



VIGNAN'S
Foundation for Science, Technology & Research
(Deemed to be University)
-Est. U/s 3 of UGC Act 1956

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION
ENGINEERING**
Accredited by NBA

Date: 18.06.2022

Minutes of Board of Studies Meeting

Board of Studies (BoS) meeting of B.Tech., ECE programme was conducted on 18.06.2022 in virtual mode from 9.30 am to 1.00 pm. Meeting link: <https://us02web.zoom.us/j/6400485257?pwd=jN9EMqLRUorw6gcZ3T5gmA-QP1BvNQ.>

Agenda of the BoS Meeting:

1. To Discuss and finalize the curriculum structure and detailed syllabus of B.Tech., ECE Programme for the regulation 2022.
2. To approve the R22 curriculum and syllabus of B.Tech., ECE Programme and recommend to the Academic council.

The following members were present either through offline or online.

S. No.	Name and designation of the Member	Position	Signature
1.	Dr. T. Pitchaiah, Professor and Head, ECE, VFSTR	Chairperson	
2.	Dr. Sreehari Rao Patri, Associate Professor & HOD, ECE, National Institute of Technology, Warangal	External Member (Academic)	Online
3.	Dr. K. Krishna Naik, Sr. Asst. Professor, Department of ECE, IIIT DM, Kurnool	External Member (Academic)	Online
4.	Vijayakumar R Tawker, Senior Architect, L&T Technology Services Limited, Bengaluru, Karnataka	External Member (Industry)	Online
5.	Dr. B. Seetha Ramanjaneyulu Professor, Dean School of Electronics	Internal Member	
6.	Dr. N. Usha Rani, Professor	Internal Member	
7.	Dr. M.S.S. Rukmini Professor, Dean Student Affairs	Internal Member	

8.	Dr. Sk .Jakeer Hussain Professor, Dean Planning, Monitoring and Infrastructure	Internal Member	
9.	Dr. M. Sarada, Professor	Internal Member	
10.	Dr. G. Seetharamanjaneya Reddy, Professor	Internal Member	
11.	Dr. Y. Ravi Sekhar, Professor	Internal Member	
12.	Dr. M. Pachiyanan, Assoc. Prof	Internal Member	
13.	Dr. P. Venkatappa Reddy, Assoc. Prof	Internal Member	Invitee
14.	Dr. K. Annapurna, Assoc. Prof	Internal Member	
15.	Dr. V. Vijaya Raghavan, Assoc. Prof	Internal Member, Invitee	
16.	Dr. M. Laavanya, Assoc. Prof	Internal Member, Invitee	
17.	Dr. K. Annapurna, Assoc. Prof	Internal Member	
18.	Dr. N. Suman, Assoc. Prof	Internal Member	Invitee
19.	Dr. Venkata Kishore K, Assoc. Prof	Internal Member	Invitee
20.	Dr. P. Sambaiah, Assoc. Prof	Internal Member	Invitee
21.	Dr. P.Vijaya Lakshmi, Asst. Prof	Internal Member	Invitee
22.	Mr.P.Krishna Chaitanya, Asst. Prof & Convener	Internal Member	

Absentees: Mr. G. S. R. Satyanarayana

Chairperson Dr. T. Pitchaiah, Professor and Head, ECE, VFSTR opened the meeting by welcoming and introducing the external members, invitees to the internal members. Chairperson presented about the *NEP 2020 Compliant Regulation - R22* which emphasis on creating *learning centric* (continuous learning and continuous assessment model), offering B.Tech., B.Tech. with Honours/ Research Honours/ Minor/ Add-on Diploma, *Dual degree* (B.Tech. + M.Tech./MBA, or M.Tech. + Ph.D.), providing multiple entry and multiple exits.

The following points were discussed in the BoS meeting:

1. Regulation R22 to be tune with National Education Policy 2020 [NEP 2020]
2. Curriculum structure with credits, credits distribution.
3. Introducing 2 Modules instead of 5 units.
4. Assessment methods (Formative & Summative).
5. Grading Schemes.
6. Electives and streams/pools.
7. Minor / Honor courses.

Discussion on Course Structure and contents

Dr. Sreehari Rao Patri, Associate Professor & HoD, Department of ECE, NITW

1. The course VLSI should cover flavor of technology, Digital Design, Analog Design, Electrical Properties, small signal Analysis more over it should cover comprehensive idea of VLSI.
2. In ECE minor course focused only on Embedded System but it should also cover communication related courses, Minor degree in ECE means offer at least some communication courses.

Dr.K.Krishna Naik, Sr. Asst. Professor, Department of ECE, IIIT DM

1. Any Regulations to conduct physical fitness for the physically challenged students.
2. Suggested to make internship & project as separate entities and if required remove few elective courses from the final year first semester.
3. Name the current minor degree as design of "IoT systems" as it is covering only embedded related courses instead of ECE Minor.
4. Optical free space optical communication (FSO) concepts need to add in optical fiber communications course
5. Reduce teaching in class and increase the more hands on for the students.

Vijayakumar R Tawker, Senior Architect, L&T Technology Services Limited

1. Include GPU in multicore architecture.
2. suggested to add one more elective group named as cloud computing stream which covers , Cloud computing, telco cloud, WFC, etc. courses.
3. As per 3GPP standards replace the word hand off with hand over in CMC course
4. Active phased array concepts need to add in one of the elective courses in RF stream.

Suggestions from Internal BoS Members

1. The text book Gilbut Stin need to add in for Mathematics-I.
2. Remove Oplo electronics in Solid State Physics. It is a separation of physics for electronic engineers.
3. Few Reference books need to add for the Communication Systems, Radar signal processing and MIMO.

The following resolutions made after the discussion:

1. BoS Members approved the revised regulations, curriculum structure, syllabus of B.Tech., ECE programme and it follows based on the NEP 2020. Curriculum structure is provided in Appendix-I.
2. Major restructuring has taken place in the curriculum which is oriented towards continuous learning and assessment based on Module structure.
3. Major reformation has taken place in the curriculum by offering Honours/Specialization degree or Minor degree thorough 20 more credits with additional courses.
4. The curriculum is encompassing the courses that enable employability or entrepreneurship or skill development, provided in Appendix- II.
5. The significant changes are made in the content of all courses and hence the courses are considered as new courses provided in Appendix- III.
6. Total average percentage of syllabus revised was 81% compared to previous curriculum

Based on the suggestions given by the members, the Chairperson of BoS told that, those fruitful suggestions would be incorporated appropriately in the curriculum and syllabi of the regulation R22 and this will be recommended to the Academic Council of VFSTR for the approval.

There being no further points for discussion, the Chairperson thanks all the external, internal, invited members and announced that the meeting was adjourned.


Member Secretary


Chairperson 13/6/2022



**DEPARTMENT OF ELECTRONICS AND COMMUNICATION
ENGINEERING**

APPENDIX I

B. Tech - ECE Program: R-22 Curriculum Structure

I Year I Semester Structure

Course code	Course Title	L	T	P	C	Remarks	Course Offered By
22MT102	Linear Algebra	3	2	0	4	Basic Sciences	S&H-Maths
22PY104	Physics for electronic engineers	2	0	2	3	Basic Sciences	S&H-Physics
22EE101	Basics of Electrical and Electronics Engineering	2	0	2	3	Basic Engineering	EEE
22CS103	IT Workshop and Tools	0	2	4	3	Basic Engineering	CSE
22TP103	Programming in C	2	0	4	4	Basic Engineering	T & P
22EN102	English Proficiency and Communication Skills	0	0	2	1	Humanities	S&H-English
22SA101	Physical Fitness, Sports and Games – I	0	0	3	1	Binary grade	PED
22TP101	Constitution of India	0	2	0	1	Binary grade	T & P
	Total	9	6	17	20		
	Contact Hours	32 Hours					

I Year II Semester Structure

Course code	Course Title	L	T	P	C	Remarks	Course Offered By
22MT111	Multivariate Calculus	3	2	0	4	Basic Sciences	S&H-Maths
22EC104	Semiconductor Physics and Devices	2	0	2	3	Basic science	ECE
22ME101	Engineering Graphics	2	0	2	3	Basic Engineering	ME
22TP104	Basic Coding Competency	0	1	3	2	Basic Engineering	T & P
22EN104	Technical English Communication	2	0	2	3	Humanities	S&H-English
22EC102	Network Theory	3	2	0	4	Professional core	ECE
22SA103	Physical Fitness, Sports and Games – II	0	0	3	1	Binary grade	PED
22SA102	Orientation Session	0	0	6	3	Binary grade	Student Affairs & Physical Education
	Total	12	5	18	23		
	Contact Hours	35 Hours					

II Year I Semester Structure

Course code	Course Title	L	T	P	C	Remarks	Course Offered By
22EC202	Probability Theory and Stochastic Processes	3	2	0	4	Basic Sciences	ECE
22TP201	Data Structures	2	2	2	4	Basic Engineering	T & P
22CT201	Environmental Studies	1	1	0	1	Basic Sciences	S&H-Chemistry
22EC209	Printed Circuit Board Design	0	0	2	1	Professional core	ECE
22EC205	Signals and Systems	2	2	2	4	Professional core	ECE
22EC203	Digital Electronics	2	2	2	4	Professional core	ECE
22EC201	Analog Circuits	3	0	2	4	Professional core	ECE
22SA201	Life Skills	0	0	2	1	Binary grade	Student Affairs & Physical Education
	Total	13	9	12	23		
	NCC/ NSS/ SAC/ E-cell/ Student Mentoring/ Social activities/ Publication with good impact factor (Only 2 students can claim 1 paper /patent). These credits maybe earned on or before the end of IV semester	0	0	0	1	Floating credits Binary grade	
	Contact Hours	34 Hours			24		

II Year II Semester Structure

Course code	Course Title	L	T	P	C	Remarks	Course Offered By
22TP203	Advanced Coding Competency	0	0	2	1	Basic Engineering	T & P
22MS201	Management Science	2	2	0	3	Humanities	Management studies
22EC206	Communication Systems	3	0	2	4	Professional core	ECE
22EC208	Control Systems	2	2	0	3	Professional core	ECE
22EC207	Computer Architecture and Organization	2	2	0	3	Professional core	ECE
	Department Elective – 1	2	0	2	3	Department Elective	ECE
	Open Elective – 1	3	0	0	3	Open Elective	ECE
22SA202	Life Skills	0	0	2	1	Binary grade	Student Affairs & Physical Education
	Total	14	6	8	21		
	Minor / Honors – 1	3	0	2	4		ECE
	Contact Hours	33 Hours			25		

III Year I Semester Structure

Course code	Course Title	L	T	P	C	Remarks	Course Offered By
22TP301	Soft Skills Laboratory	0	0	2	1	Humanities	T & P

22EC305	Electromagnetic waves and Transmission Lines	2	0	2	3	Professional core	ECE
22EC301	Microcontrollers	2	2	2	4	Professional core	ECE
22EC303	VLSI Design	3	0	2	4	Professional core	ECE
	Department Elective – 2	2	0	2	3	Department Elective	ECE
	Open Elective – 2	2	0	2	3	Open Elective	ECE
22EC306	Industry interface course	1	0	0	1	Binary Grades	ECE
22EC305	Inter-Departmental Project – Phase I	0	0	2	0	Project	ECE
	Total	12	2	14	19		
	NCC/ NSS/ SAC/ E-cell/ Student Mentoring/ Social activities/ Publication with good impact factor (Only 2 students can claim 1 paper /patent). These credits maybe earned on or before the end of VI semester	0	0	0	1	Floating credits Binary grade	
	Minor / Honors – 2	3		2	4		
	Contact Hours	33 Hours			24		

III Year II Semester Structure

Course code	Course Title	L	T	P	C	Remarks	Course Offered By
22TP204	Professional Communication	0	0	2	1	Humanities	T & P
22TP302	Quantitative Aptitude and Logical Reasoning	1	2	0	2	Humanities	T & P
22EC308	Digital Signal Processing	2	2	2	4	Professional core	ECE
22EC309	Antenna Theory: Analysis and Design	2	0	2	3	Professional core	ECE
	Department Elective – 3	2	0	2	3	Department Elective	ECE
	Department Elective – 4	2	0	2	3	Department Elective	ECE
	Open Elective – 3	3	0	0	3	Open Elective	ECE
22EC309	Inter-Departmental Project – Phase II	0	0	2	2	Project	ECE
	Total	12	4	12	21		
	Minor / Honors – 3	3	0	2	4		
	Contact Hours	33 Hours			25		

IV Year I Semester Structure

Course code	Course Title	L	T	P	C	Remarks	Course Offered By
22EC401	Data Communications and Computer Networks	3	0	2	4	Professional core	ECE

22EC402	Microwave Engineering	3	0	2	4	Professional core	ECE
	Department Elective – 5	2	2	0	3	Department Elective	ECE
	Department Elective – 6	2	2	0	3	Department Elective	ECE
	Department Elective – 7	2	2	0	3	Department Elective	ECE
	Department Elective – 8	2	2	0	3	Department Elective	ECE
	Total	14	8	4	20		
	Minor / Honors – 4	3	0	2	4		ECE
	Contact Hours	31 Hours			24		

IV Year II Semester Structure

Course code	Course Title	L	T	P	C	Remarks	Course Offered By
22EC403/2 2EC404	Project Work/ Internship	0	2#	22	12	Project	ECE
	Total				12		
	Minor / Honors – 5 (for project)	3	0	2	4	Theory course may be also offered	
	Total	3	2	24	16		
	Contact Hours	29 Hours			16		

for interaction between Guide and students

L=Lecture; T= Tutorial; P= Practical; C=Credits

List of Department Elective Courses

Basket Name	Stream – 1 VLSI	Stream – 2 Embedded Systems and IoT	Stream-3 ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING (AI & ML)	STREAM – 4 COMMUNICATIONS AND SIGNAL PROCESSING	STREAM – 5 RF & MICROWAVE
Course 1	FPGA based System Design	Introduction to Embedded Systems (IES)	Digital Image Processing	Optical Fibre Communication	Advanced Antenna Arrays

Course 2	Verification using System Verilog	Wireless Sensor Networks	Programming with Python	Cellular and Mobile Communication	RF Passive Circuits
Course 3	Testing of VLSI Circuits	Embedded System Design using FPGA	Statistical Analysis & Data Analytics	Satellite Communication	RF Devices and Active Circuits
Course 4	System on Chip Design	Cognitive Radio Networks (CRN)	Machine Learning and Data Science	Advanced Digital Signal Processing	MIMO Antennas for Wireless Communication-Theory and Design
Course 5	Python for Software/Hardware Co-design	Multi-Core Architectures and Programming	Deep Learning and ANN	Multirate Digital Signal Processing	Microwave Measurements
Course 6	Hardware Verification Techniques	Android OS and Application Development	Introduction to AI	Fundamentals of Radar Signal Processing	Smart Antennas
Course 7	PERL, TCL, and TK programming	Smart & Virtual Instrumentation	Time Series data analysis using Python		Radar System Design
Course 8	C-based VLSI Design	Introduction to Industry 4.0 and Industrial Internet of Things	Human Machine Interaction		Computational Electromagnetics
Course 9					Advanced Antennas for Modern Wireless Communication

Course 10					RFIC and Microwave MEMS
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List of Honor Courses

Basket Name	Stream – 1 VLSI	Stream – 2 Embedded Systems and IoT	Stream-3 ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING (AI & ML)	STREAM – 4 COMMUNICATIONS AND SIGNAL PROCESSING	STREAM – 5 RF & MICROWAVE
Course 1	Digital Integrated Circuit Design	Embedded Systems	Applied Data Science with Python	Information Theory and Coding	Modelling and Simulation of Phased-Array Antennas
Course 2	Analog Integrated Circuit Design	Embedded System Design using FPGA	Advanced Deep Learning and Computer Vision	Free Space Optics	RF Transceiver System Design
Course 3	Application Specific Integrated Circuit	Introduction to IoT	Natural Language Processing and Speech Recognition	Wavelet Theory and Applications	Applied RF Engineering I- Circuits and Transmission Line
Course 4	Low Power VLSI	Adhoc Sensor Networks	Reinforcement Learning in python	Array Signal Processing	Microstrip and Printed Antenna Design
Course 5		Sensors and Actuators for IoT		Fundamentals of Massive MIMO	
Course 6		IoT Architecture		SDR for Future Communication Systems	

Course 7		IoT Design			
Course 8		Cloud Computing for IoT systems			
Course 9		IoT Security			

List of Minor Courses

Basket Name	Stream – 1 Embedded Systems and IoT
Course 1	Introduction to Internet of Things
Course 2	Sensors and Actuators for IoT
Course 3	ADHOC Sensor Networks
Course 4	Introduction to IoT Architecture
Course 5	Design Principles of IoT
Course 6	Machine Learning for IoT Systems
Course 7	Security Aspects of IoT

List of Open Electives

Basket Name	Stream – 1 Embedded Systems and IoT
Course 1	Microprocessors and Microcontrollers
Course 2	Introduction to Embedded Systems
Course 3	Wireless Sensor Networks
Course 4	Android OS and Application Development
Course 5	Smart & Virtual Instrumentation
Course 6	Internet of Things


 Chairperson



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**DEPARTMENT OF ELECTRONICS AND COMMUNICATION
ENGINEERING**

APPENDIX II

List of Courses that Enables Employability or Entrepreneurship or Skill Development

S. No.	Year and Semester	Course Title	Employability / Entrepreneurship / Skill development
1.	I Year I Semester	Linear Algebra	Skill development
2.	I Year I Semester	Physics for electronic engineers	Skill development
3.	I Year I Semester	Basics of Electrical and Electronics Engineering	Skill development
4.	I Year I Semester	IT Workshop and Tools	Employability
5.	I Year I Semester	Programming in C	Employability
6.	I Year I Semester	English Proficiency and Communication Skills	Skill development
7.	I Year I Semester	Constitution of India	Skill development
8.	I Year II Semester	Multivariate Calculus	Skill development
9.	I Year II Semester	Semiconductor Physics and Devices	Skill development
10.	I Year II Semester	Engineering Graphics	Skill development
11.	I Year II Semester	Basic Coding Competency	Employability
12.	I Year II Semester	Technical English Communication	Skill development
13.	I Year II Semester	Network Theory	Entrepreneurship
14.	II Year I Semester	Probability Theory and Stochastic Processes	Employability
15.	II Year I Semester	Data Structures	Employability
16.	II Year I Semester	Environmental Studies	Skill development
17.	II Year I Semester	Printed Circuit Board Design	Employability
18.	II Year I Semester	Signals and Systems	Employability
19.	II Year I Semester	Digital Electronics	Employability
20.	II Year I Semester	Analog Circuits	Employability
21.	II Year II Semester	Advanced Coding Competency	Employability
22.	II Year II Semester	Management Science	Entrepreneurship
23.	II Year II Semester	Communication Systems	Employability
24.	II Year II Semester	Control Systems	Employability

26.	II Year II Semester	Department Elective – 1	Employability
27.	II Year II Semester	Open Elective – 1	Employability
28.	III Year I Semester	Soft Skills Laboratory	Skill development
29.	III Year I Semester	Electromagnetic waves and Transmission Lines	Employability
30.	III Year I Semester	Microcontrollers	Employability
31.	III Year I Semester	VLSI Design	Employability
32.	III Year I Semester	Department Elective – 2	Employability
33.	III Year I Semester	Open Elective – 2	Employability
34.	III Year I Semester	Industry interface course	Employability
35.	III Year I Semester	Inter-Departmental Project – Phase I	Employability
36.	III Year II Semester	Professional Communication	Skill development
37.	III Year II Semester	Quantitative Aptitude and Logical Reasoning	Employability
38.	III Year II Semester	Digital Signal Processing	Employability
39.	III Year II Semester	Antenna Theory: Analysis and Design	Employability
40.	III Year II Semester	Department Elective – 3	Employability
41.	III Year II Semester	Department Elective – 4	Employability
42.	III Year II Semester	Open Elective – 3	Employability
43.	III Year II Semester	Inter-Departmental Project – Phase II	Employability
44.	IV Year I Semester	Data Communications and Computer Networks	Employability
45.	IV Year I Semester	Microwave Engineering	Employability
46.	IV Year I Semester	Department Elective – 5	Employability
47.	IV Year I Semester	Department Elective – 6	Employability
48.	IV Year I Semester	Department Elective – 7	Employability
49.	IV Year I Semester	Department Elective – 8	Employability
50.	IV Year I Semester	Minor / Honors – 4	Employability
51.	IV Year II Semester	Project Work/ Internship	Employability
52.	IV Year II Semester	Minor / Honors – 5 (for project)	Employability


Chairperson



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DEPARTMENT OF ECE

APPENDIX III

List of New Courses in the R22 Curriculum

S. No.	Year and Semester	Course Title	Employability / Entrepreneurship / Skill development
1.	I Year I Semester	Linear Algebr	Skill development
2.	I Year I Semester	Physics for Electronic Engineers	Skill development
3.	I Year I Semester	Basics of Electrical and Electronics Engineering	Skill development
4.	I Year I Semester	IT Workshop and Tools	Employability
5.	I Year I Semester	Programming in C	Employability
6.	I Year I Semester	English Proficiency and Communication Skills	Skill development
7.	I Year I Semester	Constitution of India	Skill development
8.	I Year II Semester	Multivariate Calculus	Skill development
9.	I Year II Semester	Semiconductor Physics and Devices	Skill development
10.	I Year II Semester	Engineering Graphics	Skill development
11.	I Year II Semester	Basic Coding Competency	Employability
12.	I Year II Semester	Technical English Communication	Skill development
13.	I Year II Semester	Network Theory	Employability
14.	II Year I Semester	Probability Theory and Stochastic Processes	Employability
15.	II Year I Semester	Environmental Studies	Skill development
16.	II Year I Semester	Data Structures	Employability
17.	II Year I Semester	Analog Circuits	Employability
18.	II Year I Semester	Digital Electronics	Employability
19.	II Year I Semester	Signals and Systems	Employability
20.	II Year I Semester	Printed Circuit Board Design	Employability
21.	II Year II Semester	Advanced Coding Competency	Employability
22.	II Year II Semester	Management Science	Entrepreneurship
23.	II Year II Semester	Communication Systems	Employability
24.	II Year II Semester	Computer Architecture and Organization	Employability

25.	II Year II Semester	Control Systems	Employability
26.	III Year I Semester	Soft Skills Laboratory	Skill development
27.	III Year I Semester	Microcontrollers	Employability
28.	III Year I Semester	VLSI Design	Employability
29.	III Year I Semester	Electromagnetic waves and Transmission Lines	Employability
30.	III Year II Semester	Professional Communication	Skill development
31.	III Year II Semester	Quantitative Aptitude and Logical Reasoning	Employability
32.	III Year II Semester	Digital Signal Processing	Employability
33.	III Year II Semester	Antenna Theory: Analysis and Design	Employability
34.	IV Year I Semester	Data Communications and Computer Networks	Employability
35.	IV Year I Semester	Microwave Engineering	Employability
36.	Department Elective	C-Based VLSI Design	Employability
37.	Department Elective	FPGA Based System Design	Employability
38.	Department Elective	Hardware Verification Techniques	Employability
39.	Department Elective	PERL & TCL Programming	Employability
40.	Department Elective	Python for Software/Hardware Co-Design	Employability
41.	Department Elective	System on Chip Design	Employability
42.	Department Elective	Testing of VLSI Circuits	Employability
43.	Department Elective	Verification Using System Verilog	Employability
44.	Department Elective	Android OS and Application Development	Employability
45.	Department Elective	Cognitive Radio Networks	Employability
46.	Department Elective	Embedded System Design Using FPGA	Employability
47.	Department Elective	Introduction to Embedded Systems	Employability
48.	Department Elective	Introduction to Industry 4.0 and Industrial Internet of Things	Employability
49.	Department Elective	Multi-Core Architectures and Programming	Employability
50.	Department Elective	Smart & Virtual Instrumentation	Employability
51.	Department Elective	Wireless Sensor Networks	Employability
52.	Department Elective	Deep Learning and ANN	Employability
53.	Department Elective	Digital Image Processing	Employability
54.	Department Elective	Human Machine Interaction	Employability

55.	Department Elective	Introduction to Artificial Intelligence	Employability
56.	Department Elective	Machine Learning and Data Science	Employability
57.	Department Elective	Programming With Python	Employability
58.	Department Elective	Statistical Analysis & Data Analytics	Employability
59.	Department Elective	Time Series Data Analysis Using Python	Employability
60.	Department Elective	Advanced Digital Signal Processing	Employability
61.	Department Elective	Cellular and Mobile Communications	Employability
62.	Department Elective	Fundamentals of Radar Signal Processing	Employability
63.	Department Elective	Multirate Digital Signal Processing	Employability
64.	Department Elective	Optical Fiber Communications	Employability
65.	Department Elective	Satellite Communications	Employability
66.	Department Elective	Advanced Antenna Arrays	Employability
67.	Department Elective	Advanced Antennas for Modern Wireless Communication	Employability
68.	Department Elective	Computational Electromagnetics	Employability
69.	Department Elective	Microwave Measurements	Employability
70.	Department Elective	MIMO Antennas for Wireless Communication-Theory and Design	Employability
71.	Department Elective	Radar System Design	Employability
72.	Department Elective	RF Devices and Active Circuits	Employability
73.	Department Elective	RF Passive Circuits	Employability
74.	Department Elective	RFIC and Microwave MEMS	Employability
75.	Minors	Smart Antenna	Employability
76.	Honours	Analog IC Design	Employability
77.	Honours	ASIC Design	Employability
78.	Honours	Digital IC Design	Employability
79.	Honours	Low Power VLSI Design	Employability
80.	Honours	ADHOC Sensor Networks	Employability
81.	Honours	Cloud Computing for IoT Systems	Employability
82.	Honours	Embedded System Design Using FPGA	Employability
83.	Honours	Embedded Systems	Employability
84.	Honours	Introduction to Internet Of Things	Employability

85.	Honours	IoT Architecture	Employability
86.	Honours	IoT Design	Employability
87.	Honours	IoT Security	Employability
88.	Honours	Sensors and Actuators for IoT	Employability
89.	Honours	Advanced Deep Learning and Computer Vision	Employability
90.	Honours	Applied Data Science With Python	Employability
91.	Honours	Reinforcement Learning in Python	Employability
92.	Honours	Array Signal Processing	Employability
93.	Honours	Free Space Optics	Employability
94.	Honours	Fundamentals of Massive MIMO	Employability
95.	Honours	Information Theory and Coding	Employability
96.	Honours	SDR for Future Communication Systems	Employability
97.	Honours	Wavelet Theory and Applications	Employability
98.	Honours	Applied RF Engineering I - Circuits and Transmission Line	Employability
99.	Honours	Microstrip and Printed Antenna Design	Employability
100.	Honours	Modeling and Simulation of Phased-Array Antennas	Employability
101.	Honours	RF Transceiver System Design	Employability
102.	Minors	ADHOC Sensor Networks	Employability
103.	Minors	Design Principles of IoT	Employability
104.	Minors	Introduction to Internet of Things	Employability
105.	Minors	Introduction to IoT Architecture	Employability
106.	Minors	Machine Learning for IoT Systems	Employability
107.	Minors	Security Aspects of IoT	Employability
108.	Minors	Sensors and Actuators for IoT	Employability
109.	Open Electives	Android OS and Application Development	Employability
110.	Open Electives	Internet of Things	Employability
111.	Open Electives	Introduction to Embedded Systems	Employability
112.	Open Electives	Microprocessors and Microcontrollers	Employability
113.	Open Electives	Smart & Virtual Instrumentation	Employability
114.	Open Electives	Wireless Sensor Networks	Employability


Chairperson