

Certificate Course in Robotics & Embedded Systems

Even Semester 2016-17 – Batch I & II

Report

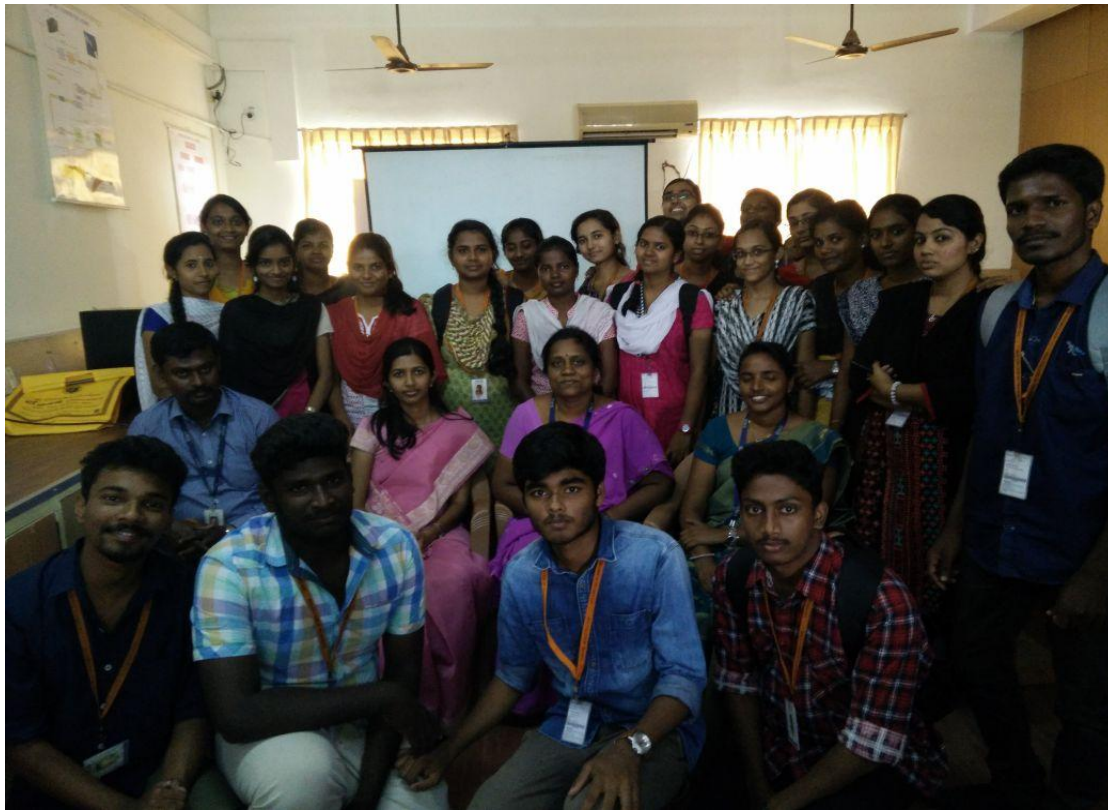
Project e-Yantra is an initiative to spread education in embedded systems and Robotics by IIT Bombay sponsored by Ministry of Human Resource Development through the National Mission on Education through ICT (NMEICT). The objective of e-Yantra is to provide hands-on learning to engineering students, creating the next generation of engineers in India with a practical outlook to take on challenging problems and provide solutions.

KCG College of Technology is a member of e-Yantra and has set up a state of the art laboratory under the e-Yantra Lab Set-up Initiative (eLSI). The KCG e-Yantra Robotics Lab trains students in embedded systems and micro-controller programming by engaging them through the Project Based Learning (PBL) mode.

The KCG e-Yantra Robotics Lab is offering a Certificate Course in Robotics & Embedded Systems. The course is of 12 hours duration (2 days). The registration fee is Rs 1650 per person. Each batch can accommodate up to 35 students.

The course for the first batch of 34 students from the ECE Department was conducted on 17 and 18 February, 2017. The course was conducted by Ms Aida Jones (Asst. Professor, ECE), Ms. Renganayaki G (Assoc. Professor, ECE), Ms. Feba Sosa Abraham (Asst. Professor, ECE), Mr. Subhash Chandra Bharathi (Asst. Professor, EEE), Ms. Bhavani (Asst. Professor, EIE) and Mr. Manoj (Asst. Professor, Mechanical Engg). The students were introduced to Embedded Systems and Robotics using the Firebird V robot which uses the Atmega 2560 as the master microcontroller and Atmel 8 as the slave. Programming the robot using Embedded C via the Atmel Studio 4 programming environment, compiling the program using WinAVR and downloading the program using AVR Bootloader were taught to the students.

Activity based learning was used to give the students a good grasp of theoretical aspects through practical work. Motion Control using I/O ports, LCD and buzzer interfacing, Analog sensor interfacing using ADC, White line following robot, Interrupt Programming, Closed loop position control using position encoder were the various tasks undertaken by the students. The students used a variety of sensors and actuators for the tasks. The skill set targeted included Embedded C Programming skills, practical implementation skills, problem solving skills and team work.



The course for the second batch comprising 15 students from the ECE Department was conducted on 24 and 25 February, 2017. The course was conducted by Ms Aida Jones (Asst. Professor, ECE), Ms. Renganayaki G (Assoc. Professor, ECE), Ms. Feba Sosa Abraham (Asst. Professor, ECE), Mr. Subhash Chandra Bharathi (Asst. Professor, EEE), Ms. Bhavani (Asst. Professor, EIE) and Mr. Manoj (Asst. Professor, Mechanical Engg).



Aida Jones
Coordinator, KCG eyantra Robotics Lab