

OFFICE OF THE DEAN  
FACULTY OF ENGINEERING & TECHNOLOGY  
ALIGARH MUSLIM UNIVERSITY, ALIGARH - 202 002

DEAN

Ref. No. 740 /FE

Dated: 28.01.2021


IMMEDIATE/TODAY

The Controller of Exams  
A.M.U., ALIGARH

Subject: Intake approved in Online Special Faculty Meeting held on 28.01.2021

Enclosed please find herewith the intake of various programs in Faculty of Engineering & Technology as approved in the Special Meeting of Faculty of Engineering & Technology held online today (i.e. 28.01.2021) for it to be included in the meeting of Admission Committee scheduled to be held on 29.01.2021.

Encls. As above.

  
(Prof. Pervez Mustajab)

DEAN

DEAN

F/o Engineering & Technology  
A.M.U., Aligarh

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## Department of Architecture

Course Name	Specialization	Code	Intake	ICCR	NR/ FN	Pos. Holder	Proposed		Total
							General	NR/For.	
B.Arch.	-----	ARBEA	20	Nil	2	2	20	2	24
M.Arch.	-----	ARMEA	20	-----	-----	-----	20	-----	20

## Department of Civil Engineering

Course Name	Specialization	Code	Intake	ICCR	NR/ FN	Pos. Holder	Proposed		Total	
							General	NR/ FN		Pos. Hold.
B.Tech. in Civil Engineering	-----	CEBEA	60	4	5	6	90	5	6	90+11
B.E. in Civil Engineering	-----	CVBEA	50	-----	-----	-----	50	-----	-----	50
M.Tech. in Civil Engineering	Hydraulic Structure	HCMEA	16	2	2	-----	17	1	-----	17+1
		SCMEA	16	-----	-----	-----	17	1	-----	17+1
		ECMEA	16	-----	-----	-----	17	1	-----	17+1
		GCMEA	10	-----	-----	-----	11	1	-----	17+1
		DCMEA	12	-----	-----	-----	11	1	-----	11+1

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Department of Computer Engineering

Course Name	Specialization	Code	Intake	ICCR	NRI/FN	Pos. Holder	General	NRI/FN	Pos. Hold.	Total
B.Tech. in Computer Engineering	----	COBEA	50	Nil	5	5	50	5	5	60
M.Tech. in Computer Sc. & Engg	Software Engineering	CPMEA	16	Nil	2	----	16	2		18
M.Tech. in Computer Sc. & Engg	Artificial Intelligence	APMEA	6	Nil	2	----	6			6

Proposed

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Department of Electrical Engineering

Course Name	Specialization	Code	Intake	ICCR	NRI/FN	Pos. Holder	General	NRI/FN	Pos. Hold.	Total
B.Tech. in Electrical Engineering	----	EEBEA	60	4	5	4	60	5	4	60+9
B.E. in Electrical Engineering	----	EVBEA	50	----	----	----	50			50
M.Tech. in Electrical Engineering	Instrumentation and Control	IEMEA	17			----	17			17+1
	Power System and Drives	PEMEA	17			----	17			17+1
	High Voltage and Insulation Engineering	HEMEA	10	2	2	----	10	2		17+1
	Solar and Renewable Energy Systems	SEMEA	10	----	----	----	10			10

Proposed

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Department of Electronics Engineering

Course Name	Specialization	Code	Intake	ICCR	NRI/FN	Pos. Holder	Proposed		Total	
							General	NRI/FN		
B.Tech. in Electronics Engineering	-----	ELBEA	50	3	5	4	50	6	4	50+10
							16	1	-----	16+1
M.Tech. in Electronics Engineering	Communication and Information System Electronic Circuits and System Design	CLMEA	16	Nil	2	-----	16	1	-----	16+1
							ELMEA	16	1	-----

Department of Mechanical Engineering

Course Name	Specialization	Code	Intake	ICCR	NRI/FN	Pos. Holder	Proposed		Total	
							General	NRI/FN		
B.Tech. in Mechanical Engineering	-----	MEBEA	90	4	5	7	103	6	7	120
							50	-----	-----	-----
B.E. in Mechanical Engineering	Thermal Engineering Industrial and Production Engineering Machine Design	MVBEA	50	-----	-----	-----	50	-----	-----	-----
							24	-----	-----	-----
							18	-----	-----	-----
M.Tech. in Mechanical Engineering	Robotics and Automation	RMMEA	18	Nil	2	-----	18	2	-----	18+2
							DMMEA	20	-----	-----

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Department of Chemical Engineering

Course Name	Specialization	Code	Intake	ICCR	NR/ FN	Pos. Holder	General	NR/ FN	Pos. Hold.	Total
B. Tech. in Chemical Engineering	-----	CHBEA	30	2	5	2	45	5	2	45+7
M. Tech. in Chemical Engineering	Process Modelling and Simulation	MKMEA	20	2	2	-----	20	2	---	20+2

Proposed

Department of Petroleum Studies

Course Name	Specialization	Code	Intake	ICCR	NR/ FN	Pos. Holder	General	NR/ FN	Pos. Hold.	Total
B. Tech. in Petrochemical Engineering	-----	PKBEA	25	Nil	5	0	25	5		30
M. Tech. in Petroleum Processing and Petrochemical Engineering	-----	PKMEA	16	Nil	2	-----	16	2		18

Proposed

Department of Applied Physics

Course Name	Specialization	Code	Intake	ICCR	NR/ FN	Pos. Holder	General	NR/ For.	Pos. Hold.	Total
Materials Science & Technology	-----	MSMEA	12	Nil	2	-----	12	2		12+2

Proposed

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Department of Applied Chemistry

Course Name	Specialization	Code	Intake	ICCR	NR/FN	Pos. Holder	General	NR/FN	Pos. Hold.	Total
M. Sc. (Polymer Science and Technology)	----	PSMEA	20	Nil	◇	----	20			20

Proposed

Centre for Interdisciplinary Biomedical and Human Factors Engineering

Course Name	Specialization	Code	Intake	ICCR	NR/FN	Pos. Holder	General	NR/FN	Pos. Hold.	Total
M. Tech. in Bio-Medical Engineering	----	BMMEA	6	Nil	2	----	6			6

Proposed

Interdisciplinary Nanotechnology Centre

Course Name	Specialization	Code	Intake	ICCR	NR/FN	Pos. Holder	General	NR/FN	Pos. Hold.	Total
M. Tech. in Nanotechnology	----	NNMEA	15	----	----	----	18			18
Advanced P.G. Diploma in Nanotechnology	----	NTAEA	10	Nil	2	----	10	2		10+2

Proposed



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University Polytechnic

Proposed

Course Name	Code	Intake		ICCR	NRI/FN	General	NRI/FN	Pos. Hold.	Total
		Males	Females						
Diploma in Civil Engineering	CEDEA	90	---	Nil	◇	90			90
Diploma in Computer Engineering	CODEA	30	---	Nil	◇	30			30
Diploma in Electrical Engineering	EEDEA	30	---	Nil	◇	30			30
Diploma in Electronics Engineering	ELDEA	30	---	Nil	◇	30			30
Diploma in Electrical & Instrumentation Engineering	EIDEA	30	---	Nil	◇	30			30
Diploma in Mechanical Engineering	MEDEA	125	---	Nil	◇	125			125
Diploma in Architectural Assistantship	ARDEA	14	6**	Nil	◇	14+6**			14+6**
Diploma in Interior Design	IDDEA	14	6**	Nil	◇	14+6**			14+6**
Diploma in Leather Goods & Footwear Technology	LGDEA	16+5*	9**	Nil	◇	16+9**+5*			16+9**+5*
Advance Diploma in Food Technology	FTAEA	25		Nil	Nil	25			25

\*\* Female

\* Sponsored category

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Womens' Polytechnic

Course Name	Code	Intake	ICCR	NRI/FN	Pos. Holder	Proposed				Total
						General	ICCR	NRI/FN	Pos. Hold.	
Diploma in Costume Design & Garment Technology	CGDEA	---	2	◇	---	35	2			35+2
Diploma in Secretarial Practice	SPDEA	---	2	◇	---	35	2			35+2
Diploma in Information Technology	ITDEA	15	Nil	◇	---	15				35+2
Diploma in Electronics Engineering	ELDEA	30	2	◇	---	30	2			15
Diploma in Computer Engineering	CODEA	30	Nil	◇	---	30				30+2
Advance Diploma in Interior Decoration	IDAEA	15	---	---	---	15				30
										15

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OFFICE THE PRINCIPAL  
UNIVERSITY WOMEN'S POLYTECHNIC  
ALIGARH MUSLIM UNIVERSITY, ALIGARH – 202002

D. No. 07/WPoly.

Dated: 28/01/2021

URGENT/TODAY

**Controller of Examination**  
A.M.U., Aligarh

**Subject:** New program in Faculty of Engg: Diploma in Communication Engineering to start from session 2021-2022


This is bring to your kind notice that Electronics Engineering Section of University Women's Polytechnic has recommended a New Diploma in "**Communication Engineering**". This 03 years Diploma program with an intake of **15 students** has been recommended by its BOS held on 13.11.2019 under item No. 02 (copy attached) and also recommended/approved by Special Faculty Meeting held on 28<sup>th</sup> January 2021 under item No. 5 (copy of agenda attached).

Details of proposal (course structure and syllabi) is attached herewith.

Therefore, it is requested to **kindly take/include this to the forthcoming 62<sup>th</sup> Admission Committee Meeting** scheduled to be held on **29.01.2021**.

Encl:

1. Copy of Agenda of special faculty meeting (Annexure-I)
2. Minutes of BOS of Electronics Engg. Section held on 13.11.2019 (Annexure-II)
3. Detailed Proposal (Annexure-III)

  
(Dr. Salma Shaheen)  
Principal

CC:

1. Mr. Zahid Husain for office record

प्रधानाचार्य/Principal  
पूर्विको बोर्डिंग पॉलीटेक्निक/Univ. Women's Polytechnic  
अलिगढ़/Aligarh, अलिगढ़/Aligarh

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No. Acad/D-1522<sup>A</sup>/HZ

Dated: 23.01.2021

NOTICE

The Special Meeting of the Faculty of Engineering & Technology scheduled to be held on 23.01.2021 at 10:30 a.m. has been postponed (*issued vide No. Acad.D-1372/HZ dated 11.01.2021*) and the same will now be held ONLINE on 28.01.2021 at 10:30 a.m.

Members are requested to kindly make it convenient to join the meeting online.

AGENDA

1. To report the action taken by the Vice Chancellor on behalf of the Faculty of Engineering & Technology under Section 19(3) of AMU Act, XI of 1920 and as per authorization given by the Academic Council has approved the detailed proposal for Establishment of the Faculty of Architecture and Planning vide Office Memo No. D.No. (C) 3290 dated 18.11.2020.
2. To approve the intake of various courses in the Zakir Husain College of Engineering & Technology in the light of AICTE approvals. The Chairperson, Department of Petroleum Studies has mentioned the detail in her letter No. D-6907/PSD dated 22.01.2021.
3. To consider the minutes of consultative meeting held on 23.01.2021 of University Polytechnic to resolve the discrepancies between AICTE approved intake and intake as per Guide to Admission.
4. Starting of New Programs in the Faculty of Engineering & Tech. from the Session 2020-2021
5. Starting of New Programs in the Faculty of Engineering & Tech. from the Session 2021-2022
6. To consider and approve Extract received vide No.D-843/MED for Item No.4 from the Minutes of BOS held on 10.06.2020 of Dept. of Mechanical Engg.
  - i. The intake of B.Tech. Program as 120 students in all (in all categories)
  - ii. The Intake of M.Tech. Program
7. To consider and approve the Entrance Test Syllabus of M.Tech. (Mechanical Engineering).
8. To consider and approved the recommendation of Board of Studies of the Department of Applied Chemistry held on 28.11.2019 for revised syllabi/curriculum of M.Sc. Polymer Science & Technology/B.Tech. and Ph.D. admission effective from the Session 2020-21. Annexure I - P-77
9. To consider and approved the recommendation of Board of Studies of the Department of Civil Engineering held on 05.01.2021 for examiners for M.Tech. Courses in Civil Engineering during the Session 2020-21. Annexure II - P-59
10. To consider and approve the recommendations under Item No.1 and Item No.7 as per BOS of the Department of Electronics Engineering held on 09.07.2020 regarding teaching load for academic session 2020-21 as per Appendix 1 & 6 respectively of BOS. Annexure III - P-48
11. To consider and approve the Item No.3 of the BOS of Petroleum Studies held on 05.01.2021 regarding concerned/relevant branch/discipline for the purpose of Admission to M.Tech./Ph.D. Degree and for the Teaching posts in the Department of Petroleum Studies. (Annexure IV) P-44
12. To consider and approve the Supplementary Item No.1 of the BOS of Petroleum Studies held on 05.01.2021 regarding the revision in syllabi for the following Admission Tests of M. Tech. (PP & PE) as per Appendix - I and Ph.D. as per Appendix-II of Department. (Annexure V) - P-44
13. To consider and approve the Item No.2 and 3 of the minutes of the BOS of CIBHFE held on 17.07.2020 regarding Allocation of Teaching Load and Appointment of Course In-Charges for Academic Session 2020-21 as per detail mentioned in annexures. P-26
14. To consider and approve the request of the Chairperson, MED made vide D.No.768/MED dated 21.12.2020 for the following: (The Chairperson will provide brief write up for each.)
  - a. Institute fellowship for the Ph.D. students as per MHRD norms
  - b. To open QIP Centre for the teachers of Engineering College
  - c. To Modify procedure of appointment of Assistant Professors
  - d. To Construct Smart Lecture Theatres with capacity of 150-300 students.

Contd....02

Hazrat  
23.01.21

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SFM: 28-01-2021

OFFICE THE PRINCIPAL

Item (M.C.)

UNIVERSITY WOMEN'S POLYTECHNIC

ALIGARH MUSLIM UNIVERSITY, ALIGARH - 202002

No. 7070  
Date 22/01/21  
Faculty of Engg. & Tech.  
A.M.U., Aligarh

D. No. 674/WP

Dated: 22/01/2021

Dean  
Faculty of Engineering & Technology  
A.M.U., Aligarh

This is bring to your kind notice that Electronics Engineering Section of University Women's Polytechnic has recommended a New Diploma in "Communication Engineering" With an intake of 15 students through it BOS held on 13.11.2019 under item No. 02 (copy attached).

Details of proposal along with syllabi is attached herewith for your kind consideration.

Therefore, it is requested to kindly take up this recommendation in the forthcoming Special Faculty Meeting scheduled to be held on 28.01.2021.

Encl:

1. Minutes of BOS
2. Proposal

~~in clude in report~~

*Salma Shaheen*  
22/01/2021  
(Dr. Salma Shaheen)  
Principal :

CC:

1. Mr. Zahid Husain for office record

*Asya*  
DEAN  
Faculty of Engineering & Technology  
A.M.U., Aligarh  
22/01/2021

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L. No. 1502/AMU  
 Dated: 28/11/19

Office of the Principal  
 University Women's Polytechnic  
 A.M.U. Aligarh

(A)

Dated: 13.11.2019

**MINUTES**

of the ordinary meeting of the Board of Studies of Electronics Engg. Section held on 13.11.2019 at 01.00 p.m. in the Multimedia Lab, University Women's Polytechnic, AMU

**PRESENT:**

1. Dr. Shahnaz Hasan, Associate Professor
2. Dr. Mohd. Ajmal Kafeel, Associate Professor (R/T)
3. Mrs. Iffat Rehman Ansari, Assistant Professor
4. Dr. Salma Shaheen, Principal (in the chair)

**ITEM No. 1:** Confirmed the minutes of the last meeting of the Board of Studies held on 30.04.2019

**ITEM No. 2:** Recommended the proposal to start 3 years (06 Semesters) Diploma with existing infrastructure in "Communication Engineering" under Electronics Engineering Section with intake of 15 students alongwith its course structure and syllabi contents in the light of the decision taken in the consultative meeting (s) held on 05.10.2019 & 29.10.2019.

**ITEM No. 3:** Reported the changes in the names of Internal & External Examiners for theory, lab courses and Re-evaluators of Electronics Engg. Section for Even semester of Academic session 2018-19.

Theory

S.No.	Course No. & Title	Sem.	Original Examiner	Modified Examiner
1.	WLE-207 Electrical Engg. & Control System	IV	Mrs. Iffat R. Ansari Univ. Women's Polytechnic A.M.U., Aligarh	Mrs. Iffat R. Ansari Univ. Women's Polytechnic A.M.U., Aligarh
2.	WLE-306 Digital Image Processing	VI	Mr. Shahnawazuddin Univ. Women's Polytechnic, A.M.U., Aligarh	Mrs. Iffat R. Ansari Univ. Women's Polytechnic A.M.U., Aligarh

Practical

S.No.	Course No. & Title	Date	Original Examiner	Modified Examiner
1.	WLE-293 Microprocessor Lab	20.05.2019	Mr. Tanveer Hasan University Polytechnic, AMU	Dr. Abdus Samad Univ. Women's Polytechnic
2.	WLE-394 Electronics Instrumentation Lab	21.05.2019	Ms. Jubi Faridi Univ. Women's Polytechnic	Mrs. Iffat R. Ansari Univ. Women's Polytechnic
3.	WLE-295 Electrical Engg. Lab	27.05.2019	Dr. Jameel Ahmad Department of Electrical Engg.	Mr. Anas Anees Department of Electrical Engg.

e-evaluators

S.No.	Course No. & Title	Sem.	Original Examiner	Modified Examiner
1.	WLE-305 Network Synthesis & Filter Circuit	VI	Mr. Shahnawazuddin Univ. Women's Polytechnic A.M.U., Aligarh	Dr. M. Ajmal Kafeel Univ. Women's Polytechnic A.M.U., Aligarh
2.	WLE-102 Digital Electronics	II	Mr. Shahnawazuddin Univ. Women's Polytechnic, AMU	Dr. Abdus Samad Univ. Women's Polytechnic

*M. Ajmal Kafeel*  
 M. Ajmal Kafeel  
 Reader in Charge

*Dr. Salma Shaheen*  
 (Dr. Salma Shaheen)  
 Principal

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### JUSTIFICATION FOR NEW COURSE (DIPLOMA IN COMMUNICATION ENGINEERING)

The existing infrastructure/ facilities available in the Electronics Engineering Section of University Women's Polytechnic shall be used to run this course so the proposal for minimum requirement to start this new course is being submitted. The course is most suited for girls, as the jobs in this area does not require more physical work and exposure to harsh environment, in the present scenario and shall provide them self-employment in the field of Communication System Design (Antenna design, RF system design, Microwave system design, Satellite system design etc.) Testing, Verification and several other related fields such as Electronics Engineering, Electrical and Electronics Engineer etc. Not only the jobs but this field is one of the most pursued area for higher studies. Hence this offers golden opportunity for B.Tech /integrated B.Tech & M.Tech and other related advance diplomas.

A.	Duration	:	3 Years (Six Semesters)
	Eligibility	:	Sec. School Certificate/High School or its equivalent with 45% marks in English, Mathematics, & Science as aggregate.
	Intake	:	15 seats
	Admission	:	Through All India Entrance Test conducted by AMU Aligarh.

B. The details for the proposed course are mentioned here:

- Course Structure (See Annexure-I)
- Curriculum (See Annexure-I)
- Syllabus (See Annexure-II)

H.O.B  
Section Incharge

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ANNEXURE-II

BOS held on: 13<sup>th</sup> November 2019

SYLLABUS

THEORY COURSES

Periods / Week = 04	Total No. of Periods Reqd. = 45	Duration of End Sem Exam = 2 Hrs
End Sem Exam Marks = 60	Assignment + Mid Sem = 15+25 = 40	Total Marks = 100
WCE204 SIGNALS AND SYSTEMS		

Unit I: Representation and Classification of Signals and Systems

Representation and Classifications of Continuous and Discrete Time Signals and Systems; Singularity Functions; Convolution Operation of Continuous and Discrete Time Signals; Impulse Response and its Properties

Unit II: Fourier Analysis

Fourier Series; Fourier Transform and its Properties; System Analysis using Fourier Transform; Hilbert Transform; Representation and Analysis of Bandpass Signals and Systems

Unit III: Time and Frequency Domain Analysis of Continuous Time Systems

Review of Laplace Transform; Two Sided Laplace Transform; Analysis of I and II Order Systems; Transfer Function; Frequency Response of I and II Order Systems

Unit IV: Analysis of Discrete Time Systems

Overview of Sampling; Z-Transform and its Properties; Discrete Time Fourier Transform; Discrete Fourier Transform

Books:

1. Alan, V. Oppenheim & A.S. Wilsky, Signals & Systems, PHI, 1998.
2. B.P. Lathi, Signal Processing and Linear Systems, Berkeley-Cambridge Press, US.
3. Simon Haykin, Signals and Systems, John Wiley, 1999.
4. Simon Haykin, Communication Systems, John Wiley, 1995.
5. Tarun Kumar Rawat, Signals and Systems, Oxford University Press, 2010.

H.V.S  
Section Incharge

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Periods / Week = 04	Total No. of Periods Req'd. = 45	Duration of End Sem Exam. = 2 Hrs.
End Sem. Exam Marks = 60	Assignment + Mid Sem. = 15+25 = 40	Total Marks = 100
WCE203 MULTIMEDIA COMMUNICATION		

#### Unit I: Introduction to Multimedia

Need for multimedia; Classification of media types: Text (Formatted and Un-formatted, hyper-text), Graphics (raster graphics, vector graphics, components of graphic system), Images (Types of image, storage requirement, specifications of digital images), Audio (fundamental characteristics of sound, bitrate and file size, streaming audio)

#### Unit II: Multimedia Systems

Characteristics of Multimedia Signals and Systems; Multimedia Information Representation; Multimedia Applications; Multimedia Networks; Quality of Service (QoS) parameters for Multimedia

#### Unit III: Compression Techniques

Basic Principles of Compression; Text and Image Compression; Audio Compression: DPCM, ADPCM, LPC, Perceptual Coding; Overview of Analog and Digital Video; JPEG and MPEG Standards

#### Unit IV: Networked Multimedia

Introduction to Networked Multimedia; A/V synchronization with RTP/RTCP; Multimedia Transport & Multimedia Broadcast; Video on Demand & their Standards; Standards for Interactive Multimedia; Issues of Scheduling, Buffering, Congestion Control and Queue Management; Signaling Protocols: H.323, SDP, SIP and RTSP

#### Books:

1. Fred Halsall, Multimedia Communications, Pearson Education (Low Priced Edition), 2002.
2. Ranjan Parekh, Principles of Multimedia Systems, Tata McGraw Hill, 2006.
3. Stephen McGloughlin, Multimedia concepts and practice, Prentice Hall, 2001.
4. Nalin K. Sharda, Multimedia Information Networking, Pearson Education, 1999.
5. K. R. Rao, Z. S. Bojkovic, D. A. Milovanovic, Multimedia Communication Systems- Techniques, Standards, and Networks, Pearson, 2002.
6. Fred T. Hofstetter, Multimedia literacy, Tata McGraw Hill (Third Edition), 2008.

H. 173  
Section Incharge

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Periods / Week = 04	Total No. of Periods Req'd. = 45	Duration of End Sem Exam = 2 Hrs
End Sem Exam Marks = 60	Assignment + Mid Sem = 15+25 = 40	Total Marks = 100
WCE304 DIGITAL COMMUNICATION		

Unit I: Introduction to Signal Processing  
Review of DFT; Fourier Analysis of Signals using DFT; Basic Network Structure for IIR and FIR Filters; Comparison of IIR and FIR Filters

Unit II: Signal Conditioning and Transmission  
Digital Modulation- An overview; Quadrature Phase shift keying (QPSK); Offset QPSK;  $\pi/4$  QPSK; Gaussian Minimum Phase Shift Keying (GMSK); Multiple Frequency Shift Keying (MFSK); Quadrature Amplitude Modulation (QAM)

Unit III: Information Theory and Channel Coding  
Introduction to Information Theory; Discrete Memoryless Sources; Information Measures; Source Coding Theorem; Source Coding Techniques; An overview of Channel Coding; Channel Capacity; Error Detection and Correction; Linear Block Codes; Decoding of Linear Block Codes

Unit IV: Spread Spectrum Communication  
Introduction to Spread Spectrum Communication; Spreading Sequences; Direct Sequence Spread Spectrum; Frequency and Time Hopping Spread Spectrum; Applications of Spread Spectrum; CDMA Techniques

Books:

1. G J Proakis, Digital Communication, 5th Edition, McGraw Hill, 2008.
2. J G Proakis & M Salehi, Communication Systems Engineering, 2nd Edition, Pearson Education, 2006.
3. D P Lathi and Z Ding, Modern Digital and Analog Communication Systems, 4th Edition, Oxford Univ Press, 2010.
4. R Bose, Information Theory, Coding and Cryptography, 2nd Ed, Tata McGraw Hill, 2008.
5. G R Cooper and C D McGillem, Modern Communication and Spread Spectrum, McGraw Hill, 1986.

H.S.  
Section In-charge

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Periods / Week = 04	Total No. of Periods Reqd. = 45	Duration of End Sem Exam = 2 Hrs
End Sem Exam Marks = 60	Assignment + Mid Sem = 15+25 = 40	Total Marks = 100
WCE307 WIRELESS COMMUNICATION		

**Unit I: Introduction to Wireless Communication**

Overview of Wireless Systems (Cellular Phone, Cordless Phones, Wireless LANs etc);  
Wireless spectrum and its allocation methods; Evolution of 2G, 3G, 4G Systems and Beyond

**Unit II: Propagation Modelling**

Shadow Fading and Multipath Fading; Path Loss Models; Narrowband Fading Models:  
Correlation and Power Spectral Density, Envelope and Power Distribution, Level Crossing  
Rate and Average Fade; Wideband Channel Models: Power Delay Profile, Coherence  
Bandwidth, Doppler Power Spectrum and Channel Coherence Time

**Unit III: Modulation and Coding Techniques for Wireless channel**

Performance of Digital Modulation over Wireless Channel; Orthogonal Frequency Division  
Multiplexing (OFDM); Adaptive modulation; Coding for Wireless channels: Linear block  
codes, Cyclic codes, Hard Decision Decoding (HDD), Convolution codes

**Unit IV: Wireless Systems and Standards**

Wireless Sensor Networks; Global System for Mobile Communications (GSM); CDMA  
Cellular System; IP based Wireless Networks (3GPP, 3GPP2); Wireless Local Area Network  
Technology; IEEE 802.11 Wireless Standards

**Books:**

1. T. S. Rappaport, Wireless Communications: Principles and Practice, Pearson Education India, 2002.
2. A. S. Goldsmith, Wireless Communications, Cambridge University Press, 2005.
3. J. Schiller, Mobile Communications, Pearson Education India, 2nd Edition, 2008.
4. A.F. Molisch, Wireless Communications, John Wiley & Sons Ltd., 2nd Edition, 2011.

H.M.S  
Section Incharge

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## PRACTICAL COURSES

Periods / Week = 03	Total No. of Periods Reqd. = 39	Duration of End Sem Exam = 3 Hrs
End Sem Exam Marks = 40	Lab Course Work = 60	Total Marks = 100
WCE394 ADVANCE COMMUNICATION LAB		

### LIST OF EXPERIMENTS

1. (a). To study the process of Frequency Modulation and Demodulation.  
(b). To calculate the depth of modulation by varying the modulating voltage.
2. To study analog signal Sampling and Reconstruction process.
3. To study the Pulse Amplitude Modulation (PAM) and Demodulation process and record the corresponding waveforms.
4. To demonstrate the design and operation of an OPAMP based Phase Shift Oscillator.
5. To draw the frequency response curve of OPAMP based Notch Filter.
6. To learn and verify the operating characteristics of 555 timer based Astable Multivibrator.
7. To measure the propagation or attenuation loss in optical fiber.
8. To draw the radiation pattern of different types of antennas.

#### BOOKS:

1. Simon Haykins, Communication System, 3rd Edition, Publisher - Wiley 2013.
2. Millman & Grabel, Microelectronic, 2nd Edition, Publisher- Galgotia Pvt. Ltd. 2003.

H. B.  
Section Incharge

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**COURSE STRUCTURE/CURRICULUM**

UNIVERSITY WOMEN'S POLYTECHNIC  
ALIGARH MUSLIM UNIVERSITY, ALIGARH

ANNEXURE-I  
BOS held on: 13<sup>th</sup> November 2019

**FIRST SEMESTER DIPLOMA IN COMMUNICATION ENGINEERING**  
**DURATION: 16 WEEKS**

S. No.	Course Code	Course Title	Teaching Scheme			End Sem. Exam Duration (Hrs.)	Examination Scheme				Distribution of Marks & Credits						
			L	T	P		Theory Marks	Practical Marks	Theory Sessional Work	Lab Sessional Work	Mid Sem. Exam	End Sem. Exam	Credits				
<b>THEORY COURSES</b>																	
1.	WMA-101	Applied Mathematics-I	4	1	-	2	100	40	-	-	15	-	25	60	5		
2.	WPH-101	Applied Physics-I	4	-	-	2	100	40	-	-	15	-	25	60	5		
3.	WCH-101	Applied Chemistry	4	-	-	2	100	40	-	-	15	-	25	60	4		
4.	WLE-101	Electronics Devices & Circuits-I	4	-	-	2	100	40	-	-	15	-	25	60	4		
5.	WIT-101	Fundamentals of Computers & IT	4	-	-	2	100	40	-	-	15	-	25	60	4		
<b>PRACTICAL COURSES</b>																	
6.	WPH-191	Applied Physics Lab-I	-	1	2	3	-	-	100	60	-	60	-	-	2		
7.	WCH-191	Applied Chemistry Lab	-	1	2	3	-	-	100	60	-	60	-	-	2		
8.	WLE-191	Electronic Workshop	-	1	2	3	-	-	100	60	-	60	-	-	2		
<b>TOTAL</b>			20+4+9 = 33			19	500	-	300	-	75	180	125	420	27		

*H.P. Das*  
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UNIVERSITY WOMEN'S POLYTECHNIC  
 AJI GARI MUSLIM UNIVERSITY, AJI GARI

TEACHING AND EXAMINATION SCHEME FOR DIPLOMA IN COMMUNICATION ENGINEERING

SECOND SEMESTER DIPLOMA IN COMMUNICATION ENGINEERING  
 DURATION: 16 WEEKS

S. No.	Course Code	Course Title	Teaching Scheme			End Sem. Exam Duration (Hrs.)	Examination Scheme				Distribution of Marks & Credits									
			L	T	P		Theory Marks	Practical Marks	Theory	Lab	Mid Sem. Exam	End Sem. Exam	Credits							
THEORY COURSES																				
1.	WEN-101	English & Communication Skills	4	-	-	2	160	40	-	-	15	-	25	60	4					
2.	WMA-102	Applied Mathematics-II	4	1	-	2	100	40	-	-	15	-	25	60	5					
3.	WPH-102	Applied Physics-II	4	-	-	2	100	40	-	-	15	-	25	60	4					
4.	WLE-102	Digital Electronics	4	-	-	2	100	40	-	-	15	-	25	60	4					
5.	WCO-101	Programming in 'C'	4	-	-	2	100	40	-	-	15	-	25	60	4					
PRACTICAL COURSES																				
6.	WPH-192	Applied Physics Lab-II	-	1	2	3	-	-	160	60	-	60	-	40	2					
7.	WLE-192	Digital Electronics Lab	-	1	2	3	-	-	100	60	-	60	-	40	2					
8.	WCO-191	'C' Programming Lab	-	1	2	3	-	-	100	60	-	60	-	40	2					
TOTAL			20 + 17 = 37			19	500	-	300	-	75	180	125	426	27					

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UNIVERSITY WOMEN'S POLYTECHNIC  
ALIGARH MUSLIM UNIVERSITY, ALIGARH

THIRD SEMESTER DIPLOMA IN COMMUNICATION SCIENCE FOR DIPLOMA IN COMMUNICATION ENGINEERING  
DURATION: 16 WEEKS

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5. Course No.	Course Code	Course Title	Teaching Scheme			Exam. Duration (Hrs.)	Examination Scheme				Distribution of Marks & Credits						
			L	T	P		Theory Marks		Practical Marks		Theory Sessional Work	Lab Sessional Work	Mid Sem. Exam	End Sem. Exam			
THEORY COURSES																	
1.	WMA-201	Higher Mathematics															
2.	WLE-201	Electronic Devices & Circuits-I	4	1	-	2	100	40	-	-	15	-	-	25	60		
3.	WLE-202	Digital Circuits & Systems	4	-	-	2	100	40	-	-	15	-	-	25	60		
4.	WLE-203	Fundamentals of Microprocessor	4	-	-	2	100	40	-	-	15	-	-	25	60		
5.	WCE-204	Signals & Systems	4	-	-	2	100	40	-	-	15	-	-	25	60		
PRACTICAL COURSES																	
6.	WLE-291	Electronics Lab-1	4	-	-	2	100	40	-	-	15	-	-	25	60		
7.	WLE-292	Electronic Circuits Simulation Lab	-	1	2	3	-	-	100	60	-	-	60	-	40		
8.	WIT-292	Seminar & Report Writing	-	1	2	3	-	-	100	60	-	-	60	-	40		
TOTAL			20146.30			19	500	-	300	-	75	180	125	420			

Section In-charge  
W.P.S.

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**UNIVERSITY WOMEN'S POLYTECHNIC**  
**ALIGARH MUSLIM UNIVERSITY, ALIGARH**  
**TEACHING AND EXAMINATION SCHEME FOR DIPLOMA IN COMMUNICATION ENGINEERING**  
**FOURTH SEMESTER DIPLOMA IN COMMUNICATION ENGINEERING**  
**DURATION: 16 WEEKS**

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S. No.	Course Code	Course Title	Teaching Scheme			Examination Scheme				Distribution of Marks & Credits					
			L	T	P	End Sem. Duration (Hrs.)	Theory Marks	Practical Marks	Theory Sessional Work	Lab Sessional Work	Mid Sem. Exam	End Sem. Exam	Credits		
<b>THEORY COURSES</b>															
1.	WLE-205	Analog Electronic Circuits	4	-	-	2	100	40	-	15	-	25	60	4	
2.	WLE-206	Principles of Communication Engineering	4	-	-	2	100	40	-	15	-	25	60	4	
3.	WCO-202	Computer Organization	4	-	-	2	100	40	-	15	-	25	60	4	
4.	WLE-207	Electrical Engineering & Control Systems	4	-	-	2	100	40	-	15	-	25	60	4	
5.	WCE-208	Multimedia Communication	4	-	-	2	100	40	-	15	-	25	60	4	
<b>PRACTICAL COURSES</b>															
6.	WLE-293	Microprocessor Lab	-	1	2	3	-	-	100	60	-	25	60	4	
7.	WLE-294	Electronics Lab-II	-	1	2	3	-	-	100	60	-	25	60	4	
8.	WLE-295	Electrical Engineering Lab	-	1	2	3	-	-	100	60	-	25	60	4	
<b>TOTAL</b>			20+3+6+29			19	500	-	300	-	75	60	125	420	26

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UNIVERSITY WOMEN'S POLYTECHNIC  
ALIGARI MUSLIM UNIVERSITY, ALIGARI

FIFTH SEMESTER DIPLOMA IN COMMUNICATION ENGINEERING

DURATION: 16 WEEKS

S. No.	Course Code	Course Title	Teaching Scheme			Examination Scheme				Distribution of Marks & Credits				
			L	T	P	End Sem. Exam Duration (Hrs.)	Theory Marks	Practical Marks	Theory Sessional Work	Lab Sessional Work	Mid Sem. Exam	End Sem. Exam	Total	
<b>THEORY COURSES</b>														
1.	WLE-301	Mobile Communication	4	-	-	2	100	40	-	15	-	25	60	4
2.	WLE-302	Optical & Satellite Communication	4	-	-	2	100	40	-	15	-	25	60	4
3.	WLE-303	Microwave Engineering	4	-	-	2	100	40	-	15	-	25	60	4
4.	WCE-304	Digital Communication	4	-	-	2	100	40	-	15	-	25	60	4
<b>PRACTICAL COURSES</b>														
5.	WLE-391	Computer Aided Design & Testing Lab	-	1	2	3	-	-	-	15	-	25	60	4
6.	WLE-392	Electronics & Communication Lab	-	1	2	3	-	-	-	15	-	25	60	4
7.	WCE-393	Project-I	-	2	2	3	-	-	-	-	-	25	60	4
<b>TOTAL</b>			16+4+6=26			17	400	-	350	60	210	100	380	11

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UNIVERSITY WOMEN'S POLYTECHNIC  
ALGARIH MUSLIM UNIVERSITY, ALGARIH

SIXTH SEMESTER DIPLOMA IN COMMUNICATION ENGINEERING  
DURATION: 16 WEEKS

S. No.	Course Code	Course Title	Teaching Scheme			Examination Scheme				Distribution of Marks & Credits					
			L	T	P	End Sem. Exam Duration (Hrs)	Theory Marks		Practical Marks		Theory Sessional Work	Lab Sessional Work	Mid Sem. Exam	End Sem. Exam	Credits
THEORY COURSES															
1.	WCO-305	Computer Networks	4	-	-	2	100	40	-	-	15	-	25	60	4
2.	WLE-305	Network Synthesis & Filter Circuits	4	-	-	2	100	40	-	-	15	-	25	60	4
3.	WLE-306	Digital Image Processing	4	-	-	2	100	40	-	-	15	-	25	60	4
4.	WCE-307	Wireless Communication	4	-	-	2	100	40	-	-	15	-	25	60	4
PRACTICAL COURSES															
5.	WIT-392	Computer Maintenance & Network Lab	-	1	2	3	-	-	100	60	-	60	-	40	2
6.	WCE-394	Advance Communication Lab	-	1	2	3	-	-	100	60	-	60	-	40	2
7.	WCE-395	Project-II	-	2	2	3	-	-	150	60	-	90	-	60	3
TOTAL			16+4+6 = 26			17	400	-	350	-	60	210	100	380	23

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