GANDHINAGAR INSTITUTE OF TECHNOLOGY

MECHANICAL ENGINEERING DEPARTMENT

Workshop on RoboAutometa

Date: 22nd and 23rd September, 2014

Gandhinagar Institute of Technology is always dedicated to enhance and extend the knowledge of the students. Currently world is moving towards the automation and robotics. To get the practical knowledge of this field a two day national level workshop **"Robo Autometa"** is hosted by Department of Mechanical Engineering and organized by Robospecies in association with SporTech -15 IIT Delhi on **22nd and 23rd September, 2014.**

The workshop is the part of series of the national level workshop held by Robospecies to encourage and motivate the students about robotics and automation. The workshop also facilitates the entry of the winner to the Nation Level competition RoboZest -2015 to be held at IIT Delhi during 2015.

WORKSHOP OBJECTIVES:

The workshop is designed such that student can learn the basic programming skill required for automation and robotics and also can make simple robots.

The topics discussed in workshop are given below:-

1. Introduction to robotics.
2. Manual Robotics (Theory)
3. Introduction to Embedded Systems
4. Introduction to Arduino
5. Basic Arduino Shield
6. Analogue Input/output
7. Introduction to Autonomous Robotics
8. Introduction to different types of Sensor and their Application
9. Detailed explanation of Infrared Sensor
10. Introduction to different types of ICs
11. Introduction to Motor Driver Shield
12. DC motor speed control
13. Line follower without microcontroller
14. Line follower with microcontroller

ACTIVITY OF DAY 1:

The workshop started with formal inauguration ceremony followed by the fascinating audio visuals covering the latest trend and future scope of Automation and robotics. The theory part is conducted by Mr. Rahul Tiwari. He explains the topics like robotics and its practical application. After that kitsare distributed among the student.The kit contains necessary components to build and run the robot (i.e. robot chassis, microcontroller, motors, wheels, batteries, basic shield, motor driver shield etc…). Students learned the programming language for microcontroller and how to upload that programme. The workshop is ended for the day at 4:00 pm.

ACTIVITY OF DAY 2:

Next day students learned about basic shield and how to play with input and output of microcontroll**l**er. They get the knowledge of motor driver IC L293D and motor driver shield. Using all this knowledge and information they have built line follower robots. Near the end of workshop a tournament is held between the robot and the strength of different group is checked. The workshop is ended with announcement of winners and certificated distribution.

GLIMPSE OF I. C. ENGINE WORKSHOP

CORE TEAM

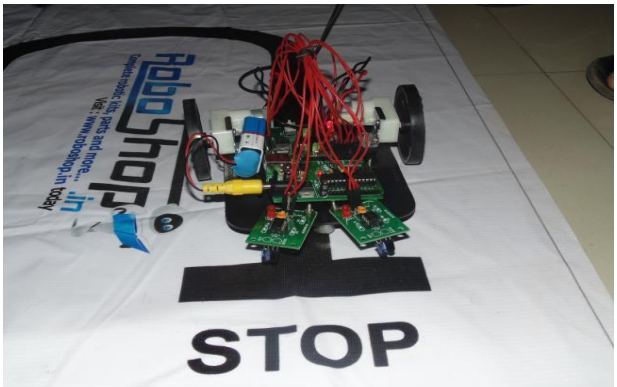
PARTICIPANTS

INSTRUCTOR EXPLANING TO THE STUDENTS

STUDENT MAKING ROBOT

STUDENT MAKING ROBOT

COMPITIOTN HELD AFTER THE WORKSHOP



A ROBOT MADE BY STUDENTS

Workshop Coordinator: Prof. D. B. Patel
Prof. U. J. Patdiwala- HoD, Mech. Dept.