



VENDORS NAME: PRAG ROBOTICS

CLASS: III Mechanical (Fifth Semester)

SUBJECT: INDUSTRIAL ROBOTICS TRAINING

S.No	T/P	Table of Contents
1		Intro to Robotics & Industrial Robotics
	T	What is a Robot?
	T	Fields of Robotics
	T	What is Industrial Robotics?
2		Who's who in Industrial Robotics
	T	History of Industrial Robots
	T	Who makes Industrial Robots
	T	Your Scope in Industrial Robotics
3		Building blocks of Industrial Robotics
	P	Types of Joints
	P	Creating new robot with joints
	P	Types of Industrial Robots
4		Mathematical concepts
	T	Coordinate System
	T	Axes
	T	Degrees of Freedom
	T	1d, 2d & 3d space
5		Kinematics of Industrial Robots
	T	1 DOF Robot
	P	2 DOF Robot - FK
	P	3 DOF Robot - FK
	?P/T?	?Inverse Kinematics?
6		Logical Design for Gripper Application
	T	Line, Plane Sensor Communication
	T	Attacher& Detacher Logic
	P	Input & Output Communication Signals
	P	Logical Operations & Connections for Material Handling
7		How to Program an Industrial Robot?
	T	What is Robot Programming?

	P	Types of Robot Programming
	P	How to make the best use of simulation in Robotics?
	P	Difference between proprietary and open source simulation tools
8		Jogging a Robot from point to point
	P	Station View
	P	How to add robots to work with them?
	P	How to Control Robots?
	P	Types of Robot Motion
	P	Robot Jogging
9		Creating a Robot Application
	P	How to add a robot in Robot Studio?
	P	How to create targets & paths for these robots?
	P	How to create a material handling application using targets and paths?
10		Where can Industrial Robots be used?
	P	Material Handling
	P	Path Planning
	P	Dispensing
11		Intro to Service Robotics
	T	History of Service Robots
	T	Who makes Service Robots
	T	Your Scope in Service Robotics
12		Design & Modelling of Mobile Robot
	T	Conceptual Design of Mobile Robots
	T	Stability Aspects of Mobile Robots
	P	Implementation of Robot Chassis Design
13		Programming a robot with sensor fusion
	T	Principles & Significance of Sensor Fusion
	P	Visualization of output in Sensor Fusion
	P	Implementation of Sensor Fusion in Robotics
14		Fundamentals of Perception, Localization and Mapping
	P	Robot Map Building
	P	Occupancy Grid Map
	P	Implementation in Robot Maze