



Greetings from TechnoSoft Educational and Research Consultancy(TSERC). TSERC is a start-up venture powered by alumni of IIT Delhi, IIT Bombay and IIT Guwahati. TSERC team is a conglomerate of PhD holders having the research experience of international level. The work of our mentors has been recognized by President of India and Defense Minister. Our mentors are recipient of GYTI award and Raksha-Mantri Medal. Our mentor has rich experience in technology development for R&D organizations of India.

TSERC was founded with the objective of providing world class training/consultancy to the institutes, R&D labs and industry in the domain of CFD, Structural Analysis (FEA) and Robotics. Since the inception, TSERC emerged as a reliable consultancy firm to OEMs and academic institutes and added companies like Bentley, Adrotech Pvt. Ltd., Dangote Refineries in the customer list. We provided specialized training to the academic institutes like NIT Hamirpur, NIT Manipur, GJU S&T Hisar, SGSITS Indore.

We offer standard training program as well as tailor made training program to the industries and educational institutes. Our standard training program is especially designed by experts to build a base for B.Tech/M.Tech/PhD students to carry out research projects.

The objective of our training program is not to demonstrate any particular software. We usually demonstrate practical problems related to the engineering students. Software or programming languages are used as a tool to solve mathematical governing equations. Depending on the proficiency level of the students, we explains the physics of the problem and solution methodology rather than following black box approach.

Our consultancy work is totally aligned with the requirements of the customer. We extend our support to conceptualize the problem and to offer optimum solution of the problem within the specified time period.

TRAINING PROGRAM ROBOTICS MODULE - 2

Course Content (30 Hours/1 Week)

1. Robot Basics : History and evolution

- 1.1 Robot electronics: Supply, circuit, sensors, controllers and actuators
- 1.2 H-Bridge Concept for control
- 1.3 Various Types of DC Motors: DC, Stepper, Servo (characteristics and controls)
- 1.4 Hands on basic Wired controlled robot

2. Robot Mechanics and Mechanisms

- 2.1 Joints, Link, gripping, steering and walking mechanisms
- 2.2 Various Motor Drivers: Need and working

3. Mobile Controlled Robotics

- 3.1 Bluetooth and DTMF control
- 3.2 Wireless Robotics concepts
- 3.3 Introduction to POV
- 3.4 Hands on DTMF modules

4. ATMEGA 16 microcontroller hardware and architecture.

- 4.1 Microcontroller programming
- 4.2 Hands on Atmega 16 based Microcontroller development board
- 4.3 Programming various input/outputs and control
- 4.4 Integration of sensors with the board
- 4.5 Autonomous robot
- 4.6 High speed, line follower and various types of robots

5. Introduction to Image processing

6. Hand on experience with robotic kit