



COLLEGE OF ENGINEERING BHUBANESWAR (COEB)
Plot No.1 (A), CNI Complex, Patia, Bhubaneswar – 751024, Odisha, India.
[AFFILIATED TO BPUT, ODISHA]
www.coeb.ac.in

DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGINEERING

ADD-ON COURSE : Advances and challenges in telecommunication

[Programme: B.Tech, ETC]

Course Objectives:

To expose the students the fundamental concepts of Wireless Communication Systems/Networks; To impart knowledge to student about recent trends in telecommunication. It provides a brief introduction on the research area of 4G/5G communication systems.

SYLLABUS

Total Lecture Hours : 40

MODULE-I:

[10 Hours]

Evolution of Broadband Wireless; Fixed Broadband Wireless and Mobile Broadband Wireless; WiMAX, 3G, 4G and beyond. Wi-Fi Systems; Spectrum Options for Broadband Wireless; Technical Challenges for Broadband Wireless - Wireless Radio Channel: Path loss and Shadowing; Spectrum Scarcity, Quality of Service, Mobility, Portability, Security, Supporting IP in Wireless.

MODULE-II

[10 Hours]

Orthogonal Frequency Division Multiplexing, Multicarrier Modulation – OFDM, Introduction to Multiple Antenna Techniques, SISO, SIMO, MISO and MIMO antenna schemes.

MODULE-III

[10 Hours]

Recent Trends in Tele-communication, Artificial intelligence and its uses in communication. Introduction to ML, DL and their uses in communication.

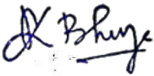
MODULE-IV

[10 Hours]

Limitations and future prospects of ML, DL, AI based communication. Technical perspective of these algorithms in communication

Course Outcomes: After completion of the course, the students will be able to

- CO1: Explain the basic principles of Wireless communication.
- CO2: Explain the different algorithms involved in communication
- CO3: Able to explain the challenges in communication and future prospect.


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Evaluation Process:

1. Attendance for the course is 75%, which is mandatory.
2. Minimum qualifying marks percentage for the course is 50.
3. Certificate will be issued after successful completion of course and assessment processes.

Learning resources:

Suggested Books:

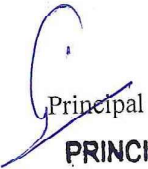
1. Wireless Communication: Advancements and Challenges (Wireless Communications and Networking Technologies) by Krishna Kumar, Pankaj Sharma, Ram Shringar Rao.
2. Advances in Telecommunications Networks by William M. Lee Derrick C. Brown.
3. Advanced Communication System by Sapna Katiyar , S.K. Kataria & Sons

Other Sources:

e-Learning Resources:

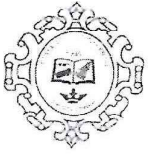
1. <https://www.youtube.com/watch?v=-ymnQ5rpcYA&list=PLbMVogVj5nJSi8FUsvglRxLtN1TN9y4nx>

Design and Developed by: Prof. Snehasis Dey and Prof. Lokanath Sarangi


Principal
PRINCIPAL
College of Engineering Bhubaneswar


Principal
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H.O.D., ETC Engg.
H.O.D.
Dept. of ETC Engg.
COEB, Bhubaneswar



DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION ENGINEERING

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NOTICE

ADD-ON/CERTIFICATE COURSE

Ref No: COEB/ETC/2020/11

Date: 05/09/2020

It is for the information of all the students of 3rd/5th/7th semester that the classes for the Add-On/Certificate Courses will commence in ON LINE Mode as per the time table given below.. The registration process for the course will start from **05/09/2020**. The interested students to enroll themselves for the course are advised to contact the concerned Course Coordinators for the details.

Semester	Course Title	Course Coordinator	Date of Commencement
3rd	PCB Design	Prof. Snehasis Dey	14/09/2020
5th	Advances and challenges in telecommunication	Prof. Subrat Kumar Mohanty	14/09/2020
7th	Machine Learning Algorithms for Communication	Prof. Debarchana Jena	14/09/2020

The class timing will be from 5.30 pm to 7.30 pm.

Head of the Department

H.O.D.
Dept. of ETC Engg.
COEB, Bhubaneswar

Copy to:

1. Office of the Chairman/ Vice-Chairman for kind information.
2. Office of the Executive Director for kind Information.
3. Office of the Registrar for kind Information.
3. Office of the Principal for kind information.
4. Departmental Notice Board.
5. Guard File

Head of the Department


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**COLLEGE OF ENGINEERING BHUBANESWAR (COEB)
ADD-ON COURSE ENROLLMENT SHEET**

ON-LINE MODE

Name of the Department: Electronics and telecommunication engineering	
Course Title: Advances and challenges in telecommunication	
Semester : 5th	Academic Year: 2020-21
Duration: 40 hours	

Student's Declaration/Undertaking

1. I do hereby undertake to participate in the above mentioned add on course.
2. I do hereby, promise to abide by the admissible rules and regulations, concerning discipline, attendance, etc. of the department, and also to follow the Code of Conduct prescribed for the students of the Institute, as in force from time to time.

Sl. No.	Registration No.	Name of the Student	Remarks by the Course Coordinator
1	1801219018	ASHISH KUMAR PARIDA	Certified that the Enrollment Sheet is prepared by taking the consents of the students to enroll themselves in this Certificate Course (Add-On) to be conducted in Virtual Mode (ON-LINE) during the Pandemic COVID'19 through the link provided by the Department. They have also gone through the declaration/undertaking to be strictly abided by them during the course period.
2	1801219021	ASIF KHAN	
3	1801219042	DAVID HANSDAH	
4	1801219062	JITU MISTRY	
5	1801219065	KALYANI SWAGATIKA DASH	
6	1801219079	MANORANJAN SAHOO	
7	1801219082	MEGHANTH NAIK	
8	1801219091	NUTAN NAYAK	
9	1801219099	PRASANTA KUMAR THAKUR	
10	1801219107	PRIYABRATA KUMURA	
11	1801219112	PURNENDU SUNANI	
12	1801219130	SANKAT MOCHAN BISWAL	
13	1801219163	SUSHREE SANGITA	
14	1801219170	TOKAN BEHERA	
15	1801219227	ANANYA SAMAL	
16	1801219228	BIJAY KUMAR PADHI	
17	1801219229	BISHNUPRIYA MOHARANA	
18	1801219230	MAHESH PRASAD MISHRA	
19	1801219231	NISHI TIRKEY	
20	1801219232	SMRUTIREKHA MARANDI	
21	1801219233	SUBHASHREE BIDYASAGAR	


S. K. Padhi
Course Coordinator
(Signature with Seal)

A. Bhuje
PRINCIPAL
College of Engineering Bhubaneswar



**COLLEGE OF ENGINEERING BHUBANESWAR (COEB)
DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGINEERING**

ADD ON / CERTIFICATE COURSE

STUDENT ATTENDANCE

ON-LINE MODE

Programme: B.Tech in Electronics and telecommunication engineering
Name of the Course: Advances and challenges in telecommunication

Semester: 5th

Academic Year: 2020-21

Duration : **40 hours**

Remarks by the Course Coordinator (P-Present, A-Absent)

Sl. NO	Reg. No./ Enrollment	NAME OF THE STUDENT	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Remarks
1	1801219018	ASHISH KUMAR PARIDA	P	P	P	P	P	P	P	P	P	P	P	Certified that this Certificate course is conducted in virtual mode (ON-LINE) because of the Pandemic COVID-19. The attendance is taken with the remarks P-present and A-Absent for the students.
2	1801219021	ASIF KHAN	P	P	P	P	P	P	P	P	P	P	P	
3	1801219042	DAVID HANSDAH	P	P	P	P	P	P	P	P	P	P	P	
4	1801219062	JITU MISTRY	P	P	P	P	P	P	P	P	P	P	P	
5	1801219065	KALYANI SWAGATIKA DASH	P	P	P	P	P	P	P	P	P	P	P	
6	1801219079	MANORANJAN SAHOO	P	P	P	P	P	P	P	P	P	P	P	
7	1801219082	MEGHANITH NAIK	P	P	P	P	P	P	P	P	P	P	P	
8	1801219091	NUTAN NAYAK	P	P	P	P	P	P	P	P	P	P	P	
9	1801219099	PRASANTA KUMAR THAKUR	P	P	P	P	P	P	P	P	P	P	P	
10	1801219107	PRIVABRATA KUMURA	P	P	P	P	P	P	P	P	P	P	P	
11	1801219112	PURNENDU SUNANI	P	P	P	P	P	P	P	P	P	P	P	
12	1801219130	SANKAT MOCHAN BISWAL	P	P	P	P	P	P	P	P	P	P	P	
13	1801219163	SUSHREE SANGITA	P	P	P	P	P	P	P	P	P	P	P	
14	1801219170	TOKAN BEHERA	P	P	P	P	P	P	P	P	P	P	P	
15	1801219227	ANANYA SAMAL	P	P	P	P	P	P	P	P	P	P	P	
16	1801219228	BIJAY KUMAR PADHI	P	P	P	P	P	P	P	P	P	P	P	
17	1801219229	BISHNUPRIYA MOHARANA	P	P	P	P	P	P	P	P	P	P	P	
18	1801219230	MAHESH PRASAD MISHRA	P	A	P	P	P	P	P	P	P	P	P	
19	1801219231	NISHI TIRKEY	P	P	P	P	P	P	P	P	P	P	P	
20	1801219232	SMRUTIREKHA MARANDI	P	P	P	P	P	P	P	P	P	P	P	
21	1801219233	SUBHASHREE BIDYASAGAR	P	P	P	P	P	P	P	P	P	P	P	

S.K. Mohanty
 Course Coordinator
 (Signature with Seal)

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DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGINEERING

ADD ON / CERTIFICATE COURSE

STUDENT ATTENDANCE

ON-LINE MODE

Programme: B.Tech in Electronics and telecommunication engineering
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3	1801219042	DAVID HANSDAH	P	P	P	P	P	P	P	P	P	P	P	
4	1801219062	JITU MISTRY	P	P	P	P	P	P	P	P	P	P	P	
5	1801219065	KALYANI SWAGATIKA DASH	P	P	P	P	P	P	P	P	P	P	P	
6	1801219072	MANORANJAN SAHOO	P	P	P	P	P	P	P	P	P	P	P	
7	1801219082	MEGHANATH NAIK	P	P	P	P	P	P	P	P	P	P	P	
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16	1801219228	BIJAY KUMAR PADHI	P	P	P	P	P	P	P	P	P	P	P	
17	1801219229	BISHNUPRIYA MOHARANA	P	P	P	P	P	P	P	P	P	P	P	
18	1801219230	MAHESH PRASAD MISHRA	P	P	A	P	P	P	P	P	P	P	A	
19	1801219231	NISHI TIRKEY	P	P	P	P	P	P	P	P	P	P	P	
20	1801219232	SMRUTIREKHA MARANDI	P	P	A	P	P	P	P	P	P	P	P	
21	1801219233	SUBHASHREE BIRDYASAGAR	P	A	P	P	P	P	P	P	P	P	P	


 S.K.H. Ghoshy
 Course Coordinator
 (Signature with Seal)


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PLOT NO-1(A), CNI COMPLEX, PATIA, BHUBANESWAR, KHORDHA, ODISHA-751024



Certificate of Completion

This is to certify that Mr./Ms. JITU MISTRY student of the Department

of Electronics & Telecommunication Engg. semester Fifth bearing registration number 1801219062

has successfully completed the ADD-ON Course titled Advances and challenges in telecommunication

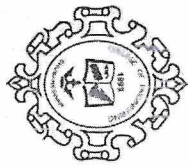
conducted at College of Engineering Bhubaneswar in the academic year 2020-21

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Course-Coordinator

Principal



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PLOT NO-1(A), CNI COMPLEX, PATIA, BHUBANESWAR, KHORDHA, ODISHA-751024



Certificate of Completion

This is to certify that Mr./Ms. MANORANJAN SAHOO, student of the D nt

of Electronics & Telecommunication Engg. semester Fifth bearing registration number 1801219079

has successfully completed the ADD-ON Course titled Advances and challenges in telecommunication

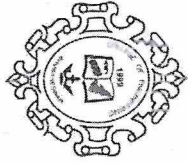
conducted at College of Engineering Bhubaneswar in the academic year 2020-21

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Course-Coordinator

Principal

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Certificate of Completion

This is to certify that Mr./Ms. MEGHANTH NAIK student of the Department

of Electronics & Telecommunication Engg. semester Fifth bearing registration number 1801219082

has successfully completed the ADD-ON Course titled Advances and challenges in telecommunication

conducted at College of Engineering Bhubaneswar in the academic year 2020-21

[Signature]

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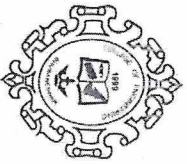
TRUE COPY

[Signature]

Course-Coordinator

[Signature]

Principal



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Certificate of Completion

This is to certify that Mr./Ms. NUTAN NAYAK , student of the Department

of Electronics & Telecommunication Engg. semester Fifth bearing registration number 1801219091

has successfully completed the ADD-ON Course titled Advances and challenges in telecommunication

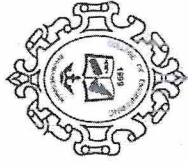
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Course-Coordinator

Principal

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Certificate of Completion

This is to certify that Mr./Ms. PRASANTA KUMAR THAKUR, student of the Department

of Electronics & Telecommunication Engg. semester Fifth bearing registration number 1801219099

has successfully completed the ADD-ON Course titled Advances and challenges in telecommunication

conducted at College of Engineering Bhubaneswar in the academic year 2020-21.

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Course-Cordinator

Principal

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