



# A J INSTITUTE OF ENGINEERING AND TECHNOLOGY

NH-66, Kottara Chowki, Mangaluru -575006, Karnataka, INDIA

A Unit of Laxmi Memorial Education Trust®

(Approved by AICTE, New Delhi. Affiliated to Visveswaraya Technological University, Belagavi)

## Workshop on Node MCU Basics

<b>Date</b>	<b>26-10-2019</b>
<b>No. of participants</b>	<b>29</b>
<b>Resource Person</b>	<b>Mr. Mahesha Y</b>

### Report:

On October 26<sup>th</sup>, 2019 The Electronics and Communication Department of A.J. Institute of Engineering and Technology organized a one-day workshop on “NodeMCU Basics”. The main aim of the workshop was to give hands on experience to use the ‘NodeMCU’ development board and develop IOT based Home Automation. Workshop was conducted by resource person Mr. Mahesh

Y. Around 29 students from 5<sup>th</sup> semester Electronics and Communication Department took part in this workshop.

‘NodeMCU’ is an open-source electronics platform based on easy-to-use hardware and software. NodeMCU boards are able to read inputs, light on a sensor, or a finger on a button and provide a desired output, such as activating a motor or turning on an LED. You can tell your board what to do by sending a set of instructions to the microcontroller. Instructions to the Controller are written using Embedded C programming language (based on Wiring), and the Arduino Software (IDE), based on the type of board used.

NodeMCU development boards are also used by developers and hobbyist for creating projects and prototypes. The board has a vast collection of supporting libraries developed by open source users across the world. Learning this platform would help students to rapidly prototype and development their project. Keeping these facts in mind content of workshop was designed and delivered.

The workshop on “NodeMCU Basic” was inaugurated and welcomed by Ms. Nikitha V S, 5<sup>th</sup> semester student of ECE and introduced the resource person, Mr. Mahesh Y. Mr. Prakash Shetty, Associate Professor & Head, Dept. of ECE, flowerily welcomed Mr. Mahesh Y. Dr. Gnane Swarnadh Satapathi, Associate Professor, Dept. of ECE was also present on the dais.



Principal  
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The first session involved in familiarization of the various types of development boards in NodeMCU and also learning about the development environment for Arduino. Students were taught how to work with Arduino I/O pins, after which students were able to run simple practical cases such as, blinking LED simulation using Tinkercad.

The session continued with learning the use of analog pins. Students learnt how to perform analog to digital conversion and set the brightness of LED accordingly. The Pulse Width Modulation feature was also explained. The concept of fading of LED and speed control of motor was demonstrated by Mr. Mahesh and the students implemented the same using Arduino in the Tinkercad.

The afternoon session started with how to use wifi-SOC on NodeMCU for different modes such as, AP mode and Station mode. Followed by writing program onto NodeMCU and use the browser as an application interface. The freely available Blynk APP is used to control LED connected to Node MCU. Then session was ended with using google assistant to toggle the lamp ON/OFF through voice command.

The workshop concluded with few inspirational words from Mr. Prakash Shetty, Associate Professor & Head, Dept. of ECE and few tips from Mr. Mahesh Y followed by Vote of Thanks by Mr. Raghavendra Havaladar, Assistant Professor, Dept. of ECE.

Overall the students learnt to build their own IOT based Home automation and learnt the basics of working with NodeMCU and gained basic knowledge of various Arduino development boards, programming environment, onboard features of NodeMCU: I/O, Analog, PWM, NodeMCU shields.

Student's feedback was collected and it suggested that they welcomed this initiative, also they are motivated to explore more in this platform and they are willing to use this board in their projects in future.



Principal

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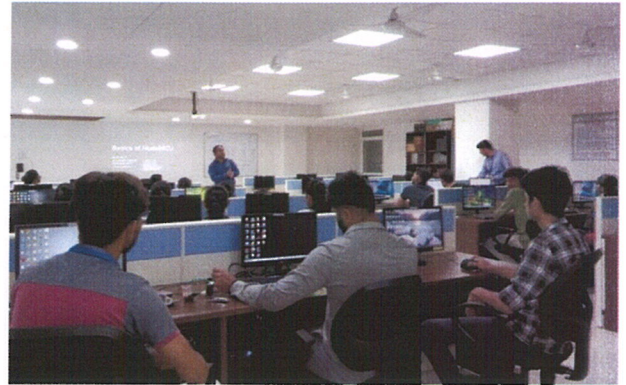
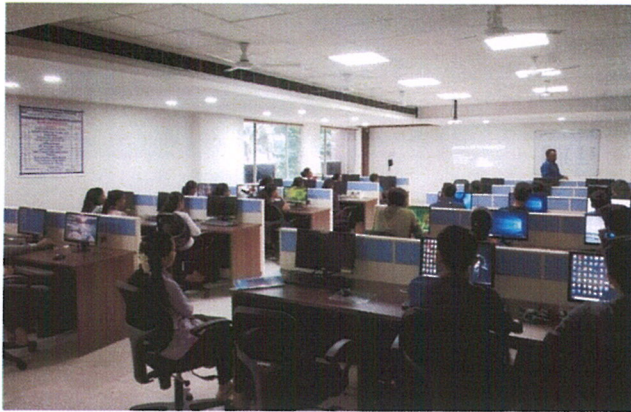
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## Photos:



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