



ARSD College, University of Delhi

Model Course Handout/Lesson Plan

Course Name : B.Sc. Electronics(H) Lab, V semester						
Semester	Course Code	Course Title	Lecture (L)	Tutorial (T)	Practical (P)	Credit (C)
II	558	ROBOTICS LAB- SEC	-	-	4	2
Teacher/Instructor(s)		Mr. PUNEET SEHGAL				
Session		EVEN SEMESTER (JAN 2022-JUNE 2022)				

Course Learning Outcomes: At the end of this course, students will be able to

- CO1 Familiarize with the programming environments used in robotics applications.
- CO2 Understand the working of sensors, actuators and other components used in design and implementation of robotics.
- CO3 Design timer/counter circuits and display their outputs using LCD and other indicator devices
- CO4 Understand the communication standards like RS232 etc.

List of Experiments:

Details of the Lab Course		
Session	Name of Experiment	Contact Hours
1	Interfacing experiment using available hardware like LCD, LED, Buzzer, Motors	8
2	Read IR proximity sensor to determine if there is some object nearby and thus Control the motion of robot using IR sensors.	4
3	Control a robot using LDR and laser.	4
4	Simple Motion Control programming the robot to move forward, backward, left and right)	8
5	Line following Robot (programming the robot to move along a define path, white line or black line)	8
6	Obstacle Detection (programming the robot for obstacle detection)	4
7	Designing a simple Robotic Arm and programming it for picking and placing of objects	8
8	Control experiment using available hardware or software.	4
9	Integration of assorted sensors (IR, Potentiometer, strain gages etc.), micro controllers and ROS (Robot Operating System) in a robotic system.	8
10	Project work	4
	Total	60

Suggested Books:		
Sl. No.	Name of Authors/Books/Publishers	Year of Publication/Reprint
1.	Saha, S.K., Introduction to Robotics, 2nd Edition, McGraw-Hill Education, New Delhi, 2014	2014
2.	R.K. Mittal, I.J. Nagrath, —Robotics & Control, Tata McGraw & Hills, 2005	2005

Evaluation Scheme:

No.	Component	Duration	Marks
1.	Internal Assessment		25
	• Quiz/Viva		
	• Observation & Record		
	• Attendance		
	• Model Exam		
2.	End Semester Examination	3 hr	50

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