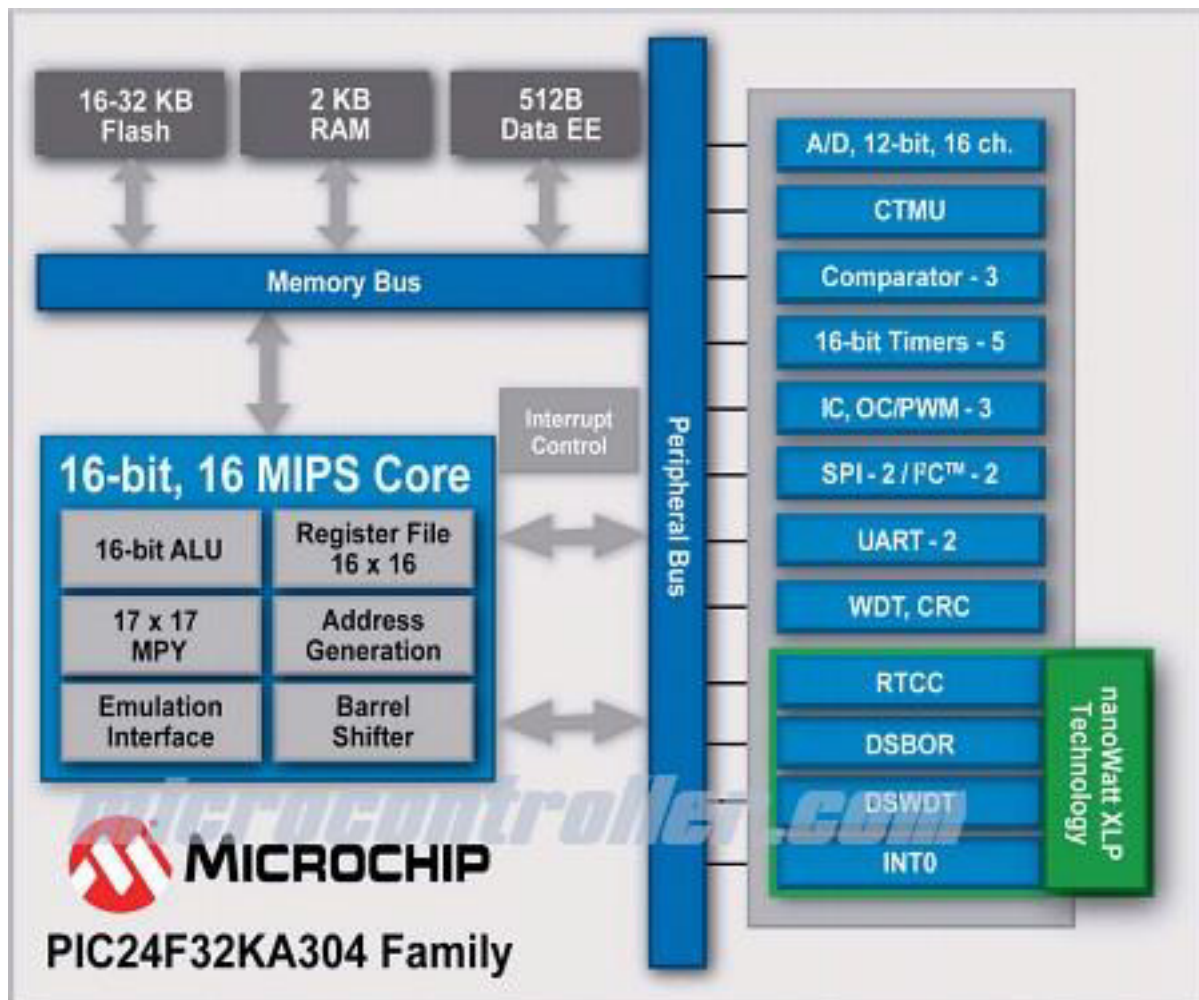# 2 Days Workshop on Embedded System (PIC-uc)

Major Project Covered:

- Color finder Robot
- Edge Avoider Robot
- Wall follower Robot
- Obstacle Avoider Robot
- Sound operated Robot
- Clap on stop Robot
- Clap on start Robot
- Clap on turn Robot
- Mobile Control Robot
- Home Automation(demo)

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Major Topics Covered:

1. Introduction to Embedded C
a) BASIC introduction of C
b) If, if else, for and while
c) Bitwise operators and logical operators
d) Array and String

2. Introduction to Embedded System
a) BASIC introduction PIC Microcontroller
b) Interfacing of led with Microcontroller
c) Interfacing of motor sensor with Microcontroller

3. Mobile Communication
a) Introduction to DTMF decoder
b) Robot control using Mobile

Session 1 :

Embedded C

- What is programming language
- Why C ?
- Printf, scanf
- If, if else
- For, while
- Logical operator
- Bitwise operator
- Array
- String

Embedded System/PIC Microcontroller/IDE

- Introduction of embedded system
- Introduction to microcontrollers and platform/software installation
- Simple Programs and hardware implementation
- Working with I/O's

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Session 2:

- Interfacing IR
- Interfacing Sound Sensor
- Interfacing motor
- L293D IC Building of a line Follower
- Building of edge avoider
- Building of wall Follower and obstacle avoider

Assembling of kit:

This is home work for the student:
Ratification of Your Doubts (20 Mins)

Session3:

Mobile Communication:

- Introduction of DTMF Decoder
- Mobile Controlling Robot
- Testing and Trouble shooting
- Testing and troubleshooting at every step of circuit designing
- Various trouble shooting techniques
YOU HAVE TO WRITE CODE AND RUN YOUR ROBOT

Workshop Kit Content:
1. DC Motor
2. IR SENSOR
3. Sound sensor
4. DEVELOPMENT BOARD
5. Betray 9v.
6. Wire
7. Wheels.
8. Chassis
9. USB Wire
10. Connecting wires
11. Battery cape
12. Nut and Bolts
13.Screw Driver

Duration: 2 Days (7-8 Hours/Day)
Registration Fees: Rs. 1200/- per head. (Kit to be given in a group of 5 Members)