

**BASIC OF IOT  
CERTIFICATION  
PROGRAM  
REPORT**

**A**

**REPORT**

**On**

**Five Days certification program on**

**BASIC OF IOT**

*held on*

**8<sup>th</sup> August 2019**

*to*

**14<sup>th</sup> August 2019**

**Organized by**



**Academic Year: 2019-2020**

**Department of Masters of Computer Applications**

**K. K. Wagh Institute of Engineering Education and Research,  
Nashik**

HirabaiHaridas Vidyanagari, Amrutdham, Nashik, Maharashtra 422203

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# 1. OBJECTIVE

Digital Communications-Challenges and Opportunities

## Objective:

- Understand the rudiments of IoT
- Learn the features of Arduino and Raspberry Pi board
- Configure Wireless Protocols WiFi, Zigbee, Bluetooth
- Programming Interface different sensors with Arduino and Raspberry Pi
- Connect Raspberry Pi to a remote access client
- Perform Cloud Server Experiments
- To explore the state-of-art technologies in the area of Internet of Things (IoT)



Digital Communications-Challenges and Opportunities

**2. BRIEF OF  
CERTIFICATION  
PROGRAM**

# Brief of Certification Program

Department of MCA has organized Five days certification program on "Basic of IOT" on 8<sup>th</sup> Auguts 2019 to 14<sup>th</sup> August 2019. This certification program was collaborated with Congnifront, Nashik software company.

This program focused on basic of IoT. The certification program extended to every aspect of our professional and private lives as well as key aspect of trending fields such as Industry and smart cities.

The Internet has created a truly connected world. It has enabled humans to share data and information. It is a network of physical devices, vehicles, home appliances, and other items embedded with electronics, software, sensors, actuators and network connectivity which are linked to create smart environments. It allows objects to be sensed and controlled remotely across the existing network infrastructure. Also, it is creating opportunities for more direct integration of the physical world into computer-based systems, which results in improved efficiency and accuracy. Applications of the Internet of Things can greatly benefit people in Developing Countries. In this Certification program, we will look at applications of IoT, with a focus on low-cost, open and sustainable solutions. One of the key learning platforms for IoT is the Raspberry Pi. We will look at the social impact of IoT and how privacy and security issues can be tackled.

Domain experts from public policy, design, creativity and innovation, environment, urban safety introduced the concept, present real life experience from their respective fields through lectures, discussions, audio-visual presentations and hands on. With the help of certification program deliverables and inputs participants are able to develop and implement their own perspectives to meet challenges.

The certification program was inaugurated on 8<sup>th</sup> August 2019 at 1.40 pm in MCA Seminar Hall, Department of MCA. The chief guest for the Inauguration function was Dr. R. S. Tiwari, Director, Congnifront, Nashik

At the end of fifth day certification distributions session was organized at 3.00 pm onwards on 14<sup>th</sup> August 2019. In that, distributions of certificates to all participants are scheduled.

Total 28 participants have participated in the certification program. We had received tremendous responses from the students.

Dr. V. C. Bagal, Head of Department of MCA was the convener of the certification program and Mrs. A. L. Rane was a co-convener.

Archana L. Rane

Co-Convener

Certification program "Basic of IoT"

Copy to: Prof. Dr. V. C. Bagal, I/C Head, Department of MCA, KKWIEER, Nashik





## Day 1: 8th August, 2019-Thursday, Inaugural Ceremony and Followed by Technical Session

### Session - I

The certification program was inaugurated on 8th August 2019 at 01.40pm in Seminar Hall, Department of MCA. The chief guest for the Inauguration function was Dr. R. S. Tiwari, Technical Director, Cognifront, Nashik.

The Student Convener welcomed the Guests and introduced Topic. Dr. V. C. Bagal, Head of Department for MCA gave overview of the five days certification program.

Then Dr. R. S. Tiwari, enlightened participants on Internet Of Things and spoke extensively about "what, why and how" of IOT are working and its application. He has motivated by emphasizing the need for meticulous planning and execution of the research giving practical tips. Inauguration function was ended with the vote of thanks by Student convener of certification program and taking a Group Photo.

Timing slot: 1.45 pm to 2.45 pm

### Session - II

Resource Person for this session was Mr. Swaraj Tade, IOT developer and Trainer at Cognifront, Nashik . He gave the students a overview about what is Arduino, its types and the sensors available in the market etc.

In the Technical Session he made three students (group) to sit on one system and handed them over a Arduino Board in order to understand its hardware. Also made the Students install the IDE in their computer systems.

Timing slot: 3.30 pm to 5.00 pm

Day 2: Friday, 9<sup>th</sup> August 2019

### Session - I

Resource Person for this session was Ms. Anita Mahale IOT developer and Trainer at Cognifront, Nashik . She gave the students a overview about what are Interfacing Push Buttons, LEDs, LCD, Buzzer, LDR and DHT11 sensors through Power Point Presentation also demonstrated how they work.

In the Technical Session she made the student groups to sit on their respective systems and handed them over a Arduino Board as well as the required Sensors in order to perform the programs practically.

Timing slot: 1.45 pm to 2.45 pm

### Session - II

Resource Person for this session was Ms. Yogita Patil, IOT developer and Trainer at Cognifront, Nashik. She gave the students a overview about what are Interfacing DC and Servo motors, Access Control and Identification using RFID through Power Point Presentation also demonstrated how they work.

In the Technical Session she made the student groups to sit on their respective systems and handed them over a Arduino Board as well as the required devices in order to perform the programs practically.

Timing slot: 3.30 pm to 5.00 pm

Day 3: Saturday, 10<sup>th</sup> August 2019

### Session - I

Resource Person for this session was Mr. Swaraj Tade, IOT developer and Trainer at Cognifront, Nashik . He gave the students a

overview about what are Wireless Communication through Bluetooth , Architecture of Raspberry Pi sensors through Power Point Presentation also demonstrated how they work practically.

Timing slot: 1.45 pm to 2.45 pm

### Session - II

Resource Person for this session was Ms. Rujuta Mahajan IOT developer and Trainer at Cognifront, Nashik . She explained the students Sensor Interfacing with Raspberry Pi Led Bar, Buzzer, DHT11 through Power Point Presentation also demonstrated how they work.

In the Technical Session she made the student groups to sit on their respective systems and told them to try the new sensors.

Timing slot: 3.30 pm to 5.00 pm

Day 4: Tuesday, 13<sup>th</sup> August 2019

### Session - I

Resource Person for this session was Mr. Swaraj Tade, IOT developer and Trainer at Cognifront, Nashik . He gave the students a overview about how Sending and Receiving Cloud data through Wi-Fi sensors actually work through Power Point Presentation also demonstrated how they work practically by the system.

Timing slot: 1.45 pm to 2.45 pm

### Session - II

Resource Person for this session was Ms. Anita Mahale, IOT developer and Trainer at Cognifront, Nashik . She explained the students ThingSpeak IOT Cloud Platform using Raspberry Pi through Power Point Presentation also demonstrated how they work.

In the Technical Session she made the student groups to sit on their respective systems and told them to try the new sensors.

Timing slot: 3.30 pm to 5.00 pm

Day 5: Wednesday, 14<sup>th</sup> August 2019, Valedictory Ceremony

### Session - I

At the fifth day Valedictory function of the certification program was organized at 1.45 pm onwards on 14th August 2019.

Dr. R. S. Tiwari Director, Cognifront, Nashik was the chief guest for Valedictory Ceremony. He explained IOT Applications and undertook Project Discussions.

Timing slot: 1.45 pm to 2.45 pm

### Session - II

In this Session , distributions of certificates to all participants were scheduled.

Some participants were shared their views about certification program like

- contents
- organization
- hospitality

The ceremony was finally ended by thanking the management, Head of Dept., Dr. V. C. Bagal, Chief Guest Dr. R. S. Tiwari all the Trainers from Cognifront, staff members and participating students of MCA department.

Timing slot: 3.30 pm to 5.00 pm

# 3. BROCHURE

Digital Communications-Challenges and Opportunities



# INTERNET OF THINGS

Certification Program

8<sup>th</sup> - 14<sup>th</sup> Aug 2019

## REGISTRATION FORM

Name

Name of College:

Address of Correspondence

Mobile/Telephone

Email:

(For further information visit)

<https://engg.kkwagh.edu.in>  
or may call on  
9423966551/ 8378970452

Signature of Candidate      Head of Department  
(Sign and Seal)

### Objectives

- To understand the rudiments of IoT
- To learn the features of Arduino and Raspberry Pi board
- To configure Wireless Protocols WiFi, Zigbee, Bluetooth
- To design a programming interface using sensors with Arduino and Raspberry Pi
- To connect Raspberry Pi to a remote access client
- To perform Cloud Server Experiments

### Registration

Rs. 300/- per Student

### Contact

Dr. V. C Bagal : 8378970452  
Prof. A. L Rane : 9423966551

Date: 8<sup>th</sup> - 14<sup>th</sup> Aug 2019  
Time: 1pm - 5pm

### Venue

MCA Laboratory 1



K. K. Wagh Institute of Engineering  
Education & Research

Five days Program  
on



Hirabai Haridas Vidyanageri, Amrutdham, Panchavati,  
Nashik-422 003, (M.S.), India  
Phone: (0253) 2221286, 2518864 Fax:(0253) 2511962  
Website: <https://engg.kkwagh.edu.in>

ORGANISED BY  
Department of MCA

### About the institute

The K. K. Wagh Education society has been established with social awareness in the year 1984 with the aim of imparting quality education in rural setting. Presently the society runs 38 education institutes. K. K. Wagh Institute of Engineering Education And Research is one of the flagship institute run by the society. In 1984, the college was established at Hirabai haridas Vidyanageri, a land of 8.2 hectares crystallizing long cherished dream of providing world-class facilities for professional education in Maharashtra. It is approved by the All India Council for technical Education (AICTE) and affiliated by Savitribai Phule Pune University.

The Institute offers various courses such as computer, Electronics and Telecommunication, Production, Civil, Mechanical, Electrical, Chemical Engineering and Information Technology. The institute also offers PG Programme in Computer, Electronics and Telecommunication, Production, Electrical, Civil Engineering Departments and MCA, MBA.

### About the Department

Department of MCA is established in the year 2007. First time we have started

MCA course under the faculty of Engineering in Savitribai Phule Pune University. Quality technical education in the area of Computer Application is provided in order to meet the challenges of globalization. The department along with institution emphasizes all round development of students. It aims at not only producing quality students, but also good and worthy citizens of country contributing in its overall progress and development. A department has a well qualified and experienced faculty. The faculty members play dual role both to impart technical knowledge to students as well as counselors to guide them for their overall development.

### About Program

The Internet has created a truly connected world. It has enabled humans to share data and information. It is a network of physical devices, vehicles, home appliances, and other items embedded with electronics, software, sensors, actuators and network connectivity which are linked to create smart environments. It allows objects to be sensed and controlled remotely across the existing network infrastructure. Also, it is creating opportunities for more direct integration of the physical world into computer-based systems, which results in improved efficiency and accuracy. Applications of the Internet of Things can greatly benefit

people in Developing Countries. In this Workshop, we will look at applications of IoT, with a focus on low-cost, open and sustainable solutions. One of the key learning platforms for IoT is the Raspberry Pi. We will look at the social impact of IoT and how privacy and security issues can be tackled.

### PATRONS

Hon. Shri B.D Wagh  
Chairman

Prof. Dr. K.N Nandurkar  
Principal

### CONVENER

Dr. V.C Bagal  
Head, Department of MCA

### CO-CONVENER

Ms. A.L. Rane  
Prof. Department of MCA

### ORGANIZING COMMITTEE

Maniyar M. E.      Sonar M. R.  
Gangurde R.A.      Fegade P. G.  
Dorle P. V.      Baravkar N.D.  
Pimple P. S.

### STUDENT CO-ORDINATOR

Singh Pooja      Singh Nikita  
Kushwaha Anshu      Kasat Shivam  
Yeola Chetan      Bagul Mrunali

# 4. LETTERS

Date: 14<sup>th</sup> August 2019

To,  
Dr. R. S. Tiwari,  
Director,  
Cognifront,  
Nashik


Respected sir,

We were delighted to have you at our college for conducting workshop on "Basic of IOT Technology" for SYMCA and TYMCA students from 8<sup>th</sup> August 2019 to 14<sup>th</sup> August 2019. We thank you to give us your valuable time and to share your knowledge with the students' of our college. Following are the details of workshop remuneration.

Sr. No.	No. of Student attended Workshop	Fees per Student	Total Amount
1	28	Rs. 300/-	Rs. 8400/-

Thanking You.

Yours faithfully,

  
**Dr. V. C. Bagal**  
I/C Head,  
Dept. of MCA

Received  




# 5. ORGANIZING COMMITTEE

Digital Communications-Challenges and Opportunities

## **Five Days Certification program on Basic of IOT**

### **Organizing Committee**

Dr. V. C. Bagal	Convener
Prof. A. L. Rane	Co-Convener
Prof. M. E. Maniyar	Committee Member
Prof. M.R. Sonar	Committee Member
Prof. P. G. Fegade	Committee Member
Prof. R. A. Gangurde	Committee Member
Prof. P. V. Dorle	Committee Member
Prof. N. D. Baravkar	Committee Member
Prof. P. S. Pimple	Committee Member
Mr. V. G. Shinde	Attendant
Singh Pooja	Student Coordinator
Khushwaha Anshu	Student Coordinator
Singh Nikita	Student Coordinator
KAsat Shivam	Student Coordinator
Yeola Chetan	Student Coordinator
Bagul Mrunali	Student Coordinator



# 6. SCHEDULE



K. K. Wagh Education Society's  
K. K. Wagh Institute of Engineering Education and Research, Nashik  
Hirabai Haridas Vidyantari, Amrutdham, Panchvati, Nashik, Maharashtra-422003  
Phone:(0253)2221286, 2512876, Fax:(0253)2511962

Website: [www.engg.kkwagh.edu.in](http://www.engg.kkwagh.edu.in)

(Affiliated to Savitribai Phule Pune University and Approved by All India Council for Technical Education,  
New Delhi)

Five Days Certification program on  
"Basic of IOT"  
8<sup>th</sup> August 2019 to 14<sup>th</sup> August 2019

#### Schedule

Day	Session Details	Topic Details
Day 1	Session 1	Sensors and Actuators and Architecture of Arduino Board
	Session 2	Using IDE and Serial Monitors
Day 2	Session 1	Interfacing Push Buttons, LEDs, LCD, Buzzer, LDR and DHT11 sensors
	Session 2	Interfacing DC and Servo motors, Access Control and Identification using RFID
Day 3	Session 1	Wireless Communication through Bluetooth , Architecture of Raspberry Pi
	Session 2	Sensor Interfacing with Raspberry Pi Led Bar, Buzzer, DHT11
Day 4	Session 1	Sending and Receiving Cloud data through WiFi
	Session 2	ThingSpeak IOT Cloud Platform using Raspberry Pi
Day 5	Session 1	IOT Applications and Project Discussions
	Session 2	Certificate Distribution

Digital Communications-Challenges and Opportunities

**7. SESSION  
CONDUCTED  
DETAILS**



K. K. Wagh Institute of Engineering Education and Research, Nashik  
Hirabai Haridas Vidyanagari, Amrutdham, Panchvati, Nashik, Maharashtra-422003  
Phone: (0253)2221286, 2512876, Fax: (0253)2511962  
Website: www.engg.kkwagh.edu.in

(Affiliated to Savitribai Phule Pune University and Approved by All India Council for Technical Education, New Delhi)

Five Days Workshop on  
"Basic of IOT"  
8<sup>th</sup> August 2019 to 14<sup>th</sup> August 2019

Session Conducted Details

Day 1: Thursday, 8 <sup>th</sup> August 2019			
Time	Session Details	Speakers Details and Topic	Signature
1.40 to 2.15	Inauguration Function		
2.15 to 3.15	Session 1	Dr. R. S. Tiwari Director, Cognifront, Nashik Sensors and Actuators and Architecture of Arduino Board	
3.15 to 3.30		Tea Break	
3.30 to 5.00	Session 2	Mr. Swaraj Tade IOT developer and Trainer, Cognifront, Nashik Using IDE and Serial Monitors	
Day 2: Friday, 9 <sup>th</sup> August 2019			
1.45 to 2.45	Session 1	Ms. Anita Mahale Senior IOT developer, Cognifront, Nashik Interfacing Push Buttons, LEDs, LCD, Buzzer, LDR and DHT11 sensors	
2.45 to 3.00		Tea Break	
3.00 to 5.00	Session 2	Ms. Yogita Patil IOT developer and Trainer, Cognifront, Nashik Interfacing DC and Servo motors, Access Control and Identification using RFID	
Day 3: Saturday, 10 <sup>th</sup> August 2019			
1.45 to 2.45	Session 1	Mr. Swaraj Tade IOT developer and Trainer, Cognifront, Nashik Wireless Communication through Bluetooth, Architecture of Raspberry Pi	
2.45 to 3.00		Tea Break	
3.00 to 5.00	Session 2	Ms. Rujuta Mahajan IOT developer, Cognifront, Nashik Sensor Interfacing with Raspberry Pi Led Bar, Buzzer, DHT11	
Day 4: Tuesday, 13 <sup>th</sup> August 2019			
1.45 to 2.45	Session 1	Mr. Swaraj Tade IOT developer and Trainer, Cognifront, Nashik Sending and Receiving Cloud data through WiFi	
2.45 to 3.00		Tea Break	
3.00 to 5.00	Session 2	Ms. Anita Mahale Senior IOT developer, Cognifront, Nashik ThingSpeak IOT Cloud Platform using Raspberry Pi	
Day 5: Wednesday, 14 <sup>th</sup> August 2019			
1.45 to 2.45	Session 1	Dr. R. S. Tiwari Director, Cognifront, Nashik IOT Applications and Project Discussions	
2.45 to 3.00		Tea Break	
3.00 to 5.00	Session 2	Certificate Distribution	

# 8. PARTICIPANT LIST



Digital Communications-Challenges and Opportunities

K. WAGH INSTITUTE OF ENGINEERING EDUCATION & RESEARCH, NASHIK  
DEPARTMENT OF MCA

A.Y. 2019-2020

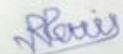
Five Days Workshop on

**Basic of IOT Technology**

8<sup>th</sup> August 2019 – 14<sup>th</sup> August 2019

**Participant List**

Sr. No.	Name of Participant	Class
1	Agrawal Saili Rajesh	TYMCA
2	Amlekar Minal	TYMCA
3	Badhe Vishal Ramdas	TYMCA
4	Chavan Ekta Balakdas	TYMCA
5	Gandhi Ashwini A.	TYMCA
6	Jadhav Dhanashree Kailas	TYMCA
7	Kasat Shivam Anil	TYMCA
8	Kokni Komal Madhukar	TYMCA
9	Kushwaha Anshu Narendra	TYMCA
10	Lokhande Dhanshree Suresh	TYMCA
11	Mogal Snehal	TYMCA
12	Nerkar Aishwarya Sanjiv	TYMCA
13	Pagare Komal Arvind	TYMCA
14	Singh Nikita	TYMCA
15	Singh Pooja Ravindra	TYMCA
16	Sonawane Ashwini Bhagawat	TYMCA
17	Tiwari Pratibha Sheshmani	TYMCA
18	Sohan Lal Gour	TYMCA
19	Anurag Harjari	TYMCA
20	Alex Blessen Raju	SYMCA
21	Chinchore Purushottam Hemant	SYMCA
22	Damale Nikita Suresh	SYMCA
23	Joshi Bhushan Prakash	SYMCA
24	More Rajratn Hiralal	SYMCA
25	Pawar Pooja Sanjay	SYMCA
26	Sengupta Aniket Surjit	SYMCA
27	Basu Shouvik Santasil	SYMCA
28	Patil Vaibhav Dilip	SYMCA

  
Dr. V. C. Bagal  
I/C Head,  
Department of MCA



9.

**REGISTRATION**

**FORM**

Digital Communications-Challenges and Opportunities

**K. K. Wagh Institute of Engineering Education & Research, Nashik**

**Department of MCA**

**Basic IOT Certification program  
Registration Form**

(8<sup>th</sup> August 2019 to 14<sup>th</sup> August 2019)

Name of Candidate .....

Name of College .....

Address of Correspondence .....

.....

Mobile/Telephone .....

Email ID .....

(For Further Information, you may contact)

<https://engg.kkwagh.edu.in> or may call on

9423966551/ 8378970452

Signature of Candidate

Head of Department  
(Sign and Seal)



# 10. CERTIFICATE

Digital Communications-Challenges and Opportunities



## Digital Communications-Challenges and Opportunities



# 11. FEEDBACK

Digital Communications-Challenges and Opportunities

3.

**K.K.Wagh Institute of Engineering Education & Research**  
Hirabai Haridas Vidyanagari, Amrutdham, Panchavati, Nashik-422003  
Ph. No.: (0253) 2512876 2513867 Fax No.: (0253) 2511962/2518870  
E-mail: kkwiccer@kkwagh.edu.in kkwiccer@gmail.com

Expert Talk / Seminar / Guest Lecture / Workshop Feedback Form  
(For Student)

Date / /

Objectives:

- > To enhance teaching learning process in engineering education.
- > To provide exposure to latest trends and bridge gap between curriculum and industrial practices.
- > To provide mentoring and guidance from industrial and other resource person.

Name of the Resource Person: \_\_\_\_\_

Designation and Organization: \_\_\_\_\_

Name of the Topic: \_\_\_\_\_

Name of the Student: \_\_\_\_\_

Branch of Engineering: \_\_\_\_\_ Academic Year: \_\_\_\_\_

Please indicate your rating of Industrial Visit

Sr. No.	Feedback Parameters	✓ Tick Your Rating				
		Excellent (5)	V Good (4)	Good (3)	Average (2)	Below Avg (1)
1	Technical Expertise of faculty / expert					
2	Enthusiasm / Awareness created					
3	Linking with current courses under study					
4	Response to queries					
5	Exposure to industrial practices					

A) What did you like most about this program

\_\_\_\_\_

B) Whether the presentation gave knowledge beyond the syllabus. If yes elaborate

\_\_\_\_\_

(Name and Sign of Student)

# 12. PHOTOGRAPHS



Digital Communications-Challenges and Opportunities

# Inauguration Function





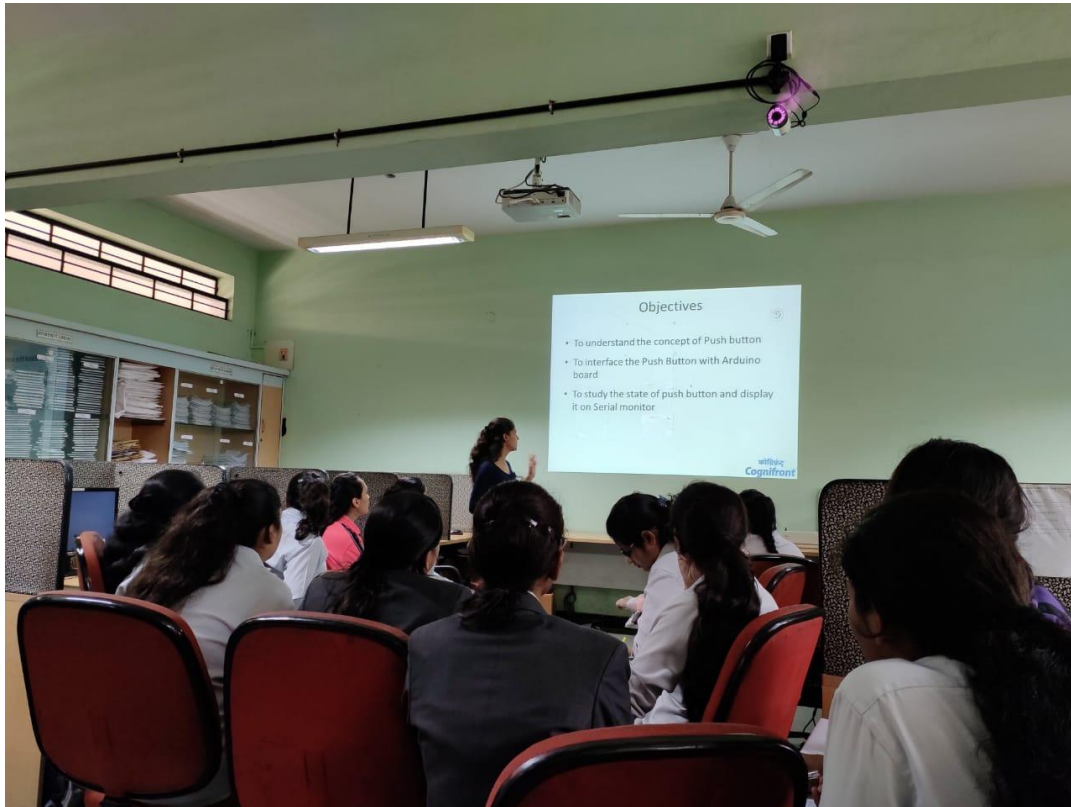
## DAY 1 : SESSION 1



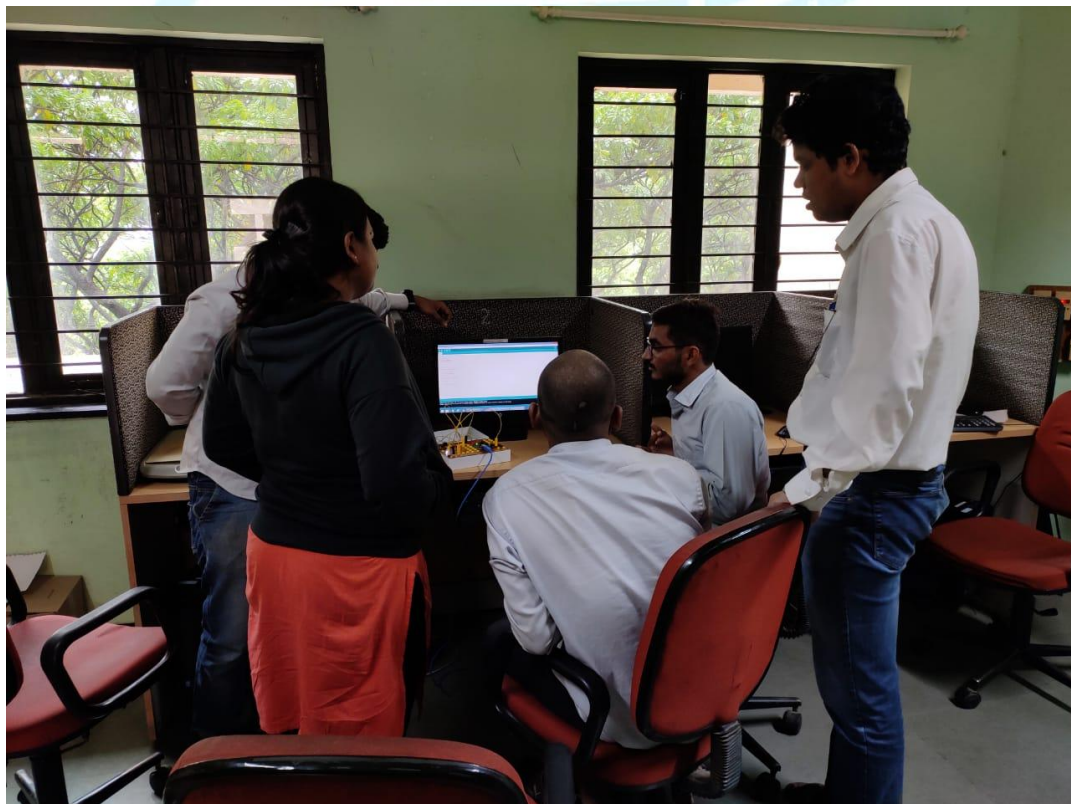
## SESSION 2



## DAY 2 : SESSION 1



## SESSION 2





## DAY 3 : SESSION 1



## SESSION 2



## DAY 4 : SESSION 1



## SESSION 2

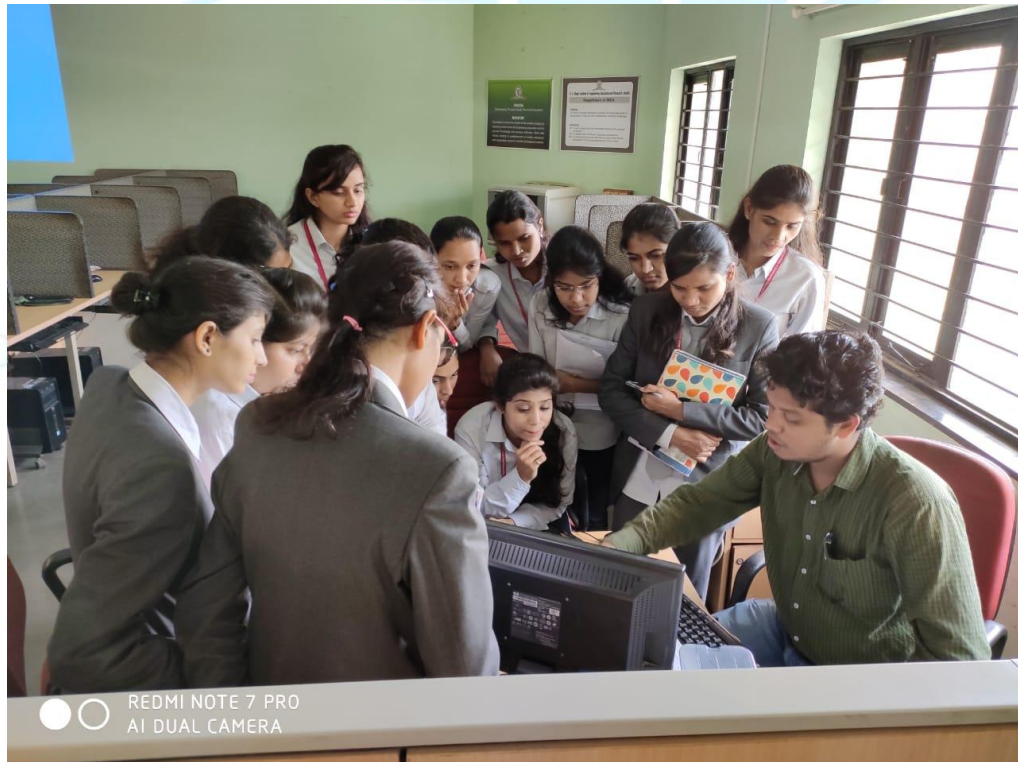




## DAY 5 : SESSION 1



## SESSION 2



# Valedictory Function

