

REGISTRATION FORM

Online Faculty Development Programme on Internet of Things (OFDPIoT-20)

May 7-11, 2020

Organized by
Department of Electronics and Communication Engineering
National Institute of Technology, Jamshedpur
in collaboration with
AICTE Training And Learning (ATAL) Academy, Kolkata

1. Name in block letters: _____
2. Designation & Affiliation: _____

3. Male/Female: _____
4. Mailing Address: _____

5. Mobile no. : _____
6. E-mail ID : _____
7. WhatsApp no.: _____

Paste a copy of your Photo Identity Card

N.B.: Online registration is essential, the link for the same is
<https://tinyurl.com/y934m3lv>
Image of the registration form should be sent by email.

Organizing Committee

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Dr. Basudeba Behera Dr. Basanta Bhowmik Dr. Kunal Singh
Dr. Swagatdeb Sahoo Dr. Mrutyunjay Rout

TENTATIVE SCHEDULE

Date	10:00 AM to 11:30 AM		12.00 PM to 1.30 PM		2:30 PM to 4.00 PM	4:15 PM to 4:45 PM
7-05-2020	Registration and Inauguration		Session 1 Introduction to the Internet of Things		Session 2 Architecture of IoT	Common discussion with Coordinator/Experts
8-05-2020	Session 3 Introduction to Smart Sensors	Refreshment break	Session 4 Machine Learning in IoT	Lunch break	Session 5 Monitoring of Machine using IoT	
9-05-2020	Session 6 Node-Red and Arduino Plafom		Session 7 Optical Technologies for IoT		Session 8 Hands-on Demo 1	
10-05-2020	Session 9 IoT applications in Power Electronics		Session 10 Hands-on Demo-2		Session 11 Project with Arduino	
11-05-2020	Session 12 IoT Enabling Cross-domain Convergence and Innovation		Session 13 Zigbee and IOT based systems		Session 14 AI Simulator for IoT	

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Venue:
On your Desktop/Laptop/Tablet/Smart Phone with
internet connectivity anywhere

About NIT Jamshedpur

National Institute of Technology, Jamshedpur earlier known as Regional Institute of Technology (RIT) was established on 15th August 1960 as a joint venture of Government of India and the Government of Bihar in the chain of Regional Engineering Colleges in India with the aim to generate technical graduates of highest standards who could provide technological leadership to the region. On 27th December 2002, RIT was transformed to NIT, Jamshedpur with the status of a Deemed University. The Institute has 12 departments including engineering, science and humanities. It has more than 200 faculty, 4000 students and 150 administrative and supporting staff. It has a self-contained campus located on the outskirts of Jamshedpur on 341.3 acres of sprawling, rolling hilly, wooded land. It combines natural beauty of countryside with urban glamour of a mineral-rich industrial area in the state of Jharkhand. It surrounded by giant and medium scale industries and reputed Institutes. Being the cradle of technical excellence, the institute took no time in starting online teaching to combat the COVID-19 lockdown crisis.

About the Department

Department of Electronics and Communication Engineering was started in 1989. The department aims to be a national leader in imparting quality education, carrying out research and technology development. The department provides an outstanding research environment and offers academic program leading to the award of B.Tech, M Tech and Ph.D. degrees

About ATAL Academy Kolkata

AICTE Training And Learning (ATAL) Academy was digitally announced with establishment of four Academies in the country at Jaipur, Vadodara, Guwahati and Trivendram by MHRD, Govt. of India on 24.9.2018. In September 2019, eleven new ATAL Academies have also been established at Dehradun, Kanpur, Bhopal, Bangalore, Chennai, Murthal, Srinagar, Patna, Kolkata, Hyderabad and Pune.

Some of the objectives of ATAL being:

→To support technical institutions in fostering research innovation and entrepreneurship through training

→To stress upon empowering technical teachers & technicians using ICT

→To provide a variety of opportunities for training and exchange of experiences such as workshops, orientations, learning communities, peer mentoring and other FDPs.

About the Short Term Programme (OFDPIoT-20)

The Internet of Things is the concept of everyday objects - from industrial machines to wearable devices - using built-in sensors to gather data and take action on that data across a network. IoT is one of the thrust areas of ATAL Academies. This OFDP on IoT is being organized by Department of ECE, NIT Jamshedpur in collaboration with ATAL Academy Kolkata. This OFDP is aimed at giving hands-on training to the faculty members and research scholars on various aspects of IoT. The OFDP comprises a series of technical presentations and video demonstration of laboratory-based IoT projects. The projects will use the Arduino and other relevant IoT support technologies.

Due to countrywide lockdown which prevent the conduct FDP face-to-face at this point of time therefore as decided by AICTE OFDPIoT-20 is being conducted online using facilities CISCO WebEx Application through which all 14 session will be conducted by resource persons from their respective residence and the registered participants can interact with them online using their Desktop/Laptop/Tablet/Smart Phone with internet connectivity from anywhere.

An online test will be conducted at the end of the program. The digital certificate will be issued to those who have attended the program without any absenteeism and scored minimum 60% marks in the test.

Resource Persons

The course content will be delivered from a pool of resource persons on the subject from leading industries and prestigious academic institutions.

Who can attend OFDPIoT-20

Participation in this OFDP is open to the faculty members of the AICTE approved institutions, research scholars, PG, Scholars, participants from Government, Industry (Bureaucrats/ Technicians/ Participants from Industry etc.) and staff of host institutions.

Registration Fees

There is no Registration fee from any participant.

Number of seats: 50 (first come, first serve)

Pedagogy

PPT slides handout, online lecturing, demonstration videos

Last Date for registration: 3-5-2020

Email for communication: ofdpiot20@gmail.com

Please note: Trial on Cisco WebEx App will be done on 10-05-2020 (instructions will be provided to participants in advance)

Topics to be covered

1. Introduction to IoT

- What is Internet of Things?
- Background & Significance
- Developing & Implementing IoT Technologies
- IoT for Weather Monitoring
- Scope of IoT in Machine Learning
- Scope of IoT in Artificial Intelligence

2. Architecture of IoT

- Network Architecture of IoT
- Protocols

3. Introduction to Sensors

- Sensor Calibration
- Sensor Maintenance
- Sensor Deployment
- Powering options for Sensors

4. M2M Communication Protocols

- Sensor Network & Ad-hoc Network
- Wired & Wireless Networks
- Wi-Fi Standards

5. Cloud Computing Platform

- Cloud Architecture
- Concepts of Cloud Computing
- Role of Cloud Computing in IoT
- Deployment Models & Techniques

6. Node-MCU

- Features of Node-MCU
- Interfacing to outside world
- Programming Environment

7. Implementing IoT with Arduino

8. Introduction to Raspberry PI with Python

9. Implementing IoT with RaspberryPi.

10. Zigbee and IoT based systems

11. Antennas for IoT Applications

12. Hands-on Session-1

- Introduction to Arduino Platform,
- Integration of sensors with Arduino
- Introduction to Wireless modules

13. Hands-on Session-2

- Introduction to Node MCU
- Programming Node MCU with Arduino platform
- Sensor integration with Node MCU
- IOT-development board

14. IoT Project Implementation