DHIRAJLAL GANDHI COLLEGE OF TECHNOLOGY

SALEM

(AUTONOMOUS)

B.E. – ELECTRONICS AND COMMUNICATION ENGINEERING

Curriculum (I to VIII Semesters)

&

Syllabus (I to IV Semesters)

Autonomous Regulations – 2024

CURRICULUM FOR
I TO VIII SEMESTERS

VISION:

To be globally recognized for providing value based engineering education and research in the field of Electronics and Communication Engineering

MISSION:

- To provide a congenial learning environment which fosters creativity and innovation among students.
- To conduct value based courses for improving technical competency.
- To encourage faculty to attend workshops, seminars, faculty development programs and engage them in continuous learning and to use innovative teaching methodologies.
- To impart moral values and inculcate moral and ethical behavior.
- To establish Centre of Excellence in emerging areas in the field of Communication Engineering.
- To undertake collaborative work with industry and institutes and provide solutions for societal challenge.

I. PROGRAM EDUCATIONAL OBJECTIVES (PEOs):

- The graduates of the program would have a successful professional career and engage in lifetime learning
- The graduates will be able to work as a team or a team leader and exhibit professional and ethical behavior
- The graduates will be able to understand, analyze the technical problems and provide suitable solutions

II. PROGRAM OUTCOMES (POs):

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage:** Create, select, and apply appropriate techniques,

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resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

III. <u>PROGRAM SPECIFIC OUTCOMES (PSOs):</u>

- Ability of the students to design and develop embedded solution for engineering applications.
- Ability of the students to design and implement communication sub systems.

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CURRICULUM DETAILS

B.E. - Electronics and Communication Engineering

SEMESTER - I											
S.NO	COURSE CODE	COURSE TITLE	CAT	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS	MAXIMUM MARKS		
				L	T	P		C	CA	EE	TOTAL
	THEORY										
1.	24TEN101	Professional English-I	HSMC	3	0	0	3	3	40	60	100
2.	24TMA101	Matrices and Calculus	BSC	3	1	0	4	4	40	60	100
3.	24TPH101	EngineeringPhysics	BSC	3	0	0	3	3	40	60	100
4.	24TCH101	Engineering Chemistry	BSC	3	0	0	3	3	40	60	100
5.	24TCS101	Problem Solving and Python Programming	ESC	3	0	0	3	3	40	60	100
6.	24TTA101	□□□□□□ □□□□/ Heritage of Tamils	HSMC	1	0	0	1	1	40	60	100
	PRACTICALS										
7.	24LCS101	Problem Solving and Python Programming Laboratory	ESC	0	0	4	4	2	60	40	100
8.	24LCP101	Physics and Chemistry Laboratory	BSC	0	0	4	4	2	60	40	100
9.	24LEN101	English Laboratory	EEC	0	0	2	2	1	100	0	100
	MANDATORY COURSE										
10.	24XGE001	Induction Programme	MC	-	-	-	-	0	-	-	-
TOTAL				16	1	10	27	22	460	440	900

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SEMESTER – II											
S.NO	COURSE CODE	COURSE TITLE	CAT	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS	MAXIMUM MARKS		
				L	T	P		C	CA	EE	TOTAL
	THEORY										
1.	24MEN201	Professional English –II (TCL)	HSMC	2	0	2	4	3	50	50	100
2.	24TMA202	Differential Equations and Complex Analysis	BSC	3	1	0	4	4	40	60	100
3.	24TEE202	Basic Electrical and Instrumentation Engineering	ESC	3	0	0	3	3	40	60	100
4.	24TEC201	Electron Devices	PCC	3	0	0	3	3	40	60	100
5.	24TEC202	Circuit Analysis	PCC	3	0	0	3	3	40	60	100
6.	24TIT402	Advanced Python Programming	ESC	3	0	0	3	3	40	60	100
7.	24TTA201	□□□□□□□□ □□□□□□□□□□□□□ □□/ Tamils and Technology	HSMC	1	0	0	1	1	40	60	100
	PRACTICALS										
8.	24LEC201	Circuit and Devices laboratory	PCC	0	0	3	3	1.5	60	40	100
9.	24LME201	Engineering Practices Laboratory	ESC	0	0	3	3	1.5	60	40	100
10.	24LIT402	Advanced Python Programming Laboratory	ESC	0	0	3	3	1.5	60	40	100
TOTAL				18	1	11	30	24.5	470	530	1000

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SEMESTER – III											
S.NO	COURSE CODE	COURSE TITLE	CAT	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS	MAXIMUM MARKS		
				L	T	P		C	CA	EE	TOTAL
	THEORY										
1.	24TMA302	Linear Algebra and Transforms	BSC	3	1	0	4	4	40	60	100
2.	24TEC301	Analog Electronics	PCC	3	0	0	3	3	40	60	100
3.	24TEC302	Digital Electronics	PCC	3	0	0	3	3	40	60	100
4.	24TEC303	Signals and Systems	PCC	3	0	0	3	3	40	60	100
5.	24TIT302	Java Programming	ESC	3	0	0	3	3	40	60	100
6.	24TEC304	Control Systems	PCC	3	0	0	3	3	40	60	100
7.		Mandatory Course - II	MC	3	0	0	3	0	-	-	-
	PRACTICALS										
8.	24LEC301	Analog and Digital Electronics Laboratory	PCC	0	0	3	3	1.5	60	40	100
9.	24LIT302	Java Programming Laboratory	ESC	0	0	3	3	1.5	60	40	100
TOTAL				21	1	6	28	22	360	440	800

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SEMESTER - IV											
S.NO	COURSE CODE	COURSE TITLE	CAT	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS	MAXIMUM MARKS		
				L	T	P		C	CA	EE	TOTAL
	THEORY										
1.	24TMA401	Probability and Stochastic Process	BSC	3	1	0	4	4	40	60	100
2.	24TEC401	Electromagnetic Fields	PCC	3	0	0	3	3	40	60	100
3.	24TEC402	Linear Integrated Circuits	PCC	3	0	0	3	3	40	60	100
4.	24TCH401	Environmental Sciences and Sustainability	BSC	2	0	0	2	2	40	60	100
5.	24TEC403	Principles of Communication Systems	PCC	3	0	0	3	3	40	60	100
6.	24TEC404	Microprocessors and Microcontrollers	PCC	3	0	0	3	3	40	60	100
7.	24S001	Employability Skills - I	EEC	0	0	2	2	1	100	0	100
8.		Mandatory Course - III	MC	3	0	0	3	0	-	-	-
	PRACTICALS										
9.	24LEC401	Linear Integrated Circuits laboratory	PCC	0	0	3	3	1.5	60	40	100
	PROJECT										
10.	24PEC401	Micro Project	EEC	0	0	2	2	1	100	0	100
TOTAL				20	1	7	28	21.5	500	400	900

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SEMESTER – V											
S.NO	COURSE CODE	COURSE TITLE	CAT	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS	MAXIMUM MARKS		
				L	T	P		C	CA	EE	TOTAL
	THEORY										
1.	24TEC501	Digital Communication	PCC	3	0	0	3	3	40	60	100
2.	24TEC502	Transmission Lines and RF Systems	PCC	3	0	0	3	3	40	60	100
3.	24MEC501	Digital Signal Processing (TCL)	PCC	3	0	2	5	4	50	50	100
4.	24MEC502	Embedded systems and IOT (TCL)	PCC	2	0	2	4	3	50	50	100
5.		Professional Elective - I	PEC	3	0	0	3	3	40	60	100
6.	24S002	Employability Skills - II	EEC	0	0	2	2	1	100	0	100
7.	24S003	Entrepreneurship Development	EEC	2	0	2	4	3	50	50	100
	PRACTICALS										
8.	24LEC501	Communication Systems Laboratory	PCC	0	0	3	3	1.5	60	40	100
	PROJECT										
9.	24PEC501	Miniproject	EEC	0	0	3	3	1.5	100	0	100
TOTAL				16	0	14	30	23	530	370	900

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SEMESTER – VI											
S.NO	COURSE CODE	COURSE TITLE	CAT	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS	MAXIMUM MARKS		
				L	T	P		C	CA	EE	TOTAL
	THEORY										
1.	24MEC601	VLSI Design (TCL)	PCC	3	0	2	5	4	50	50	100
2.	24MEC602	Artificial Intelligence and Machine Learning (TCL)	PCC	2	0	2	4	3	50	50	100
3.	24MEC603	Computer Communication and Networks (TCL)	PCC	2	0	2	4	3	50	50	100
4.	24TEC601	Wireless Communication	PCC	3	0	0	3	3	40	60	100
5.	24MIT403	Database Systems (TCL)	ESC	2	0	2	4	3	50	50	100
6.		Professional Elective – II	PEC	3	0	0	3	3	40	60	100
7.		Open Electives – I	OEC	3	0	0	3	3	40	60	100
8.	24S007	Employability Skills - III	EEC	0	0	2	2	1	100	0	100
	PRACTICALS										
9.	24ZEC601	Industrial Hands-on Training	EEC	0	0	2	2	1	100	0	100
TOTAL				18	0	12	30	24	520	380	900

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SEMESTER – VII											
S.NO	COURSE CODE	COURSE TITLE	CAT	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS	MAXIMUM MARKS		
				L	T	P		C	CA	EE	TOTAL
	THEORY										
1.	24MEC701	Antenna and Microwave Engineering (TCL)	PCC	2	0	2	4	3	50	50	100
2.	24OME704	Professional Ethics in Engineering	HSMC	2	0	0	2	2	40	60	100
3.		Professional Elective - III	PEC	3	0	0	3	3	40	60	100
4.		Professional Elective - IV	PEC	3	0	0	3	3	40	60	100
5.		Professional Elective - V	PEC	3	0	0	3	3	40	60	100
6.		Open Electives - II	OEC	3	0	0	3	3	40	60	100
	PRACTICALS										
7.	24IEC701	Internship**	EEC	-	-	-	-	1	100	0	100
TOTAL				16	0	2	18	18	350	350	700

** 2 weeks Summer Training has to be completed during the summer vacation, after completion of VI semester

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SEMESTER – VIII											
S.NO	COURSE CODE	COURSE TITLE	CAT	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS	MAXIMUM MARKS		
				L	T	P		C	CA	EE	TOTAL
	PRACTICALS										
1.	24PEC801	Project Work	EEC	0	0	20	20	10	60	40	100
TOTAL				0	0	20	20	10	60	40	100
TOTAL CREDIT EARNED								165	3370	2830	6200

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SUMMARY OF CREDIT DISTRIBUTION

S.No.	Course Category	Credit per Semester								Total Credits
		I	II	III	IV	V	VI	VII	VIII	
1.	HSMC	4	4	-	-	-	-	2	-	10
2.	BSC	12	4	4	6	-	-	-	-	26
3.	ESC	5	9	4.5	-	-	3	-	-	21.5
4.	PCC	-	7.5	13.5	13.5	14.5	13	3	-	65
5.	PEC	-	-	-	-	3	3	9	-	15
6.	OEC	-	-	-	-	-	3	3	-	6
7.	EEC	1	-	-	2	5.5	2	1	10	21.5
8.	MC	✓	-	✓	✓	-	-	-	-	-
Total Credit		**22**	**24.5**	**22**	**21.5**	**23**	**24**	**18**	**10**	**165**

HSMC - Humanities Science and Management Course
BSC - Basic of Science Course
ESC - Engineering Science Course
PCC - Professional Core Course
PEC - Professional Elective Course
OEC - Open Elective Course
EEC - Employment Enhancement Course
MC - Non-Credit Mandatory course

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PROFESSIONAL ELECTIVE COURSES

PROFESSIONAL ELECTIVES (I–V)

S.NO	COURSE CODE	COURSE TITLE	CAT	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		C
VERTICAL - I Semiconductor Chip Design and Testing								
1.	24EEC001	Low Power VLSI Circuits	PEC	3	0	0	3	3
2.	24EEC002	FPGA based System Design	PEC	3	0	0	3	3
3.	24EEC003	Analog VLSI Circuits	PEC	3	0	0	3	3
4.	24EEC004	Testing and Testability ofVLSI Circuits	PEC	3	0	0	3	3
5.	24EEC005	Mixed Signal IC Design	PEC	3	0	0	3	3
6.	24EEC006	Electronic Packaging Technologies	PEC	3	0	0	3	3
VERTICAL - II Signal Processing								
7.	24EEC007	Digital Image Processing	PEC	3	0	0	3	3
8.	24EEC008	Speech Processing	PEC	3	0	0	3	3
9.	24EEC009	Advanced Digital SignalProcessing	PEC	3	0	0	3	3
10.	24EEC010	Digital Signal ProcessingSystem Design	PEC	3	0	0	3	3
11.	24EEC011	Software Defined Radio	PEC	3	0	0	3	3
12.	24EEC012	Computer Vision	PEC	3	0	0	3	3
VERTICAL -III High Speed Communication								
13.	24EEC013	5G / 6G WirelessTechnologies	PEC	3	0	0	3	3
14.	24EEC014	Satellite Communication	PEC	3	0	0	3	3
15.	24EEC015	Radar Communication	PEC	3	0	0	3	3
16.	24EEC016	Optical Communication and Networks	PEC	3	0	0	3	3
17.	24EEC017	Photonic IntegratedCircuits	PEC	3	0	0	3	3
18.	24EEC018	Massive MIMO Networks	PEC	3	0	0	3	3
VERTICAL - IV RF Technologies								
19.	24EEC019	RF Integrated Circuits	PEC	3	0	0	3	3
20.	24EEC020	Electromagnetic Interference and Compatibility	PEC	3	0	0	3	3
21.	24EEC021	Antenna Design	PEC	3	0	0	3	3
22.	24EEC022	Modern Antenna Systems	PEC	3	0	0	3	3
23.	24EEC023	RFID System Design andTesting	PEC	3	0	0	3	3
24.	24EEC024	RF MEMS Circuit Design	PEC	3	0	0	3	3
VERTICAL - V Bio Medical Technologies								
25.	24EEC025	Medical Electronics	PEC	3	0	0	3	3
26.	24EEC026	Human Assist Devices	PEC	3	0	0	3	3
27.	24EEC027	Therapeutic Equipment	PEC	3	0	0	3	3
28.	24EEC028	Medical Imaging Systems	PEC	3	0	0	3	3
29.	24EEC029	Brain Computer Interface and Applications	PEC	3	0	0	3	3
30.	24EEC030	Body Area Networks	PEC	3	0	0	3	3

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OPEN ELECTIVE COUSES
OPEN ELECTIVES (I & II)

S.NO	COURSE CODE	COURSE TITLE	CAT	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		C
1.	24OEC001	Nano Electronics	OEC	3	0	0	3	3
2.	24OEC002	Multimedia Communication Technology	OEC	3	0	0	3	3
3.	24OEC003	ADHOC Wireless Networks	OEC	3	0	0	3	3
4.	24OEC004	Wireless Sensor Networks	OEC	3	0	0	3	3
5.	24OEC005	Nano Technology and its applications	OEC	3	0	0	3	3
6.	24OEC006	Cognitive Radio	OEC	3	0	0	3	3
7.	24OEC007	Neural Network	OEC	3	0	0	3	3
8.	24OEC008	ASIC Design	OEC	3	0	0	3	3
9.	24OEC009	Network Analysis and Synthesis	OEC	3	0	0	3	3
10.	24OEC010	Remote Sensing	OEC	3	0	0	3	3
11.	24OCS717	Computer Architecture and Organization	OEC	3	0	0	3	3
12.	24OCS715	Deep Learning	OEC	3	0	0	3	3
13.	24TCS701	Cryptography and Network Security	OEC	3	0	0	3	3
14.	24TCS401	Operating System	OEC	3	0	0	3	3
15.	24ECS505	DevOps	OEC	3	0	0	3	3
16.	24OCS718	Web Technologies	OEC	3	0	0	3	3
17.	24ECS504	App Development	OEC	3	0	0	3	3
18.	24ECS502	UI and UX Design	OEC	3	0	0	3	3
19.	24ECS601	Cloud Computing	OEC	3	0	0	3	3
20.	24OIT005	Digital Marketing	OEC	3	0	0	3	3
21.	24OME002	Automative Electronics	OEC	3	0	0	3	3
22.	24TME703	Engineering Economics	OEC	3	0	0	3	3
23.	24TME701	Mechatronics System Design	OEC	3	0	0	3	3
24.	24OME005	Industrial safety	OEC	3	0	0	3	3
25.	24ORA001	Foundation of Robotics	OEC	3	0	0	3	3
26.	24ORA003	Aviation Management	OEC	3	0	0	3	3
27.	24TRA702	Drone Technologies	OEC	3	0	0	3	3
28.	24TEE602	Renewable Energy System	OEC	3	0	0	3	3
29.	24OEE004	Sensors and Actuators	OEC	3	0	0	3	3
30.	24OEE001	Electric & Hybrid Vehicle	OEC	3	0	0	3	3
31.	24EEE016	SMPS & UPS	OEC	3	0	0	3	3
32.	24OEE005	Introduction to PLC Programming	OEC	3	0	0	3	3
33.	24OAG003	IT in Agricultural System	OEC	3	0	0	3	3
34.	24EME023	Operations Research	OEC	3	0	0	3	3
35.	24OEN002	Project Report Writing	OEC	3	0	0	3	3

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MANDATORY COURSES

S.NO	COURSE CODE	COURSE TITLE	CAT	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		C
1.	24XGE001	Induction Programme	MC	-	-	-	0	-
2.	24XGE002	Indian Constitution	MC	3	0	0	3	0
3.	24XGE003	Design Thinking	MC	3	0	0	3	0
4.	24XGE004	Introduction to Women and Gender Studies	MC	3	0	0	3	0
5.	24XGE005	Elements of Literature	MC	3	0	0	3	0
6.	24XGE006	Film Appreciation	MC	3	0	0	3	0
7.	24XGE007	Disaster Risk Reduction and Management	MC	3	0	0	3	0
8.	24XGE008	Well Being with Traditional Practices - Yoga, Ayurveda and Siddha	MC	3	0	0	3	0
9.	24XGE009	History of Science and Technology in India	MC	3	0	0	3	0
10.	24XGE010	Political and Economic Thought for a Human Society	MC	3	0	0	3	0
11.	24XGE011	State, Nation Building and Politics in India	MC	3	0	0	3	0
12.	24XGE012	Industrial Safety	MC	3	0	0	3	0

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PROFESSIONAL ELECTIVE COURSES &
VERTICALS FOR B.E/B.TECH HONOURS DEGREE

VERTICAL- I	VERTICAL- II	VERTICAl- III	VERTICAL- IV	VERTICAL- V
Semiconductor Chip Design and Testing	**Signal Processing**	**High Speed Communication**	**RF Technologies**	**Bio Medical Technologies**
Low Power VLSI Circuits	Digital Image Processing	5G / 6G Wireless Technologies	RF Integrated Circuits	Medical Electronics
FPGA based System Design	Speech Processing	Satellite Communication	Electromagnetic Interference and Compatibility	Human Assist Devices
Analog VLSI Circuits	Advanced Digital SignalProcessing	Radar Communication	Antenna Design	Therapeutic Equipment
Testing and Testability ofVLSI Circuits	Digital Signal ProcessingSystem Design	Optical Communication and Networks	Modern Antenna Systems	Medical Imaging Systems
Mixed Signal IC Design	Software Defined Radio	Photonic Integrated Circuits	RFID System Design andTesting	Brain Computer Interface and Applications
Electronic Packaging Technologies	Computer Vision	Massive MIMO Networks	RF MEMS Circuit Design	Body Area Networks

Note: These are five columns in advanced domain of Electronics and Communication Engineering. Those who are willing to do Honours degree, they are not allowed to select courses from verticals, if already selected for the Professional Electives.

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VERTICALS FOR MINOR DEGREE

VERTICAL- I	VERTICAL- II	VERTICAL- III	VERTICAL- IV	VERTICAL- V
Fintech and Block Chain	**Entrepreneurship**	**Public Administration**	**Business Data Analytics**	**Environment and Sustainability**
Financial Management	Foundations of Entrepreneurship	Principles of Public Administration	Statistics for Management	Sustainable infrastructure Development
Fundamentals of Investment	Team Building & Leadership Management for Business	Constitution ofIndia	Data mining for Business Intelligence	Sustainable Agriculture andEnvironmental Management
Banking, Financial Services and Insurance	Creativity & Innovation in Entrepreneurship	Public Personnel Administration	Human Resource Analytics	Sustainable Bio Materials
Introduction to Blockchain and its Applications	Principles of Marketing Management For Business	AdministrativeTheories	Marketing andSocial Media Web Analytics	Materials for Energy Sustainability
Fintech Personal Finance and Payments	Human Resource Management for Entrepreneurs	Indian Administrative System	Operation andSupply Chain Analytics	Green Technology
Introduction to Fintech	Financing New Business Ventures	Public Policy Administration	FinancialAnalytics	Environmental Quality Monitoringand Analysis
-	-	-	-	Integrated Energy Planning for Sustainable Development
-	-	-	-	Energy Efficiencyfor Sustainable Development

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(Choice of courses for Minor degree is to be made from any one vertical of other programmes or from anyone of the following verticals)

S.NO	COURSE CODE	COURSE TITLE	CAT	PERIODS PER WEEK			TOTAL CONTACT PERIODS	CREDITS
				L	T	P		C
VERTICAL I: FINTECH AND BLOCK CHAIN								
1.	24TMN001	Financial Management	PEC	3	0	0	3	3
2.	24TMN002	Fundamentals of Investment	PEC	3	0	0	3	3
3.	24TMN003	Banking, Financial Services and Insurance	PEC	3	0	0	3	3
4.	24TMN004	Introduction to Blockchain and its Applications	PEC	3	0	0	3	3
5.	24TMN005	Fintech Personal Finance and Payments	PEC	3	0	0	3	3
6.	24TMN006	Introduction to Fintech	PEC	3	0	0	3	3
VERTICAL II: ENTREPRENEURSHIP								
7.	24TMN007	Foundations of Entrepreneurship	PEC	3	0	0	3	3
8.	24TMN008	Team Building & Leadership Managementfor Business	PEC	3	0	0	3	3
9.	24TMN009	Creativity & Innovation in Entrepreneurship	PEC	3	0	0	3	3
10.	24TMN010	Principles of Marketing Management for Business	PEC	3	0	0	3	3
11.	24TMN011	Human ResourceManagement for Entrepreneurs	PEC	3	0	0	3	3
12.	24TMN012	Financing New BusinessVentures	PEC	3	0	0	3	3
VERTICAL III: PUBLIC ADMINISTRATION								
13.	24TMN013	Principles of PublicAdministration	PEC	3	0	0	3	3
14.	24TMN014	Constitution of India	PEC	3	0	0	3	3
15.	24TMN015	Public PersonnelAdministration	PEC	3	0	0	3	3
16.	24TMN016	Administrative Theories	PEC	3	0	0	3	3
17.	24TMN017	Indian AdministrativeSystem	PEC	3	0	0	3	3
18.	24TMN018	Public Policy Administration	PEC	3	0	0	3	3
VERTICAL IV: BUSINESS DATA ANALYTICS								
19.	24TMN019	Statistics for Management	PEC	3	0	0	3	3
20.	24TMN020	Data mining for Business Intelligence	PEC	3	0	0	3	3
21.	24TMN021	Human ResourceAnalytics	PEC	3	0	0	3	3
22.	24TMN022	Marketing and SocialMedia Web Analytics	PEC	3	0	0	3	3
23.	24TMN023	Operation and SupplyChain Analytics	PEC	3	0	0	3	3
24.	24TMN024	Financial Analytics	PEC	3	0	0	3	3

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VERTICAL V: ENVIRONMENT AND SUSTAINABILITY								
25.	24TMN025	Sustainable infrastructure Development	PEC	3	0	0	3	3
26.	24TMN026	Sustainable Agricultureand Environmental Management	PEC	3	0	0	3	3
27.	24TMN027	Sustainable BioMaterials	PEC	3	0	0	3	3
28.	24TMN028	Materials for EnergySustainability	PEC	3	0	0	3	3
29.	24TMN029	Green Technology	PEC	3	0	0	3	3
30.	24TMN030	Environmental Quality Monitoring and Analysis	PEC	3	0	0	3	3
31.	24TMN031	Integrated Energy Planning for Sustainable Development	PEC	3	0	0	3	3
32.	24TMN032	Energy Efficiency forSustainable Development	PEC	3	0	0	3	3

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DGCT AUTONOMOUS REGULATIONS – 2024
I SEMESTER

24TEN101	PROFESSIONAL ENGLISH I	L	T	P	C
		3	0	0	3

COURSE OBJECTIVES :

- To help learners use language effectively in professional contexts
- To improve the communicative competence of learners
- To learn to use basic grammatic structures in suitable contexts
- To acquire lexical competence and use them appropriately in a sentence and understand their meaning in a text
- To help learners use language effectively in professional contexts

UNIT-I INTRODUCTION TO EFFECTIVE COMMUNICATION 9

What is effective communication? (Explain using activities) Why is communication critical for excellence during study, research and work? What are the seven C's of effective communication? What are key language skills? What is effective listening? What does it involve? What is effective speaking? What does it mean to be an excellent reader? What should you be able to do? What is effective writing? How does one develop language and communication skills? What does the course focus on? How are communication and language skills going to be enhanced during this course? What do you as a learner need to do to enhance your English language and communication skills to get the best out of this course?

Introduction To Fundamentals of Communication

Reading - Reading brochures (technical context), telephone messages / social media messages relevant to technical contexts and emails. **Writing** - Writing emails / letters introducing oneself. **Grammar** - Present Tense (simple and progressive); Question types: Wh/ Yes or No/ and Tags. **Vocabulary** - Synonyms; One word substitution; Abbreviations & Acronyms (as used in technical contexts)

UNIT - II NARRATION AND SUMMATION 9

Reading - Reading biographies, travelogues, newspaper reports, Excerpts from literature, and travel & technical blogs. **Writing** - Guided writing-- Paragraph writing Short Report on an event (field trip etc.) **Grammar** –Past tense (simple); Subject-Verb Agreement; and Prepositions. **Vocabulary** - Word forms (prefixes& suffixes); Synonyms and Antonyms. Phrasal verbs

UNIT - III DESCRIPTION OF A PROCESS / PRODUCT 9

Reading – Reading advertisements, gadget reviews; user manuals. **Writing** - Writing definitions; instructions; and Product /Process description. **Grammar** - Imperatives; Adjectives; Degrees of comparison; Present & Past Perfect Tenses. **Vocabulary** - Compound Nouns, Homonyms; and Homophones, discourse markers (connectives & sequence words).

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