Curriculum and Syllabi

B.E. ELECTRONICS AND COMMUNICATION ENGINEERING

SEMESTERS I to VIII

Regulations 2025

Programme: B.E. ELECTRONICS AND COMMUNICATION ENGINEERING

2025 Regulations

(2025-29 Batch Onwards)

Curriculum for Semesters I to VIII

SEMESTER I

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
1	25IP101	Makerspace - Induction Program	-	-	-	-	-	-	-	-	-	0	-	-
Theory Cum Practical Courses														
2	25HS101	English for Communication	3	0	2	3	45	0	30	45	120	4	50/50	HS
3	25ES102	Innovation and Design Thinking	1	0	2	1	15	0	30	15	60	2	100/0	ES
4	25ES105	Problem Solving Techniques using C Programming	3	0	2	3	45	0	30	45	120	4	50/50	ES
Theory Courses														
5	25MA101	Matrices and Calculus	3	1	0	4	45	15	0	60	120	4	40/60	BS
6	25PH101	Applied Engineering Physics	3	0	0	3	45	0	0	45	90	3	40/60	BS
7	25BS101	Circuit Theory	3	0	0	3	45	0	0	45	90	3	40/60	BS
8	25AC101	Heritage of Tamils	1	0	0	1	15	0	0	15	30	1	100/0	AC
Practical Course														
9	25ES104	Engineering Practices Laboratory	0	0	4	0	0	0	60	0	60	2	60/40	ES

SEMESTER II

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
Theory Cum Practical Courses														
1	25ES201	Product Design and Development	1	0	2	1	15	0	30	15	60	2	100/0	ES
2	25ES203	Problem Solving Techniques using Java	1	0	4	1	15	0	60	15	90	3	50/50	ES
Theory Courses														
3	25MA201	Numerical Techniques	3	1	0	4	45	15	0	60	120	4	40/60	BS
4	25CH101	Applied Chemistry	3	0	0	3	45	0	0	45	90	3	40/60	BS
5	25EC201	Electronic Devices and	3	0	0	3	45	0	0	45	90	3	40/60	PC

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
		Applications												
6	25HS201	Universal Human Values	2	0	0	2	30	0	0	30	60	2	40/60	HS
7	25HS202	Business Communication	3	0	0	3	45	0	0	45	90	3	40/60	HS
8	25AC201	Tamils and Technology	1	0	0	1	15	0	0	15	30	1	100/0	AC
9		Foreign Language	2	0	0	2	30	0	0	30	60	2	100/0	HS
10		Value Added Course	1	0	0	1	15	0	0	15	30	1	100/0	VAC*

*Value Added Course is Optional

SEMESTER III

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
Theory Cum Practical Courses														
1	25EC301	Digital Logic Circuits and Design	3	0	2	3	45	0	30	45	120	4	50/50	PC
2	25EC302	Analog IC Design	3	0	2	3	45	0	30	45	120	4	50/50	PC
3	25CS301	Data Structures and Algorithms using Java	1	0	4	1	15	0	60	15	90	3	50/50	ES
Theory Courses														
4	25MA301	Transform Techniques and Partial Differential Equations	3	1	0	4	45	15	0	60	120	4	40/60	BS
5	25EC303	Electromagnetic Engineering	3	0	0	3	45	0	0	45	90	3	40/60	PC
6	25EC304	Measurements and Instrumentation	3	0	0	3	45	0	0	45	90	3	40/60	PC
7	25EEC304	Aptitude and Soft Skills - I	1	0	0	1	15	0	0	15	30	1	100/0	EEC
Practical Course														
8	25EEC305	Industrial Training - I	-	-	-	-	-	-	-	-	2 Weeks	1	100/0	EEC

SEMESTER IV

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
Theory Cum Practical Courses														
1	25EC401	Advanced Microcontrollers and Arm Processor	3	0	2	3	45	0	30	45	120	4	50/50	PC
2	25CS302	Database Management	3	0	2	3	45	0	30	45	120	4	50/50	ES

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
		Systems												
3	25EC402	Analog and Digital Communication	3	0	2	3	45	0	30	45	120	4	50/50	PC
4	25EC403	Signals and Systems	1	0	4	1	15	0	60	15	90	3	50/50	PC
Theory Courses														
5	25MA401	Probability and Random Process	3	1	0	4	45	15	0	60	120	4	40/60	BS
6	25EC404	Computer Networks	3	0	0	3	45	0	0	45	90	3	40/60	PC
7	25EEC401	Aptitude and Soft Skills - II	1	0	0	1	15	0	0	15	30	1	100/0	EEC
8	25MC404	Indian Constitution	3	0	0	0	45	0	0	0	45	0	100/0	MC
Practical Course														
9	25EC405	PCB Design	0	0	4	0	0	0	60	0	60	2	60/40	PC

SEMESTER V

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
Theory Cum Practical Courses														
1	25ES101	Problem Solving Techniques using Python	3	0	2	3	45	0	30	45	120	4	50/50	ES
2	25EC501	Advanced Embedded Systems	3	0	2	3	45	0	30	45	120	4	50/50	PC
3	25EC502	VLSI Design and Technology	1	0	4	1	15	0	60	15	90	3	50/50	PC
Theory Courses														
4		Professional Elective I	3	0	0	3	45	0	0	45	90	3	40/60	PE
5		Professional Elective II	3	0	0	3	45	0	0	45	90	3	40/60	PE
6		Open Elective I	3	0	0	3	45	0	0	45	90	3	40/60	OE
7		Open Elective II	3	0	0	3	45	0	0	45	90	3	40/60	OE
8	25MC502	Essence of Indian Traditional Knowledge	3	0	0	0	45	0	0	0	45	0	100/0	MC
Practical Course														
9	25EEC501	Industrial Training - II	-	-	-	-	-	-	-	-	2 Weeks	1	100/0	EEC
For Honours Degree														
1		Honours Elective I	3	0	0	3	45	0	0	45	90	3	40/60	
2		Honours Elective II	3	0	0	3	45	0	0	45	90	3	40/60	
For Minor Degree														
1		Minor Elective I									90	3		
2		Minor Elective II									90	3		

SEMESTER VI

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
Theory Cum Practical Courses														
1	25EC601	Internet of Things and Applications	3	0	2	3	45	0	30	45	120	4	50/50	PC
2	25EC602	Antenna and Wave Propagation	1	0	4	1	15	0	60	15	90	3	50/50	PC
Theory Courses														
3	25EC603	Optical and Microwave Communication	3	0	0	3	45	0	0	45	90	3	40/60	PC
4		Professional Elective III	3	0	0	3	45	0	0	45	90	3	40/60	PE
5		Professional Elective IV	3	0	0	3	45	0	0	45	90	3	40/60	PE
6		Open Elective III	3	0	0	3	45	0	0	45	90	3	40/60	OE
7		Open Elective IV	3	0	0	3	45	0	0	45	90	3	40/60	OE
Practical Course														
8	25EC604	Arduino Programming	0	0	4	0	0	0	60	0	60	2	60/40	PC
For Honours Degree														
1		Honours Elective III	3	0	0	3	45	0	0	45	90	3	40/60	
2		Honours Elective IV	3	0	0	3	45	0	0	45	90	3	40/60	
For Minor Degree														
1		Minor Elective III									90	3		
2		Minor Elective IV									90	3		

SEMESTER VII

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
Theory Courses														
1	25EC701	Wireless Communication	3	0	0	3	45	0	0	45	90	3	40/60	PC
2	25HS601	Environmental Science and Engineering	3	0	0	3	45	0	0	45	90	3	40/60	HS
3		Professional Elective V	3	0	0	3	45	0	0	45	90	3	40/60	PE
Practical Course														
4	25ECP701	Project Work - I	0	0	4	0	0	0	60	0	60	2	100/0	EEC
For Honours Degree														
1		Honours Elective V	3	0	0	3	45	0	0	45	90	3	40/60	
2		Honours Elective VI	3	0	0	3	45	0	0	45	90	3	40/60	
For Minor Degree														
1		Minor Elective V									90	3		

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
2		Minor Elective VI									90	3		

SEMESTER VIII

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
Practical Course														
1	25ECP801	Project Work - II	0	0	20	0	0	0	300	0	300	10	60/40	EEC

TOTAL NO. OF CREDITS: 163

FOREIGN LANGUAGE

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
Theory Courses														
1	25HS203	German	2	0	0	2	30	0	0	30	60	2	100/0	HS
2	25HS204	Japanese	2	0	0	2	30	0	0	30	60	2	100/0	HS

VALUE ADDED COURSE

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
Theory Courses														
1	25VAC01	French	1	0	0	1	15	0	0	15	30	1	100/0	VAC
2	25VAC02	Hindi	1	0	0	1	15	0	0	15	30	1	100/0	VAC

PROFESSIONAL ELECTIVE COURSES : VERTICALS

VERTICAL I Semiconductor Chip Design and Testing	VERTICAL II Signal Processing	VERTICAL III RF Technologies	VERTICAL IV Bio Medical Technologies	VERTICAL V Embedded Systems	VERTICAL VI Sensor Technologies and IoT	VERTICAL VII Space Technologies	VERTICAL VIII High Speed Communication
Device Modeling	Digital Signal Processing	RF Transceivers	Medical Device Service and Care	Operating Systems	Smart Sensors and Networks	Radar Technologies	Block Chain Technology
Validation and Testing Technology	Biomedical Signal and Image Processing	Signal Integrity	Human Assist Devices	Real time Systems	IoT Based System Design	Avionics Systems	Wireless Broad Band Networks
Low Power IC Design	Speech and Audio Signal Processing	Antenna Design	Diagnostic and Therapeutic Equipments	Parallel Computing	Wireless Sensor Network Design	Positioning and Navigation Systems	Cyber Security
VLSI Testing and Design for Testability	Software Defined and Cognitive Radio	MICs and RF System Design	Tele Medicine	FPGA based Systems	Industrial IoT and Industry 4.0	Design of UAV Systems	Artificial Intelligence and Data Science
Mixed Signal IC Design Testing	Machine Learning	EMI/EMC Pre Compliance Testing	Health Care Engineering	Embedded Automotive Systems	MEMS and NEMS	Remote Sensing	Massive MIMO Networks
Micro Electronics and VLSI Design Technology	Computer Vision	RFID System Design and Testing	Biometric Systems	Embedded Systems for Robotics	Fundamentals of Nano Electronics	Rocketry and Space Mechanics	Advanced Wireless Communication Techniques

VERTICAL I : Semiconductor Chip Design and Testing

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
Theory Courses														
1	25PEC11	Device Modeling	3	0	0	3	45	0	0	45	90	3	40/60	PE
2	25PEC12	Validation and Testing Technology	3	0	0	3	45	0	0	45	90	3	40/60	PE
3	25PEC13	Low Power IC Design	3	0	0	3	45	0	0	45	90	3	40/60	PE
4	25PEC14	VLSI Testing and Design for Testability	3	0	0	3	45	0	0	45	90	3	40/60	PE
5	25PEC15	Mixed Signal IC Design Testing	3	0	0	3	45	0	0	45	90	3	40/60	PE
6	25PEC16	Micro Electronics and VLSI Design Technology	3	0	0	3	45	0	0	45	90	3	40/60	PE

VERTICAL II : Signal Processing

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
Theory Courses														
1	25PEC21	Digital Signal Processing	3	0	0	3	45	0	0	45	90	3	40/60	PE
2	25PEC22	Biomedical Signal and Image Processing	3	0	0	3	45	0	0	45	90	3	40/60	PE
3	25PEC23	Speech and Audio Signal Processing	3	0	0	3	45	0	0	45	90	3	40/60	PE
4	25PEC24	Software Defined and Cognitive Radio	3	0	0	3	45	0	0	45	90	3	40/60	PE
5	25PEC25	Machine Learning	3	0	0	3	45	0	0	45	90	3	40/60	PE
6	25PEC26	Computer Vision	3	0	0	3	45	0	0	45	90	3	40/60	PE

VERTICAL III : RF Technologies

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
Theory Courses														
1	25PEC31	RF Transceivers	3	0	0	3	45	0	0	45	90	3	40/60	PE
2	25PEC32	Signal Integrity	3	0	0	3	45	0	0	45	90	3	40/60	PE
3	25PEC33	Antenna Design	3	0	0	3	45	0	0	45	90	3	40/60	PE
4	25PEC34	MICs and RF System Design	3	0	0	3	45	0	0	45	90	3	40/60	PE
5	25PEC35	EMI/EMC Pre Compliance	3	0	0	3	45	0	0	45	90	3	40/60	PE

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
		Testing												
6	25PEC36	RFID System Design and Testing	3	0	0	3	45	0	0	45	90	3	40/60	PE

VERTICAL IV : Bio Medical Technologies

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
Theory Courses														
1	25PEC41	Medical Device Service and Care	3	0	0	3	45	0	0	45	90	3	40/60	PE
2	25PEC42	Human Assist Devices	3	0	0	3	45	0	0	45	90	3	40/60	PE
3	25PEC43	Diagnostic and Therapeutic Equipments	3	0	0	3	45	0	0	45	90	3	40/60	PE
4	25PEC44	Tele Medicine	3	0	0	3	45	0	0	45	90	3	40/60	PE
5	25PEC45	Health Care Engineering	3	0	0	3	45	0	0	45	90	3	40/60	PE
6	25PEC46	Biometric Systems	3	0	0	3	45	0	0	45	90	3	40/60	PE

VERTICAL V : Embedded Systems

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
Theory Courses														
1	25PEC51	Operating Systems	3	0	0	3	45	0	0	45	90	3	40/60	PE
2	25PEC52	Real time Systems	3	0	0	3	45	0	0	45	90	3	40/60	PE
3	25PEC53	Parallel Computing	3	0	0	3	45	0	0	45	90	3	40/60	PE
4	25PEC54	FPGA based Systems	3	0	0	3	45	0	0	45	90	3	40/60	PE
5	25PEC55	Embedded Automotive Systems	3	0	0	3	45	0	0	45	90	3	40/60	PE
6	25PEC56	Embedded Systems for Robotics	3	0	0	3	45	0	0	45	90	3	40/60	PE

VERTICAL VI : Sensor Technologies and IoT

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
Theory Courses														
1	25PEC61	Smart Sensors and Networks	3	0	0	3	45	0	0	45	90	3	40/60	PE
2	25PEC62	IoT Based System Design	3	0	0	3	45	0	0	45	90	3	40/60	PE
3	25PEC63	Wireless Sensor Network Design	3	0	0	3	45	0	0	45	90	3	40/60	PE
4	25PEC64	Industrial IoT and	3	0	0	3	45	0	0	45	90	3	40/60	PE

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
		Industry 4.0												
5	25PEC65	MEMS and NEMS	3	0	0	3	45	0	0	45	90	3	40/60	PE
6	25PEC66	Fundamentals of Nano Electronics	3	0	0	3	45	0	0	45	90	3	40/60	PE

VERTICAL VII : Space Technologies

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
Theory Courses														
1	25PEC71	Radar Technologies	3	0	0	3	45	0	0	45	90	3	40/60	PE
2	25PEC72	Avionics Systems	3	0	0	3	45	0	0	45	90	3	40/60	PE
3	25PEC73	Positioning and Navigation Systems	3	0	0	3	45	0	0	45	90	3	40/60	PE
4	25PMT55	Design of UAV Systems	3	0	0	3	45	0	0	45	90	3	40/60	PE
5	25PEC74	Remote Sensing	3	0	0	3	45	0	0	45	90	3	40/60	PE
6	25PEC75	Rocketry and Space Mechanics	3	0	0	3	45	0	0	45	90	3	40/60	PE

VERTICAL VIII : High Speed Communication

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
Theory Courses														
1	25PEC81	Block Chain Technology	3	0	0	3	45	0	0	45	90	3	40/60	PE
2	25PEC82	Wireless Broad Band Networks	3	0	0	3	45	0	0	45	90	3	40/60	PE
3	25PEC83	Cyber Security	3	0	0	3	45	0	0	45	90	3	40/60	PE
4	25PEC84	Artificial Intelligence and Data Science	3	0	0	3	45	0	0	45	90	3	40/60	PE
5	25PEC85	Massive MIMO Networks	3	0	0	3	45	0	0	45	90	3	40/60	PE
6	25PEC86	Advanced Wireless Communication Techniques	3	0	0	3	45	0	0	45	90	3	40/60	PE

OPEN ELECTIVES

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
Theory Courses														
1	25OBT11	Microbiology	3	0	0	3	45	0	0	45	90	3	40/60	OE
2	25OBT12	Nano Biotechnology	3	0	0	3	45	0	0	45	90	3	40/60	OE
3	25OBT13	Immuno Technology	3	0	0	3	45	0	0	45	90	3	40/60	OE
4	25OBT14	Genomics and Proteomics	3	0	0	3	45	0	0	45	90	3	40/60	OE
5	25OBT15	Basic Industrial Biotechnology	3	0	0	3	45	0	0	45	90	3	40/60	OE
6	25OIT11	UI & UX Design	3	0	0	3	45	0	0	45	90	3	40/60	OE
7	25OIT12	High Performance Computing	3	0	0	3	45	0	0	45	90	3	40/60	OE
8	25OCY11	Information Security	3	0	0	3	45	0	0	45	90	3	40/60	OE
9	25OCY12	Cyber Physical Systems	3	0	0	3	45	0	0	45	90	3	40/60	OE
10	25OCY13	Information Retrieval System	3	0	0	3	45	0	0	45	90	3	40/60	OE
11	25OML11	Sustainable AI	3	0	0	3	45	0	0	45	90	3	40/60	OE
12	25OML12	AI for Precision Agriculture	3	0	0	3	45	0	0	45	90	3	40/60	OE
13	25OCS12	Cloud Web Services	3	0	0	3	45	0	0	45	90	3	40/60	OE
14	25OCS14	Data Mining	3	0	0	3	45	0	0	45	90	3	40/60	OE
15	25OAI11	Intelligent Healthcare Solutions	3	0	0	3	45	0	0	45	90	3	40/60	OE
16	25OAG11	Bioenergy and Waste Utilization	3	0	0	3	45	0	0	45	90	3	40/60	OE
17	25OAG12	Agribusiness and Entrepreneurship	3	0	0	3	45	0	0	45	90	3	40/60	OE
18	25OAG13	Precision Agriculture and Smart Farming	3	0	0	3	45	0	0	45	90	3	40/60	OE
19	25OAG14	GIS and Remote Sensing Applications	3	0	0	3	45	0	0	45	90	3	40/60	OE
20	25OAG15	Renewable Energy in Agriculture	3	0	0	3	45	0	0	45	90	3	40/60	OE
21	25OAG16	Post-Harvest Engineering	3	0	0	3	45	0	0	45	90	3	40/60	OE
22	25OMT11	Concepts in Mobile Robotics	3	0	0	3	45	0	0	45	90	3	40/60	OE
23	25OME11	Air Pollution and Control Engineering	3	0	0	3	45	0	0	45	90	3	40/60	OE
24	25OME12	Automotive Systems	3	0	0	3	45	0	0	45	90	3	40/60	OE
25	25OME13	Digital Manufacturing	3	0	0	3	45	0	0	45	90	3	40/60	OE
26	25OEC14	Introduction to Quantum	3	0	0	3	45	0	0	45	90	3	40/60	OE

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
		Communication												
27	25OEC15	Introduction to Quantum Sensing	3	0	0	3	45	0	0	45	90	3	40/60	OE
28	25OEC16	Engineering Foundations of Quantum Technologies	3	0	0	3	45	0	0	45	90	3	40/60	OE
29	25OEC17	Solid State Physics for Quantum Technologies	3	0	0	3	45	0	0	45	90	3	40/60	OE
30	25OEC18	Quantum Optics	3	0	0	3	45	0	0	45	90	3	40/60	OE

VERTICALS FOR MINOR DEGREE (In addition to all the verticals of other programmes)

VERTICAL I Fintech and Block Chain	VERTICAL II Entrepreneurship	VERTICAL III Public Administration	VERTICAL IV Business Data Analytics	VERTICAL V Environment and Sustainability	VERTICAL VI Quantum Technologies
Finance for Managers	Foundations of Entrepreneurship	Principles of Public Administration	Statistics for Management	Sustainable Infrastructure Development	Foundations of Quantum Computing: Physics, Engineering, and Mathematics Computing
Fundamentals of Investment	Team Building and Leadership Management for Business	Public Finance and Budgeting	Business Analytics and Decision-Making	Sustainable Agriculture and Environmental Management	Survey of Quantum Technologies and Applications
Banking, Financial Services and Insurance	Creativity and Innovation in Entrepreneurship	Public Personnel Administration	Human Resource Analytics	Sustainable Bio Materials	Foundations of Quantum Technologies
Introduction to Blockchain and its Applications	Principles of Marketing Management for Business	Administrative Law and Governance	Marketing and Social Media Web Analytics	Materials for Energy Sustainability	Basic Laboratory Course for Quantum Technologies
Fintech Personal Finance and Payments	Human Resource Management for Entrepreneurs	Indian Administrative System	Operation and Supply Chain Analytics	Waste Management and Circular Economy	Introduction to Quantum Computation
Introduction to Fintech	Financing New Business Ventures	Public Policy Administration	Financial Analytics	Environmental Quality Monitoring and Analysis	Introduction to Quantum Materials
		Comparative Public Administration and Development Studies		Integrated Energy Planning for Sustainable Development	
				Energy Efficiency for Sustainable Development	

VERTICAL I : Fintech and Block Chain

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
Theory Courses														
1	25OMI11	Finance for Managers	3	0	0	3	45	0	0	45	90	3	40/60	OE
2	25OMI12	Fundamentals of Investment	3	0	0	3	45	0	0	45	90	3	40/60	OE
3	25OMI13	Banking, Financial Services and Insurance	3	0	0	3	45	0	0	45	90	3	40/60	OE
4	25OMI14	Introduction to Blockchain and its Applications	3	0	0	3	45	0	0	45	90	3	40/60	OE
5	25OMI15	Fintech Personal Finance and Payments	3	0	0	3	45	0	0	45	90	3	40/60	OE
6	25OMI16	Introduction to Fintech	3	0	0	3	45	0	0	45	90	3	40/60	OE

VERTICAL II : Entrepreneurship

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
Theory Courses														
1	25OMI21	Foundations of Entrepreneurship	3	0	0	3	45	0	0	45	90	3	40/60	OE
2	25OMI22	Team Building and Leadership Management for Business	3	0	0	3	45	0	0	45	90	3	40/60	OE
3	25OMI23	Creativity and Innovation in Entrepreneurship	3	0	0	3	45	0	0	45	90	3	40/60	OE
4	25OMI24	Principles of Marketing Management for Business	3	0	0	3	45	0	0	45	90	3	40/60	OE
5	25OMI25	Human Resource Management for Entrepreneurs	3	0	0	3	45	0	0	45	90	3	40/60	OE
6	25OMI26	Financing New Business Ventures	3	0	0	3	45	0	0	45	90	3	40/60	OE

VERTICAL III : Public Administration

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
Theory Courses														
1	25OMI31	Principles of Public Administration	3	0	0	3	45	0	0	45	90	3	40/60	OE
2	25OMI32	Public Finance and Budgeting	3	0	0	3	45	0	0	45	90	3	40/60	OE

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
3	25OMI33	Public Personnel Administration	3	0	0	3	45	0	0	45	90	3	40/60	OE
4	25OMI34	Administrative Law and Governance	3	0	0	3	45	0	0	45	90	3	40/60	OE
5	25OMI35	Indian Administrative System	3	0	0	3	45	0	0	45	90	3	40/60	OE
6	25OMI36	Public Policy Administration	3	0	0	3	45	0	0	45	90	3	40/60	OE
7	25OMI37	Comparative Public Administration and Development Studies	3	0	0	3	45	0	0	45	90	3	40/60	OE

VERTICAL IV : Business Data Analytics

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
Theory Courses														
1	25OMI41	Statistics for Management	3	0	0	3	45	0	0	45	90	3	40/60	OE
2	25OMI42	Business Analytics and Decision-Making	3	0	0	3	45	0	0	45	90	3	40/60	OE
3	25OMI43	Human Resource Analytics	3	0	0	3	45	0	0	45	90	3	40/60	OE
4	25OMI44	Marketing and Social Media Web Analytics	3	0	0	3	45	0	0	45	90	3	40/60	OE
5	25OMI45	Operation and Supply Chain Analytics	3	0	0	3	45	0	0	45	90	3	40/60	OE
6	25OMI46	Financial Analytics	3	0	0	3	45	0	0	45	90	3	40/60	OE

VERTICAL V : Environment and Sustainability

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
Theory Courses														
1	25OMI51	Sustainable Infrastructure Development	3	0	0	3	45	0	0	45	90	3	40/60	OE
2	25OMI52	Sustainable Agriculture and Environmental Management	3	0	0	3	45	0	0	45	90	3	40/60	OE
3	25OMI53	Sustainable Bio Materials	3	0	0	3	45	0	0	45	90	3	40/60	OE
4	25OMI54	Materials for Energy Sustainability	3	0	0	3	45	0	0	45	90	3	40/60	OE

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
5	25OMI55	Waste Management and Circular Economy	3	0	0	3	45	0	0	45	90	3	40/60	OE
6	25OMI56	Environmental Quality Monitoring and Analysis	3	0	0	3	45	0	0	45	90	3	40/60	OE
7	25OMI57	Integrated Energy Planning for Sustainable Development	3	0	0	3	45	0	0	45	90	3	40/60	OE
8	25OMI58	Energy Efficiency for Sustainable Development	3	0	0	3	45	0	0	45	90	3	40/60	OE

VERTICAL VI : Quantum Technologies

S. No.	Course Code	Course Title	Hours per week				Hours per sem				Total no. of Hours per semester	Credits	Internal/ External Marks	Course Category
			L	T	P	SL	L	T	P	SL				
Theory Courses														
1	25OMI61	Foundations of Quantum Computing: Physics, Engineering, and Mathematics Computing	3	0	0	3	45	0	0	45	90	3	40/60	OE
2	25OMI62	Survey of Quantum Technologies and Applications	3	0	0	3	45	0	0	45	90	3	40/60	OE
3	25OMI63	Foundations of Quantum Technologies	3	0	0	3	45	0	0	45	90	3	40/60	OE
Practical Course														
4	25OMI64	Basic Laboratory Course for Quantum Technologies	2	0	2	2	30	0	30	30	90	3	50/50	OE
Theory Courses														
5	25OMI65	Introduction to Quantum Computation	3	0	0	3	45	0	0	45	90	3	40/60	OE
6	25OMI66	Introduction to Quantum Materials	3	0	0	3	45	0	0	45	90	3	40/60	OE

SUMMARY

S.No.	COURSE CATEGORY	CREDITS AS PER SEMESTER								TOTAL CREDITS
		I	II	III	IV	V	VI	VII	VIII	
1	HS	4	7					3		14
2	BS	10	7	4	4					25
3	ES	8	5	3	4	4				24
4	PC		3	14	16	7	12	3		55
5	PE					6	6	3		15
6	OE					6	6			12
7	EEC			2	1	1		2	10	16
8	AC	1	1							2
9	MC				✓	✓				
TOTAL CREDITS		23	23	23	25	24	24	11	10	163