



MATRUSRI ENGINEERING COLLEGE

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Two Days Teacher's Training on

"Introduction to Robotics"

Under e-Yantra- IIT Bombay on 28th & 29th Feb 2020

A Report

A two-day e-Yantra workshop on "Introduction to Robotics" was conducted by e-Yantra, IIT Bombay on 28th -29th Feb 2020 at Matrusri Engineering College . e-Yantra is a MHRD sponsored initiative by IIT-Bombay under the National Mission on Education through ICT (NMEICT) program to create the next generation of embedded systems engineers with a practical outlook to help provide practical solutions to some of the real world problems.

Day 1 : 28th Feb 2020

The workshop was inaugurated by Prof Dr. M. Venu Gopal Vice Principal, MECS, Dr. M. Sushanth Babu Professor ECE Dept. & College Coordinator e-Yantra lab MECS and e-Yantra team MECS. Dr. M. Sushanth Babu said, such workshops are intended to allow the faculties from institutes to keep upgrading their technical skills in the field of robotics. He welcomed Mr. Prasad Trimukhe and Mr. Abhinav Sarkar, Sr. Technical Project Assistants from e-Yantra, IIT-Bombay who were also the trainers of the workshop. Mr. Prasad Trimukhe started the session with an introduction to e-Yantra and eLSI (e-Yantra Lab setup Initiative). eLSI enables colleges to setup embedded system and robotics lab and provide training to the teachers to effectively use the lab. He continued the session with detailed description of the Fire Bird V Robot, the robotic platform on which the participants worked during the workshop. Further, he discussed specification and the working of each component of Fire bird V and the microcontrollers used in the robots ATmega 2560 AVR. He further explained programming in Embedded C using Atmel Studio 6-6.2.1563 platform.

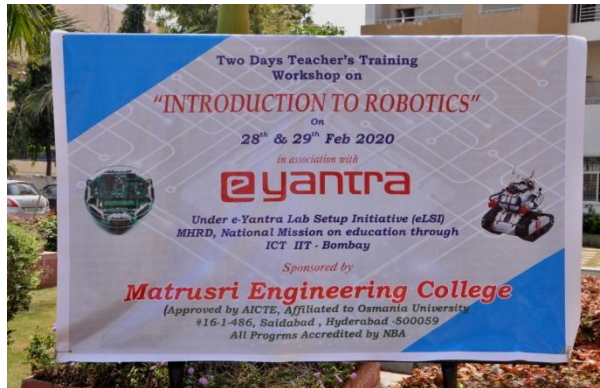
Next Live training session started by simply blowing the buzzer and move towards the motion controller of the robotics which helps participants to move the robot in all directions and create S shaped path. Further participants worked on glowing of alternate LED's on various different situations.

Later, Mr. Prasad Trimukhe upgrades the difficulty level on the motion of robot by introducing the velocity control functions under the topic Pulse Width Modulation (PWM) which helps in rotating the motors on different speeds.

At the end of day first Mr. Abhinav Sarkar gave several problems for enhancing the practical and technical knowledge.

Day 2 : 29th Feb 2020

Mr. Prasad Trimukhe started his first session of the day on basic concepts of LCD Display and its interfacing with the AtMega2560 Microcontroller. Later on all the participants displayed various alphanumeric strings like IIT-BOMBAY, MECS, etc on the LCD. After performing the LCD interfacing participants moved toward the ADC interfacing module. In this module detail knowledge of ADC and DAC interfacing was illustrated. He had given the basic concept of set and reset. In the next session, Mr. Abhinav Sarkar described the white line follower concept and its programming to the participants. The workshop ends with doubt clearing session. The workshop was interesting and interactive with ample hands-on sessions.



Workshop Coordinator : Dr. Pallavi Khare, Assoc. Prof. ECE Dept.

Team Members : 1. Mr. A. Kalyan Charan, Asst. Prof. Mech Dept
2. Mr. V. Vinay Kumar, Asst. Prof. CSE Dept.

E-Yantra College Coordinator : Dr. M. Sushanth Babu, Professor, ECE Dept