

RoboExpedition

The workshop would deal with the structure and development of Robotics. Motive of the workshop is to make students familiar with serial communication over Bluetooth technology, motor interfacing, DTMF technology, led interfacing, Sensor interfacing

Day 1 (Session 1)

Introduction to Embedded Systems & Robotics

- Needs and Rules of Robotics
- Features and Types of Robot
- Structures of Robots

Practical: Structuring various Robots like: Kids Special Bot, TriBot, AnimalBot, SpiderBot and BrainstormingBot

Day 1 (Session 2)

Learning Mobile Communication

- Motors and its controlling
- Mobile Tone decoding
- DTMF Technology

Project: Mobile Land Rover

- Spy Robotics

Project: Development of SpyingRobo

- Sensor Botix
- Introduction to InfraRed Sensor

Project: An Obstacle Detection Robot

Project: Flash Light Follower Robot

Project: Line Follower Robot

Day 2 (Session 1)

- Embedded Systems and its applications
- Microprocessors and Microcontrollers
- AVR Microcontroller and its programming
- TechieNest Development Board, Its explanation and interfacings
- Practical: LED's and Motor Programming on Board
- Project: Metro Train Prototype
- Introduction to Communication
- Introduction to Bluetooth technology.

- Practical: Interfacing of Bluetooth module with Atmega8.
- Project: Password Protected PC Control Robot

Day 2 (Session 2)

- Android and It's Interlink with Robotics
- Project: Smart Phone Operated Robot.
- Project: Spy-N-Droid
 - Internet/intranet
 - LAN/WLAN etc
- Project: Cell-O-Smart-Bot

Kit Content:Free to each group of 4 members

- ATmega8 Development Board,
- D type programming cable.
- On board voltage regulated
- Power supply unit.
- IR Sensor.
- Bluetooth module.
- TechieNest DTMF kit.
- Connecting Clamps
- Universal Robotics Platform 1.
- Universal Robotics Platform 2.
- DC Motors pair.
- Wheels.
- Screws & Screw driver.
- Supporting cables.
- Adaptor

Projects Covered

- Mobile LandRover
- Development of SpyingRobo
- An Obstacle Detection Robot
- Flash Light Follower Robot
- Line Follower Robot
- Metro Train Prototype
- Password Protected PC Control Robot
- Smart Phone Operated Robot.
- Spy-N-Droid
- Cell-O-Smart-Bot