

Registration Form

AICTE Sponsored QIP Short Term Course
on

Digital Communication & Communication Networks
14-25th June 2021

Online Registration Mode

<https://forms.gle/t1WgDHomiCBWrBJw8>

Offline Registration Mode

Name: _____

Gender: _____

Designation and Department: _____

Address for Correspondence:

Phone: _____

Mobile: _____

Email: _____

Educational Qualification: _____

Area of Research: _____

Participant Category (QIP / AICTE / Sponsored Participant):

Payment Details:

Transaction ID _____

Amount (Rs) _____ and Date: _____

Date of Submission: _____

Signature of the Candidate _____

Endorsement of Head of the Institution/Department

Mr/Ms/Dr _____ of

Department _____

Organization/Institute _____

is permitted to attend short-term course to be
organized at IIT Bhubaneswar.

Date: _____

Signature of the Head (Seal)

Please upload during the online registration or send
this form to msm@iitbbs.ac.in



AICTE Sponsored QIP Short Term Course

on

Digital Communication and Communication
Networks

14-25th June 2021



Organized by
School of Electrical Sciences
INDIAN INSTITUTE OF TECHNOLOGY
BHUBANESWAR

Jatni, Khordha, Odisha-752050, India
www.iitbbs.ac.in

Course Coordinators:

Dr. P. R. Sahu and Dr. M. S. Manikandan
School of Electrical Sciences,
IIT Bhubaneswar, Argul, Khurda, Odisha-752050
Email: prs@iitbbs.ac.in and msm@iitbbs.ac.in

Bank Details for Payment

A/c Name: CEP, IIT Bhubaneswar
A/c No.: 24282010001960
IFSC Code: CNRB0017282
Bank Name: Canara Bank, IIT Bhubaneswar

GST No: 21AAAI2760A1ZJ

Important Dates

1. **Course: 14 – 25th June, 2021**
2. **Last date of registration: 11th June, 2021.**

Registration Fee

- There is no course fee for the first 30 participants (holding faculty position) from AICTE approved engineering colleges. The selection is on first-come-first-serve basis. Participants must send the endorsement certificate duly signed by the Head of the Department/Institution along with their application form at msm@iitbbs.ac.in.
- After the first 30 participants, a participation fee of Rs. 3000/2000/1000 + 18% GST is applicable for the participants (faculty / research scholars / students). Participants are requested to send online payment proof along with their application form at msm@iitbbs.ac.in.

Course Coordinators:

Dr. P. R. Sahu and Dr. M. S. Manikandan
School of Electrical Sciences,
IIT Bhubaneswar, Argul, Khurda, Odisha-752050
WhatsApp Number: 7894447889

About Indian Institute of Technology Bhubaneswar and School of Electrical Sciences

IIT Bhubaneswar, a prominent institute among the eight new IITs started in 2008. The institute campus is located on the foot of the historic Barunei hills and is well connected by rail, road and airways.

Institute has seven schools delivering UG, PG and PhD level programmes. Out of the seven schools in the institute, the School of Electrical Sciences was established in 2008 along with the establishment of the institute.

School of Electrical Sciences at IIT Bhubaneswar offers a vibrant and research intensive environment in the field of Computer Science & Engineering, Electronics & Communication Engineering and Electrical Engineering. Established in 2008, it is one of the fastest growing Schools at IIT Bhubaneswar. With a focus on quality teaching and research in cutting edge technology at the core, the School offers B.Tech, M.Tech and PhD programs in broad areas of CSE, ECE and EE disciplines.

The School is engaged in a wide spectrum of research in established and emerging technologies through nationally and internationally funded sponsored research, industrial consultancy, and various research collaborations. The School currently focuses on five major research areas: Communications and Signal Processing, Power and Renewable Energy System, Power Electronics and Drives, Microelectronics and Semiconductor Devices, and Computing Techniques and Systems. In its role as research oriented School, it will help the most challenging social, cultural, technical, and health related problems through both basic and applied research. The objective of the School is to shape graduates into hardcore professionals who would become effective leaders and noteworthy technological innovators.

About the Course

The two weeks course covers fundamentals to advance level topics of digital communication and communication networks. Topics to be broadly covered are:

1. **AWGN channel communications.**
2. **Fading channel communications.**
3. **Spread spectrum communications.**
4. **Multiple Access Techniques.**
5. **Communication Network Basics.**
6. **Cellular Network architectures (1G to 5G and NGN) and Standards.**
7. **Internet of Things using Arduino and Raspberry Pi boards.**

RESOURCE PERSONS

1. Dr. P. R. Sahu, IIT Bhubaneswar
2. Dr. Vimal Bhatia, IIT Indore
3. Dr. Udit Sarija, IIT Patna
4. Dr. P. K. Sahu, IIT Bhubaneswar
5. Dr. B. L. Bera, IIT Bhubaneswar
6. Dr. Soumya Prakash Dash, IIT Bhubaneswar
7. Dr. Anoop Thomas, IIT Bhubaneswar
8. Dr. Siddhartha S. B. , IIT Bhubaneswar
9. Dr. Barathram R, IIT Bhubaneswar
10. Dr. M. Sabaraimalai Manikandan, IIT Bhubaneswar

AICTE Sponsored QIP Short Term Course
on
 Digital Communication and Communication Networks
 14-25th June 2021
 Mode of Presentation: MS Team

Course: Digital Communications Date: 14-18, June 2021						
Date and Day	Theory Lecture Session			Lab Session		
	Time	Lecture Topics	Speaker	Time	Lab Course Topics	Speaker
14-6-2021 Monday	10.00 AM -12.00 PM	Digital Communications Fundamentals	Dr. S. P. Dash	2.00– 5.00 PM	MATLAB Simulation	Dr. S. P. Dash
	12.00-1.00 PM	Information Theory-Basics	Dr. Anoop Thomas			
15-6-2021 Tuesday	10.00 AM -12.00 PM	Multiple Access Techniques	Prof. Vimal Bhatia	2.00– 5.00 PM	Modulation Classification Experiments –MATLAB	Dr. Udit Satija
	12.00-1.00 PM	Modulation Classification	Dr. Udit Satija			
16-06-2021 Wednesday	10.00-11.00 PM	Spread-spectrum Communications	Dr. B. Ramkumar	2.00-5.00 PM	SDR Experiments	Dr. Barathram
	11.00 AM -12.00 PM	Error-Control Coding Schemes	Dr. Anoop Thomas			
	12.00 – 1.00 PM	Cognitive Radios	Dr. M. S. Manikandan			
17-06-2021 Thursday	10.00 AM -11.30 AM	Fading Channel Communications	Dr. P. R. Sahu	2.00-3.30 PM	MATLAB Simulation-Fading Channel	Dr. P. R. Sahu
	11.30 AM-1.00 PM	Optical and Speech Communication	Dr. P. K. Sahu	3.30-5.00 PM	Optical Communications	Dr. P. K. Sahu
18-06-2021 Friday	10.00 AM -11.00 AM	Adaptive Modulation Schemes	Dr. Siddhartha S. B.	2.00 – 5.00 PM	Arduino and Wireless Communications	Dr. M. S. Manikandan
	11.00 AM -1.00 PM	Wireless Radios and Their Indoor Sensing Applications	Dr. M. S. Manikandan			

AICTE Sponsored QIP Short Term Course
on
Digital Communication and Communication Networks
14-25th June 2021
Mode of Presentation: MS Team

Course: Communication Networks Date: 21-25, June 2021						
Date and Day	Theory Lecture Session			Lab Session		
	Time	Lecture Topics	Speaker	Time	Lab Course Topics	Speaker
21-6-2021 Monday	10.00 AM -12.00 PM	Network Fundamentals Distributed Look up Protocols and Applications for P2P Networks	Dr. P. L. Bera	2.00– 5.00 PM	Implementation and performance analysis of TCP/IP protocols. Tools to be used: NS2 Simulator and Socket Programming	Dr. P. L. Bera
	12.00-1.00 PM	Wireless Body Area Networks	Dr. M. S. Manikandan			
22-6-2021 Tuesday	10.00 AM -12.00 PM	Wired and Wireless Networks	Dr. P. R. Sahu	2.00– 5.00 PM	WSN using Arduino with BLE, WiFi, ZigBee and LoRa	Dr. M. S. Manikandan
	12.00-1.00 PM	LoRa Sensor Networks	Dr. Siddhartha S. B.			
23-06-2021 Wednesday	10.00 AM -12.00 PM	5G/IoT Networks and Future	Pro. Vimal Bhatia	2.00-5.00 PM	MATLAB Experiments	Dr. M. S. Manikandan
	12.00 – 1.00 PM	Data Security in Wireless Systems	Dr. M. S. Manikandan			
24-06-2021 Thursday	10.00 AM -12.00 PM	Multiple-Hop Packet Radio Networks	Dr. Siddhartha S. B.	2.00-3.30 PM	To be Decided	
	12.00 -1.00 PM	Channel Capacity and Coding	Dr. Anoop Thomas	3.30-5.00 PM	To be Decided	
25-06-2021 Friday	10.00 AM -12.00 PM	Internet of Things-Concepts, Architectures and Challenges	Dr. M. S. Manikandan			
	12.00 -12.30 PM	Valedictory Function				