



## Open Course on C programming for Embedded Systems

Dt: 25-07-2018

An open course on C programming for Embedded Systems was organized in the Department of Electrical and Electronics Engineering by Dr N Ramarao from 02-08-2018 to 07-08-2018. This open course is designed for 25 hours includes both theoretical and hands on sessions and covered all the basics of C programming language, microcontrollers programming, interfacing various sensors and actuators. Overall 35 students attended this course and learned developing embedded system programs for Atmega microcontrollers to interface with sensors and actuators along with basic concepts of C programming and errors debugging. The students who attended this course can able to:

1. **Develop** embedded system programs using C language
2. **Analyse** and rectify the errors in C language programs
3. **Develop** programs for Atmega microcontrollers to interface with sensors and actuators
4. **Design** and develop projects for any specific applications using microcontrollers.

### Schedule and Course Contents covered:

| Sl.No. | Date      | Time            | Course Contents   |
|--------|-----------|-----------------|---|
| 1      | 2-08-2018 | 9:30AM-12:30PM  | <u>C language basics:</u> Basic structure of C program, Data Types, Operators   |
| 2      | 2-08-2018 | 1:30PM - 4:30PM | <u>Introduction to Arduino:</u> Program structure, Different types of Arduino boards, Software Installation and running a program |
| 3      | 3-08-2018 | 9:30AM-12:30PM  | <u>C language basics:</u> Control Statements, Arrays, Functions   |
| 4      | 3-08-2018 | 1:30PM - 4:30PM | <u>Interfacing with Sensors:</u> Connecting Switch, Temperature Sensor, Ultrasonic Sensor, PIR Sensor,                            |
| 5      | 4-08-2018 | 9:30AM-12:30PM  | <u>C language basics:</u> Pointers, Strings, Library functions  |
| 6      | 6-08-2018 | 9:30AM-12:30PM  | <u>Interfacing with actuators:</u> Electro Magnetic Relay, DC Motor   |
| 7      | 6-08-2018 | 1:30PM - 4:30PM | <u>Interfacing with actuators:</u> Servo Motor, Stepper Motor   |
| 8      | 7-08-2018 | 9:30AM-12:30PM  | <u>Communication:</u> Serial Communication, Bluetooth Communication   |
| 9      | 7-08-2018 | 1:30PM-4:30PM   | Project   |