

Robotics Training Program 2011

2011

This Robotics Training Program sponsored by NT Discoveries Pvt. Ltd. And conducting these classes on Every Sunday as Week-end bases. Classes will be conducting for 5 hours long training period on every class-day during the 75 hours long training programs duration. Training Program will be applicable for Intermediate, undergraduate, postgraduate & engineering students from different streams and year. The program will cover application of innovative Embedded System in Robotics, Automation, Instrumentation, Communication and related fields. Classes and hands-on session will be held at SCIT Computer Education Center and lectures will be taken by Industrial Professionals & experienced Robotic Club's Innovative Members. Participants will be awarded the certificate by NT Discoveries Pvt. Ltd. and SCIT Computer Education Center.

NT Discoveries offers scholarship program, Cash Price award & job opportunity:

- Get 50% fees discount scholarship program through got the 90% passing marks from the course joining scholarship test.
- Get 20000/- cash price award during the final session of robotics event by achieved the first position award winner.
- Get job opportunity in electronics based on your best performance position results.

Embedded System and its application in Robotics, Automation & Instrumentation

Topics that will be covered during “Embedded System Training Program”:

Basics Electronic & Electrical Components

- Passive Components
- Active Components
- How to use them in electronic circuits.
- Building simple projects using basic electronic components
- Working with PCBs, MPBs & Project Boards
- Techniques of Soldering

Basics of AVR-architecture based embedded system

- Software / hardware requires
- Selection of compiler
- Selection of hardware
- Interfacing basic digital peripherals (LEDs, Displays, keypad)
- Interfacing electrical devices
- Interfacing analog devices
- Interfacing digital devices using AVR libraries
- Interfacing Electromechanical Devices

Manual robotics

- Basic requirements for building a robot
- Detail description of sensing, controls, power system and mechanical design
- Simple and efficient Mechanism used to perform different tasks
- Building a manual Robot

Autonomous robotics

- Basic requirements for building a autonomous robot

- Detail description of sensors: IR, TSOP, Touch, Sound, air, temperature, humidity and more
- Designing an IR sensor
- Selecting a power supply
- Procedures to write an efficient algorithm for problem solving
- Different actuating mechanism
- Building a robot

Robots you make during the Program

- Autonomous Line Follower Robot
- Autonomous Light Follower Robot
- Autonomous Wall Follower Robot
- Autonomous Collision Avoiding Robot
- Autonomous Object Follower Robot
- Autonomous Edge Avoider Robot
- TV Remote Controlled Manual Robot
- Manually Controlled Robot
- And many more

Advance features of microcontroller

- Interrupt
- External Interrupt
- Use of external interrupt as Counter
- Timer
- Timer Interrupt
- Use of timer as Counter
- Use of timer for parallel processing in microcontroller

Digital communication

- UART
- SPI
- RC5 Signals
- Infra-Red and Radio Frequency Communications

Display Systems

- Interfacing LCD display
- Building a LED display (as installed on railway stations)
- Building a chaser system for festival lighting

Instrumentation

- Basic requirements for designing an instrument.
- General problem faced during designing instruments.
- Precautions while making an instrument.

Home/Industrial Automation

- Home automation
- Industrial Automation
- Basic requirements for automation.
- General problem faced during automation.
- Precautions.
- Building a Home automation Project.

Project Design

- Selection of project
- Designing a projects
- Making a Project
- All interested participants will be provided a mentorship for making their projects.

Course Schedule

- The course will start just after complete batch will get over.
- There will be One or two lectures per Class, each of 2hrs.
- There will be three hands-on sessions per class, each 3 hrs.
- Detailed schedule will be provided during the course

Course Fee:

- Fee For General Robotics Training
 - Rs. 15000/- Per Student (in case of Single Student with personal kit)
 - Rs. 10000/- Per Student for the team of 4 Students with single kit
- Fee For Advanced Robotics Training
 - Rs. 30000/- Per Student (in case of Single Student with personal kit)
 - Rs. 20000/- Per Student for the team of 4 Students with single kit

Eligibility and selection procedure:

The candidates having very basic knowledge of any programming language are eligible for this course. There is no need to have any kind of knowledge in field of Embedded System to join Embedded System course. Admissions in this course are going-on on "First Come First Serve" basis.

Take Away Kit:

All participants will be given a take away kit (according to course joining) which will contain:

- AVR Starter Kit
- Five Minor Project Kits
- One Major Project Dye kit
- Robotics starter Kit
- Study Material (Hard copy)
- CD with all Required Software and Manuals.
- Participation Certificate (After successful completion of course)

Registration:

Registration can be done online (through email), by post or in-person.

Venue:

SCIT Computer Education Center,
2nd Floor, Adhunik Complex, Sharda Road, Delhi Gate,
Meerut 250002.

Duration & Schedule:

The duration of the course is 75 hours and divided by 5 hours training sessions of per week end classes. There will be more hands-on-season then theory lectures per class.

Important Dates:

- Last date of registration: 2011 (We may close registration before last date)
- Last date for submission of fee: 2011

- Course commence from: 2011* (The course will start after making a batch of 10 students)

For any query contact us at:

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