/Chapter to be taught	Remarks
1	Definition of Mechatronics, Advantages & disadvantages of Mechatronics, Application of Mechatronics	
2	Scope of Mechatronics in Industrial Sector, Components of a Mechatronics System	
3	Importance of mechatronics in automation	
4	Defination of Transducers, Classification of Transducers	
5	Electromechanical Transducers	
6	Transducers Actuating Mechanisms	
7	Displacement &Positions Sensors	
8	Velocity, motion, force and pressure sensors	
9	Velocity, motion, force and pressure sensors	
10	Temperature and light sensors	
11	Mechanical Actuators, Machine	
12	Kinematic Link	
13	Kinematic Pair, Mechanism	

14	Slider crank Mechanism	
15	Slider crank Mechanism	
16	Gear Drive, Spur gear	
17	Gear Drive, Spur gear	
18	Bevel gear, Helical gear, worm gear	
19	Bevel gear, Helical gear, worm gear	
20	Belt & Belt drive, Bearing	
21	Electrical Actuator	
22	Switches and relay, Solenoid	
23	D.C Motors	
24	A.C Motors	
25	Stepper Motors	
26	Specification and control of stepper motors	
27	Servo Motors D.C & A.C	
28	Introduction to Programmable Logic Controllers (PLC), Advantages of PLC	
29	Selection and uses of PLC	
30	Architecture basic internal structures	
31	Input/output Processing and Programming	
32	Mnemonics	
33	Master and Jump Controllers	
34	Introduction to Numerical Control of machines and CAD/CAM	

35	NC machines	
36	CNC machines	
37	CAD, CAM	
38	CAD, CAM	
39	Software and hardware for CAD/CAM	
40	Software and hardware for CAD/CAM	
41	Software and hardware for CAD/CAM	
42	Functioning of CAD/CAM system	
43	Features and characteristics of CAD/CAM system	
44	Application areas for CAD/CAM,elements of CNC machines	
45	Application areas for CAD/CAM,elements of CNC machines	
46	Introduction, Machine Structure	
47	Guideways/Slide ways, Introduction and Types of Guideways	
48	Guideways/Slide ways, Introduction and Types of Guideways	
49	Factors of design of guideways	
50	Drives, Spindle drives, Feed drive	
51	Drives, Spindle drives, Feed drive	
52	Drives, Spindle drives, Feed drive	
53	Spindle and Spindle Bearings	
54	Spindle and Spindle Bearings	
55	Definition, Function and laws of robotics	

56	Definition, Function and laws of robotics	
57	Types of industrial robots	
58	Robotic systems	
59	Advantages and Disadvantages of robots	
60	Revision and Doubt Clearing	

Signature of Faculty

Signature of HOD