

PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY
PANIPAT
Department of Mechanical Engineering
LESSON PLAN

Subject Name: - INDUSTRIAL ROBOTICS

Branch/Semester: - 7th SEM

Subject Code:- MEP-409A

S.No.	Lecture No.	Topics to be covered	ICT Tools
1.	L-1	UNIT- I Introduction: Automation and robotics,	Power Point Presentation
2.	L-2	Robotics in Science Fiction,	Power Point Presentation
3.	L-3	A brief history of robotics, the robotics	Power Point Presentation
4.	L-4	Market and the future prospectus,	Power Point Presentation
5.	L-5	Fundamental of robotics: Robot anatomy,	Power Point Presentation
6.	L-6	Work volume of robot,	Conventional
7.	L-7	Robot drives systems,	Power Point Presentation
8.	L-8	Control systems,	Power Point Presentation
9.	L-9	Precession of movement, end effectors, robot application.	Power Point Presentation
10.	L-10	UNIT-II Sensors in robotics: Type of sensors in robotics,	Power Point Presentation
11.	L-11	Exteroceptors or external sensors,	Power Point Presentation
12.	L-12	Force and torque sensors,	Power Point Presentation
13.	L-13	Proximity sensors (position sensors),	Power Point Presentation
14.	L-14	Range sensors, Machine vision sensors	Power Point Presentation
15.	L-15	Velocity sensors. tactile sensor,	Power Point Presentation
16.	L-16	Proximately and range sensors, use of sensor in robotics.	Power Point Presentation

17.	L-17	Robot end effectors: Types of end effectors,	Power Point Presentation
18.	L-18	Characteristics of end-of-arm tooling,	Power Point Presentation
19.	L-19	Elements of end-of-arm tooling	Power Point Presentation
20.	L-20	UNIT-III Material transfer and equipment's,	Power Point Presentation
21.	L-21	General consideration in robot material handling	Power Point Presentation
22.	L-22	Material transfer applications,	Power Point Presentation
23.	L-23	Machine loading and unloading,	Power Point Presentation
24.	L-24	Grippers: Tool selection of gripper, ,	Power Point Presentation
25.	L-25	Gripping mechanism,	Power Point Presentation
26.	L-26	Types of gripper	Power Point Presentation
27.	L-27	Mechanical gripper,	Power Point Presentation
28.	L-28	Vacuum grippers.	Power Point Presentation
29.	L-29	Magnetic grippers.	Power Point Presentation
30.	L-30	UNIT-IV Robot cell design and control	Power Point Presentation
31.	L-31	Robot cell layouts,	Power Point Presentation
32.	L-32	Multiple robots and machine	Power Point Presentation
33.	L-33	Multiple robots and machine interface	Power Point Presentation
34.	L-34	Considerations in work cell design,	Power Point Presentation
35.	L-35	Work cell control, interlocks	Power Point Presentation
36.	L-36	The work cell controller,	Power Point Presentation
37.	L-37	Robot motion:	Power Point Presentation

38.	L-38	Analysis and Control of Robot motion	Power Point Presentation
39.	L-39	Introduction to manipulator kinematics,	Power Point Presentation
40.	L-40	Manipulator path control,	Power Point Presentation
41.	L-41	Robot dynamics,	Power Point Presentation
42.	L-42	Configuration of robot control.	Power Point Presentation
43.	L-43	Problems.	Power Point Presentation
44.	L-44	Revision	Power Point Presentation