

Proceedings of Board of Studies Meeting

(Held on July 07, 2023)

Course Structure & Syllabus for the programs:

Master of Technology

in

Electronics & Communication Engineering

(As per the Ordinances for Master of Technology as per Academic Council)



Submitted By

Department of Electronics Engineering,

Harcourt Butler Technical University,

Nawabganj, Kanpur-208002 (UP)

VISION AND MISSION OF THE DEPARTMENT

Vision

Department of Electronics Engineering aims to deliver Technical Education in the field of Electronics and Communication Engineering, for producing Engineers and Technologists who are happy, healthy and competent professionals, motivated to serve the society through research & innovation.

Mission

1. To educate and train the students with state-of-the-art in Electronics and Communication Engineering.
2. To prepare the students who are fit for meeting the requirements and challenges of the Industry right at the time of their graduation by evolving a sustainable Industry-University interaction system for this.
3. To upgrade the teaching standards through continued efforts toward improvement of the qualification and expertise of the teachers as well as supporting staff.
4. To create awareness amongst the students towards socio environmental technologies by offering related courses and organizing seminars/workshops on these topics in the university and by encouraging participation in similar activities at other places.
5. To expand research and development activities in the frontier areas related to Electronics and Communication.
6. To include the aspect of integration of environmental balance and human values in the curriculum.
7. To provide academic support to other technical institutions at state & national level through the process of networking.
8. To start social service programs like education for masses, particularly using the enhanced means of communication.



VISION AND MISSION OF THE UNIVERSITY

VISION

“To achieve excellence in technical education, research and innovation”.

MISSION

1. Imparting Knowledge to develop analytical ability in science and technology to serve the industry and society at large.
2. Equip and enable students with conceptual, technical and managerial skills to transform the organization and society.
3. Inculcating entrepreneurial philosophy and innovative thinking to promote research, consultancy and institutional social responsibility.
4. Serving people, society and nation with utmost professionalism, values and ethics to make development sustainable and quality of life.

Four handwritten signatures in blue ink, arranged horizontally. The signatures are stylized and appear to be initials or names of individuals.

Program Educational Objectives (PEOs)

Program graduates, within three years from their graduation will

- PEO 1:** have knowledge of basic and applied sciences, so as to apply the necessary competence for technically sound, economically feasible and socially acceptable solutions of real life complex engineering problems.
- PEO 2:** be fit for meeting the requirements and challenges of industries, research and academic institutions both at the national and International level, by applying expertise gained in area of electronics and communication engineering.
- PEO 3:** be professionally competent with excellent communication and management skills along with being enterprising professionals and responsible citizens capable of delivering their services individually as well as in a collaborative framework.

A series of five handwritten signatures in blue ink, arranged horizontally. The signatures are stylized and vary in length and complexity.

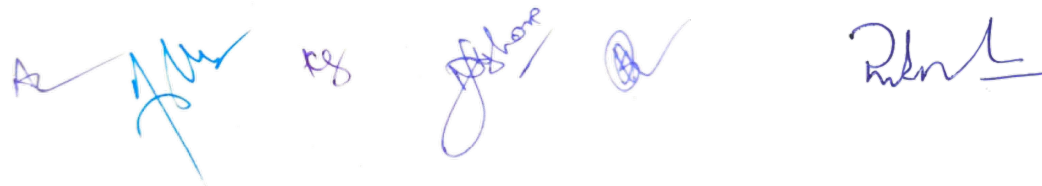
Structure of the Curriculum
Semester Wise Course Structure & Evaluation Scheme
For M.Tech. in Electronics & Communication Engineering

I Semester

Sr. No	Course Type	Subject code	Course title	Credits	Sessional Marks				ESM	Total Marks
					MSE	TA	Lab	Total		
1.	PCC	NET 501	Introduction to Signal Analysis	4(3-1-0)	30	20	-	50	50	100
2.	PCC	NET 503	Data Communication Networks	4(3-0-2)	15	20	15	50	50	100
3.	PCC	NET 505	Optical Communication	4(3-1-0)	30	20	-	50	50	100
4.	PEC	NET	PEC-I (Program Elective- I)	4(3-1-0)	30	20	-	50	50	100
Total Credits				16						

II Semester

Sr. No	Course Type	Subject code	Course title	Credits	Sessional Marks				ESM	Total Marks
					MSE	TA	Lab	Total		
1.	PCC	NET 502	Digital Communication	4(3-1-0)	30	20	-	50	50	100
2.	PCC	NET 504	Architecture & Applications of Digital Signal Processors	4(3-1-0)	30	20	-	50	50	100
3.	PCC	NET 506	Estimation and Detection Theory	4(3-1-0)	30	20	-	50	50	100
4.	PEC	NET	PEC-II (Program Elective- II)	4(3-1-0)	30	20	-	50	50	100
Total Credits				16						



III Semester

Sr. No	Course Type	Subject code	Course title	Credits	Sessional Marks				ESM	Total Marks
					MSE	TA	Lab	Total		
1.	PCC	NET 671	Seminar	2(0-0-4)	-	50	-	50	50	100
2.	PCC	NET 681	Industrial training/ Minor Project	2(0-0-4)	-	50	-	50	50	100
3.	PCC	NET 691	Dissertation (Part-I)	12(0-0-24)	-	50	-	50	50	100
Total Credits				16						

IV Semester

Sr. No	Course Type	Subject code	Course title	Credits	Sessional Marks				ESM	Total Marks
					MSE	TA	Lab	Total		
1.	PCC	NET 692	Dissertation (Part-II)	16(0-0-32)	-	50	-	50	50	100
Total Credits				16						



Program Elective-I (PEC-1)

Sl. No.	Course Code	Name of the course	Credit (L-T-P)
1.	NET 521	Space Communication	4(3-1-0)
2.	NET 523	Wireless Communication	4(3-1-0)
3.	NET 525	Advanced Microprocessor	4(3-1-0)
4.	NET 527	Communication Theory	4(3-1-0)
5.	NET 529	Analog VLSI Circuits	4(3-1-0)
6.	NET 531	Neural Network	4(3-1-0)
7.	NET 533	Antenna Analysis & Synthesis	4(3-1-0)
8.	NET 535	Information Theory & Coding	4(3-1-0)

Program Elective-II (PEC-2)

Sl. No.	Course Code	Name of the course	Credit (L-T-P)
1.	NET 522	RF Systems	4(3-1-0)
2.	NET 524	Digital System Design	4(3-1-0)
3.	NET 526	VLSI System Design	4(3-1-0)
4.	NET 528	Embedded Systems	4(3-1-0)
5.	NET 530	Advanced Semiconductor Devices	4(3-1-0)
6.	NET 532	Image Processing	4(3-1-0)
7.	NET 534	VLSI Implementation of Digital Processors	4(3-1-0)
8.	NET 536	Telecommunication & Switching	4(3-1-0)



The components of the curriculum

Table (a) Program curriculum grouping based on course components

Course Component	Curriculum Content (% of total Credits of the program)	Total number of credits
Program Core (PCC)	37.5	24
Program Electives (PEC)	12.5	8
Seminar (S)	3.1	2
Industrial training / Minor project (IT)	3.1	2
Dissertation (D)	43.8	28
Total		64

Table (b) Program curriculum grouping based on course components as per semester: Frequency & Credits

Sem	PCC		PEC		Seminar		Ind. Training/ Minor project		Dissertation		Total
	Credits	No.	Credits	No.	Credit	No.	Credit	No.	Credit	No.	
I	12	3	4	1	-	-	-	-	-	-	16
II	12	3	4	1	-	-	-	-	-	-	16
III	-	-	-	-	2	1	2	1	12	1	16
IV	-	-	-	-	-	-	-	-	16	1	16
Tot	24	6	8	2	2	1	2	1	28	2	64