

CURRICULUM

REGULATION 2025

**B.E - ELECTRICAL AND ELECTRONICS
ENGINEERING
(FULL TIME- 4 Years)**

SEMESTER

I TO VIII

B.E.–ELECTRICAL AND ELECTRONICSENGINEERING –SEMESTER ITOVIII

A. Foundation Courses (48)

Humanities and Social Sciences –Credits (9)

SL. NO	COURSE CODE	COURSE	OFFERING DEPT.	CATEGORY	L	T	P	C	PREREQUISITE
1	34125H01	TECHNICAL ENGLISH FOR COMMUNICATION	ENG	FC-HS	2	0	0	2	NIL
2	34125H04	ENGLISH LANGUAGE LEARNING USING GENERATIVE AI (THEORY AND PRACTICALS)	ENG	FC-HS	1	0	2	2	NIL
3	34125H03	BUSINESS ENGLISH	ENG	FC-HS	2	0	0	2	NIL
4	34125H05	PROFESSIONAL ENGLISH COMMUNICATION	ENG	FC-HS	2	0	0	2	NIL
5	34125H81	ENGLISH LANGUAGE LAB	ENG	FC-HS	0	0	2	1	NIL
6	34125H82	PROFESSIONAL COMMUNICATION AND PERSONALITY DEVELOPMENT	ENG	FC-HS	0	0	2	1	NIL
7	34125H02	UNIVERSAL HUMAN VALUES II- UNDERSTANDING HARMONY	ENG	FC-HS	2	1	0	3	NIL

Basic Science Courses – Credits (18)

1.	34125B02	MATRICES AND CALCULAS	MATH	FC-BS	2	1	0	3	NIL
2.	34125B03	PHYSICAL SCIENCES	PHY & CHEM	FC-BS	4	0	0	4	NIL
3.	34125B20	PARTIAL DIFFERENTIAL EQUATIONS AND TRANSFORMS	MATH	FC-BS	2	1	0	3	MATRICES AND CALCULAS
4.	34125B04	SMART MATERIALS AND NANO TECHNOLOGY	PHY	FC-BS	3	0	0	3	PHYSICAL SCIENCES – PARTA ENGINEERING PHYSICS
5.	34125B12	COMPLEX VARIABLE AND LINEAR ALGEBRA	MATHS	FC-BS	2	1	0	3	MATRICES AND CALCULAS
6.	34125B16	NUMERICAL METHODS	MATHS	FC-BS	2	1	0	3	MATRICES AND CALCULAS
7.	34125B15	MATHEMATICAL AND STATISTICAL TOOL FOR RESEARCH	MATHS	FC-BS	2	1	0	3	MATRICES AND CALCULAS
8.	34125B09	NON-DESTRUCTIVE TESTING OF MATERIALS	PHY	FC-BS	3	0	0	3	PHYSICAL SCIENCES– PARTA ENGINEERING
9.	34125B81	PHYSICAL SCIENCES LAB	PHY & CHEM	FC-BS	0	0	4	2	NIL

Engineering Science courses including Workshop, Drawing, Basics of Electrical / Mechanical / Computer etc., Credits–(21)

1	35025E03	PYTHON PROGRAMMING (THEORY AND PRACTICALS)	CSE	FC-ES	3	0	2	4	NIL
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2	35025E02	PROBLEM SOLVING AND PROGRAMMING USING C (THEORY AND PRACTICALS)	CSE	FC-ES	3	0	2	4	NIL
3	34425E81	ENGINEERING GRAPHICS AND DESIGN	MECH	FC-ES	0	0	6	3	NIL
4	34625E01	BASICS OF ELECTRICAL AND ELECTRONICS ENGINEERING	EEE & ECE	FC-ES	4	0	0	4	NIL
5	34425E01	BASICS OF CIVIL AND MECHANICAL ENGINEERING	CIVIL & MECH	FC-ES	4	0	0	4	NIL
6	34625E81	BASICS OF ELECTRICAL AND ELECTRONICS ENGINEERING LAB	EEE & ECE	FC-ES	0	0	4	2	NIL
7	34425E82	ENGINEERING SKILLS PRACTICE	CIVIL & MECH	FC-ES	0	0	4	2	NIL
8	35025E01	ARTIFICIAL INTELLIGENCE IN SCIENTIFIC RESEARCH AND EDUCATION	CSE	FC-ES	3	0	0	3	NIL
9	34625E82	INTRODUCTION TO SCILAB	EEE	FC-ES	0	0	4	2	NIL
10	I35025E01	EMERGING TRENDS IN IT INFRASTRUCTURE	HCL TECH	FC-ES	2	0	0	2	NIL

B.E.–ELECTRICAL AND ELECTRONICS ENGINEERING – SEMESTER I TO VIII**B. Professional Courses****Core Courses –Credits (62)**

SL. NO	COURSE CODE	COURSE	OFFERING DEPT.	CATEGORY	L	T	P	C	PREREQUISITE
1.	34625C01	ELECTRIC CIRCUIT ANALYSIS (THEORY AND PRACTICALS)	EEE	CC–C	3	0	2	4	NIL
2.	34725C05	SEMICONDUCTOR DEVICES AND CIRCUITS (THEORY AND PRACTICALS)	ECE	CC–C	3	0	2	4	NIL
3.	34625C04	ELECTRICAL MACHINES–I	EEE	CC–C	3	0	0	3	NIL
4.	34625C05	ELECTRICAL MACHINES–II	EEE	CC–C	3	0	0	3	ELECTRICAL MACHINES–I
5.	34625C06	ELECTROMAGNETIC THEORY	EEE	CC–C	3	0	0	3	NIL
6.	34625C08	MEASUREMENTS AND INSTRUMENTATION (THEORY AND PRACTICALS)	EEE	CC–C	3	0	2	4	NIL
7.	34725C07	ANALOG AND DIGITAL CIRCUITS (THEORY AND PRACTICALS)	ECE	CC–C	3	0	2	4	SEMICONDUCTOR DEVICES AND CIRCUITS
8.	34625C09	POWER ELECTRONICS AND DRIVES (THEORY AND PRACTICALS)	EEE	CC–C	3	0	2	4	SEMICONDUCTOR DEVICES AND CIRCUITS
9.	34625C14	TRANSMISSION AND DISTRIBUTION	EEE	CC–C	3	0	0	3	ELECTROMAGNETIC THEORY
10.	34625C03	CONTROL SYSTEMS (THEORY AND PRACTICALS)	EEE	CC–C	3	0	2	4	NIL
11.	34625C10	POWER SYSTEM ANALYSIS	EEE	CC–C	3	0	0	3	TRANSMISSION & DISTRIBUTION
12.	34725C17	MICROCONTROLLER BASED SYSTEM DESIGN AND EMBEDDED SYSTEM DESIGN (THEORY AND PRACTICALS)	ECE	CC–C	3	0	2	4	ANALOG AND DIGITAL CIRCUITS
13.	34625C13	RENEWABLE ENERGY SOURCES (THEORY AND PRACTICALS)	EEE	CC–C	3	0	2	4	NIL
14.	34625C12	POWER SYSTEM PROTECTION AND SWITCHGEAR	EEE	CC–C	3	0	0	3	NIL
15.	34625C07	HIGH VOLTAGE ENGINEERING	EEE	CC–C	3	0	0	3	NIL
16.	34625C11	POWER SYSTEM OPERATION AND CONTROL	EEE	CC–C	3	0	0	3	POWER SYSTEM ANALYSIS
17.	34625C81	ELECTRICAL MACHINES–I LAB	EEE	CC–C	0	0	4	2	NIL
18.	34625C82	ELECTRICAL MACHINES–II LAB	EEE	CC–C	0	0	4	2	NIL
19.	34625C83	POWER SYSTEM SIMULATION LAB	EEE	CC–C	0	0	4	2	NIL

B.E.–ELECTRICAL AND ELECTRONICSENGINEERING –SEMESTER ITOVIII

C. Elective Courses

Professional Electives- Credits(12-15)

SL. NO	COURSE CODE	COURSE	OFFERING DEPT.	CATEGORY	L	T	P	C	PREREQUISITE
1.	34625P10	POWER QUALITY ANDFACTS	EEE	EC-PS	3	0	0	3	NIL
2.	34625P12	SPECIAL ELECTRICAL MACHINES	EEE	EC-PS	3	0	0	3	NIL
3.	34625P13	SUBSTATION ENGINEERING AND AUTOMATION	EEE	EC-PS	3	0	0	3	NIL
4.	34625P04	DISTRIBUTED GENERATION AND MICROGRIDS	EEE	EC-PS	3	0	0	3	NIL
5.	34625P09	POWER CONVERTERS ANALYSIS AND DESIGN	EEE	EC-PS	3	0	0	3	NIL
6.	34625P07	ENERGY CONVERSION AND STORAGE TECHNOLOGIES	EEE	EC-PS	3	0	0	3	NIL
7.	34625P11	POWER SYSTEM AND SMARTGRID	EEE	EC-PS	3	0	0	3	NIL
8.	34625P03	DIGITALSIGNAL PROTECTION FOR POWER SYSTEMS	EEE	EC-PS	3	0	0	3	NIL
9.	34625P14	SUSTAINABLE AND ENVIRONMENTAL FRIENDLY HV INSULATION SYSTEM	EEE	EC-PS	3	0	0	3	NIL
10.	34625P02	DESIGN OF ELECTRICAL APPARATUS	EEE	EC-PS	3	0	0	3	NIL
11.	34625P08	HVDC TRANSMISSION SYSTEMS	EEE	EC-PS	3	0	0	3	NIL
12.	34625P06	ENERGY AUDIT AND CONSERVATION	EEE	EC-PS	3	0	0	3	NIL
13.	34625P05	ELECTRIC VEHICLE AND BATTERY MANAGEMENT SYSTEM	EEE	EC-PS	3	0	0	3	NIL
14.	34625P01	SOLAR RADIATION AND ENERGY CONVERSION	EEE	EC-PS	3	0	0	3	NIL
15.	34625P15	WIND ENERGY CONVERSION SYSTEMS	EEE	EC-PS	3	0	0	3	NIL

Specialization Electives- Credits- (15)

SL. NO	COURSE CODE	COURSE	OFFERING DEPT.	CATEGORY	L	T	P	C	PREREQUISITE
SPECIALISATION – ELECTRIC VEHICLE									
1	34625EV01	ARCHITECTURE OF ELECTRIC AND HYBRID ELECTRIC VEHICLE	EEE	EC-SE	3	0	0	3	NIL
2	34625EV02	BATTERY MANAGEMENT SYSTEM	EEE	EC-SE	3	0	0	3	NIL
3	34625EV06	MODERN DRIVES FOR ELECTRIC VEHICLE	EEE	EC-SE	3	0	0	3	NIL
4	34625EV07	POWER CONVERTERS FOR ELECTRIC VEHICLE	EEE	EC-SE	3	0	0	3	NIL
5	34625EV08	TESTING OF ELECTRIC AND HYBRID VEHICLE	EEE	EC-SE	3	0	0	3	NIL

6	34625EV05	DESIGN OF HYBRID ELECTRIC VEHICLE	EEE	EC-SE	3	0	0	3	NIL
7	34625EV04	CONTROL SYSTEMS FOR HYBRID ELECTRIC VEHICLE	EEE	EC-SE	3	0	0	3	NIL
8	34625EV03	BRAKE SYSTEM OF EV AND HEV	EEE	EC-SE	3	0	0	3	NIL
SPECIALISATION – ARTIFICIAL INTELLIGENCE IN ELECTRICAL SYSTEMS									
1	34625AES04	APPLIED STATISTICS FOR INTELLIGENT ELECTRICAL SYSTEMS	EEE	EC-SE	3	0	0	3	NIL
2	34625AES01	AI FUNDAMENTALS FOR ELECTRICAL ENGINEERING USING SIMULATIONS	EEE	EC-SE	3	0	0	3	NIL
3	34625AES05	ARTIFICIAL NEURAL NETWORKS IN POWER AND CONTROL SYSTEMS	EEE	EC-SE	3	0	0	3	NIL
4	34625AES06	DEEP LEARNING FOR SMART GRID AND ELECTRICAL APPLICATIONS	EEE	EC-SE	3	0	0	3	NIL
5	35025AES07	MACHINE LEARNING ALGORITHMS	CSE	EC-SE	3	0	0	3	NIL
6	35025AES08	OPTIMIZATION FOR MACHINE LEARNING	CSE	EC-SE	3	0	0	3	NIL
7	34625AES02	APPLICATIONS OF AI AND ML IN ELECTRICAL ENGINEERING	EEE	EC-SE	3	0	0	3	NIL
8	34625AES03	APPLICATIONS OF AI AND ML IN INDUSTRY	EEE	EC-SE	3	0	0	3	NIL
9	35025AES81	ARTIFICIAL INTELLIGENCE LAB USING PYTHON	CSE	EC-SE	0	0	4	2	NIL
10	34625AES82	MACHINE LEARNING LABORATORY	EEE	EC-SE	0	0	4	2	NIL

Industry Designed / Industry Supported / Industry Offered / Industry Sponsored Courses – Credits(3- 9)									
SL. NO	COURSE CODE	COURSE	OFFERING INDUSTRY	CATEGORY	L	T	P	C	PREREQUISITE
1.	34125I04	BUSINESS INTELLIGENCE AND ITS APPLICATIONS	INFOSYS	EC-IE	3	0	0	3	NIL
2.	34125I20	LEARNING IT ESSENTIALS BY DOING	INFOSYS	EC-IE	3	0	0	3	NIL
3	34125I03	BUILDING ENTERPRISE APPLICATIONS	INFOSYS	EC-IE	3	0	0	3	NIL

Vocational Skill Development Courses- Credits (2)									
SL. NO	COURSE CODE	COURSE	OFFERING DEPT.	CATEGORY	L	T	P	C	PREREQUISITE
1	34625V82	EV CHARGING STATION BUSINESS	EEE	EC-VSD	0	0	2	1	NIL
2	34625V84	SOLAR PANEL INSTALLATION	EEE	EC-VSD	0	0	2	1	NIL
3	34625V83	LIGHTING SYSTEM DESIGN USING SOFTWARE	EEE	EC-VSD	0	0	2	1	NIL
4	34625V81	ELECTRICAL WIRING AND MAINTENANCE	EEE	EC-VSD	0	0	2	1	NIL

Open Electives									
Electives Innovation, Entrepreneurship, Skill Development etc. - Credits(3- 9)									
SL. NO	COURSE CODE	COURSE	OFFERING DEPT.	CATEGORY	L	T	P	C	PREREQUISITE
1.	34125005	CREATIVITY AND INNOVATION MANAGEMENT	MANAG	OE-IE	3	0	0	3	NIL
2.	34125008	INTELLECTUAL PROPERTY RIGHTS	MANAG	OE-IE	3	0	0	3	NIL
3.	34125009	PRODUCT DESIGN & DEVELOPMENT	MANAG	OE-IE	3	0	0	3	NIL
4	34125007	ENTREPRENEURSHIP AND NEW VENTURE CREATION	MANAG	OE-IE	3	0	0	3	NIL

Interdepartmental Open Electives, Management courses- Credits (3- 9)									
SL. NO	COURSE CODE	COURSE	OFFERING DEPT.	CATEGORY	L	T	P	C	PREREQUISITE
1	35325003	TELE HEALTH TECHNOLOGY	BME	OE-EA	3	0	0	3	NIL
2	35325002	FUNDAMENTALS OF BIOMEDICAL ENGINEERING	BME	OE-EA	3	0	0	3	NIL
3	35325001	BODY AREA NETWORKS	BME	OE-EA	3	0	0	3	NIL
4	38125001	BIOFERTILIZER TECHNOLOGY	BTE	OE-EA	3	0	0	3	NIL
5	38125002	FOOD SCIENCE AND INDUSTRY 4.0	BTE	OE-EA	3	0	0	3	NIL
6	38125003	INTRODUCTION TO BIOFUELS	BTE	OE-EA	3	0	0	3	NIL
7	34225002	INDUSTRIAL PLANT DESIGN & ENGINEERING	CIVIL	OE-EA	3	0	0	3	NIL
8	34225003	SUSTAINABLE WASTE MANAGEMENT PRACTICES	CIVIL	OE-EA	3	0	0	3	NIL
9	34225001	DISASTER MANAGEMENT AND MITIGATION STRATEGIES	CIVIL	OE-EA	3	0	0	3	NIL
10	35025001	CYBER SECURITY	CSE	OE-EA	3	0	0	3	NIL
11	35025003	FUNDAMENTALS OF MACHINE LEARNING	CSE	OE-EA	3	0	0	3	NIL
12	35025002	DATA SCIENCE FOR PROFESSIONALS	CSE	OE-EA	3	0	0	3	NIL
13	34725002	DIGITAL IMAGE PROCESSING & PATTERN GENERATION	ECE	OE-EA	3	0	0	3	NIL
14	34725004	PRINCIPLES OF RADAR AND SATELLITE COMMUNICATION	ECE	OE-EA	3	0	0	3	NIL
15	34725003	EVOLUTION OF MOBILE COMMUNICATION: 1G TO 5G	ECE	OE-EA	3	0	0	3	NIL
16	34425001	3DPRINTING AND ITS APPLICATIONS	MECH	OE-EA	3	0	0	3	NIL

17	34425002	ENERGY HARVESTING AND RENEWABLE ENERGY SYSTEMS	MECH	OE-EA	3	0	0	3	NIL
18	34425003	INDUSTRIAL ROBOTICS	MECH	OE-EA	3	0	0	3	NIL
19	36925003	FUNCTIONAL FOODS AND NUTRACEUTICALS	PE	OE-EA	3	0	0	3	NIL
20	36925001	BIOMOLECULES	PE	OE-EA	3	0	0	3	NIL
21	36925002	BIOPHARMACEUTICS	PE	OE-EA	3	0	0	3	NIL
22	34125002	TOTAL QUALITY MANAGEMENT	MANAG	OE-EA	3	0	0	3	NIL
23	34125001	ENGINEERING MANAGEMENT AND ETHICS	MANAG	OE-EA	3	0	0	3	NIL
24	34125003	MANAGEMENT PRINCIPLES FOR ENGINEERS	MANAG	OE-EA	3	0	0	3	NIL

University Multidisciplinary Open Electives- Credits (1)									
SL. NO	COURSE CODE	COURSE	OFFERING DEPT.	CATEGORY	L	T	P	C	PREREQUISITE
1	40625U01	DENTAL HYGIENE & QUALITY OF LIFE	DENTISTRY	OE -UOE	1	0	0	1	NIL
2	40625U02	NUTRITION FOR WELLNESS & SPECIFIC DISEASES	NURSING	OE -UOE	1	0	0	1	NIL
3	40625U03	FUNDAMENTALS OF HOMOEOPATHY	HOMOEOPATHY	OE -UOE	1	0	0	1	NIL
4	40625U04	ADVERTISING	ARTS & SCIENCE	OE -UOE	1	0	0	1	NIL
5	40625U05	TEAMWORK & COLLABORATION	ARTS & SCIENCE	OE -UOE	1	0	0	1	NIL
6	40625U06	EMOTIONAL INTELLIGENCE	ARTS & SCIENCE	OE -UOE	1	0	0	1	NIL
7	40625U07	MEDIA MANAGEMENT	ARTS & SCIENCE	OE -UOE	1	0	0	1	NIL
8	40625U08	EXERCISE ESSENTIALS FOR PHYSICAL FITNESS	PHYSIOTHERAPY	OE -UOE	1	0	0	1	NIL
9	40625U09	ESSENTIAL SKILLS FOR MEDICAL EMERGENCIES	MEDICINE	OE -UOE	1	0	0	1	NIL
10	40625U10	MEDICINE PLANTS IN DISEASE MANAGEMENT	PHARMACY	OE -UOE	1	0	0	1	NIL
11	40625U11	BASIC LIFE SUPPORT	ALLIED HEALTH SCIENCES	OE -UOE	1	0	0	1	NIL
12	40625U12	MALLARKHAMBAM	PHYSICAL EDUCATION	OE -UOE	0	0	2	1	NIL
13	40625U13	SILAMBAM	PHYSICAL EDUCATION	OE -UOE	1	0	2	1	NIL
14	40625U14	BASIC FITNESS TRAINING	PHYSICAL EDUCATION	OE -UOE	1	0	2	1	NIL
15	40625U15	RECREATIONAL GAMES	PHYSICAL EDUCATION	OE -UOE	1	0	2	1	NIL
16	40625U16	INTRODUCTION TO LAW	LAW	OE -UOE	1	0	0	1	NIL
17	40625U17	FUNDAMENTALS OF LAW IN TECHNOLOGY AND CYBERSPACE	LAW	OE -UOE	1	0	0	1	NIL

18	40625U18	FOUNDATION COURSE IN YOGA	REHABILITATION AND BEHAVIORAL SCIENCES	OE -UOE	1	0	0	1	NIL
19	40625U19	INTRODUCTION TO PSYCHOLOGY	REHABILITATION AND BEHAVIORAL SCIENCES	OE -UOE	1	0	0	1	NIL
20	40625U20	INTRODUCTION TO PUBLIC POLICY AND GOVERNANCE	LIBERAL ARTS	OE -UOE	1	0	0	1	NIL
21	40625U21	INDIAN ECONOMY AND DEVELOPMENT CHALLENGES	LIBERAL ARTS	OE -UOE	1	0	0	1	NIL
22		ANY SWAYAM / MOOC/ NPTEL COURSES WHICH ARE NOT RELATED TO THE DISCIPLINE OF STUDY OF THE STUDENT CAN BE CHOSEN AS AN OPEN ELECTIVE IN CONSULTATION WITH THE RESPECTIVE FACULTY ADVISOR OF THE INSTITUTION.	EEE	OE -UOE	1	0	0	1	NIL

D. Indian Knowledge System- Credits(2)

SL. NO	COURSE CODE	COURSE	OFFERING DEPT.	CATEGORY	L	T	P	C	PREREQUISITE
1.	34625K01	INDIAN KNOWLEDGE SYSTEM	ENG	IKS	2	0	0	2	NIL

E. Design Thinking – Credit (1)

SL. NO	COURSE CODE	COURSE	OFFERING DEPT.	CATEGORY	L	T	P	C	PREREQUISITE
1	34625D01	DESIGN THINKING AND ADVANCED PROBLEM SOLVING	HCL	DT	1	0	0	1	NIL

F. Courses for Presentation of technical Skills related to the specialization

Project work, Seminar and Internship in Industry or elsewhere -Credits (14)

SL. NO	COURSE CODE	COURSE	OFFERING DEPT.	CATEGORY	L	T	P	C	PREREQUISITE
1	34625R01	PROJECTWORK	EEE	PI-P	0	0	16	8	NIL
2	34625M01	MINI PROJECT	EEE	PI-M	0	0	6	3	NIL
3	34625T01	INTERNSHIP	EEE	PI-I	3 Weeks			3	NIL

**G.MANDATORY COURSES
(NOT INCLUDED FOR CGPA CALCULATIONS - Credits (5))**

SL. NO	COURSE CODE	COURSE	OFFERING DEPT.	CATEGORY	L	T	P	C	PREREQUISITE
1.	34625Z82	RESEARCHMETHODOLOGY	EEE	MC	0	0	2	1	NIL
2	34125Z01	ENVIRONMENTALSCIENCES	CHEM	MC	0	0	2	1	NIL
3	34625Z01	IDEALAB	EEE	MC	0	0	2	1	NIL
4	34125Z81	INDIANCONSTITUTION	LAW	MC	0	0	2	1	NIL
5	34125Z82	YOGAANDMEDITATION	PHED	MC	0	0	2	1	NIL
6	34125Z84	NCC	GEN	MC	0	0	2	1	NIL
7	34125Z85	NSS	GEN	MC	0	0	2	1	NIL
8	34125Z86	RRC	GEN	MC	0	0	2	1	NIL
9	34125Z90	YRC	GEN	MC	0	0	2	1	NIL
10	34125Z87	STUDENTCLUBS	GEN	MC	0	0	2	1	NIL
11	34125Z89	UNNATBHARATABHIYAN/	GEN	MC	0	0	2	1	NIL
12	34125Z88	SWACHH BHARAT	GEN	MC	0	0	2	1	NIL
13	34125Z83	SPORTS AND GAMES	GEN	MC	0	0	2	1	NIL

INDUSTRY INTEGRATED COURSES

SL. NO	COURSE CODE	COURSE	OFFERING DEPT.	CATEGORY	L	T	P	C	PREREQUISITE
INTEL- NEC-ARTIFICIAL INTELLIGENCE & MACHINE LEARNING									
1	I37025E01	FUNDAMENTALS OF C PROGRAMMING USING INTEL LIBRARIES (THEORY AND PRACTICALS)	CSE / INTEL - NEC	FC-ES	3	0	2	4	NIL
2	I35025E06	PYTHON PROGRAMMING AND RASPBERRY PI FUNDAMENTALS (THEORY AND PRACTICALS)	CSE / INTEL - NEC	FC-ES	3	0	2	4	NIL
3	I35025P29	FOUNDATION OF ARTIFICIAL INTELLIGENCE (THEORY AND PRACTICALS)	CSE / INTEL - NEC	EC-PS	3	0	2	4	NIL
4	I35025P37	MACHINE INTELLIGENCE: UNLEASHING THE POWER OF LEARNING SYSTEMS (THEORY AND PRACTICALS)	CSE / INTEL - NEC	EC-PS	3	0	2	4	NIL
5	I35025P23	DEEP LEARNING TECHNIQUES (THEORY AND PRACTICALS)	CSE / INTEL - NEC	EC-PS	3	0	2	4	NIL
6	I35025I21	HIGH PERFORMANCE COMPUTING (THEORY AND PRACTICALS)	CSE / INTEL - NEC	EC-IE	3	0	2	4	NIL
7	I35025I04	APPLIED AI AND IOT (THEORY AND PRACTICALS)	CSE / INTEL - NEC	EC-IE	3	0	2	4	NIL
INTEL - NEC - CYBER SECURITY									
1	I37025E01	FUNDAMENTALS OF C PROGRAMMING USING INTEL LIBRARIES (THEORY AND PRACTICALS)	CSE / INTEL - NEC	FC-ES	3	0	2	4	NIL
2	I35025E06	PYTHON PROGRAMMING AND RASPBERRY PI FUNDAMENTALS (THEORY AND PRACTICALS)	CSE / INTEL - NEC	FC-ES	3	0	2	4	NIL
3	I35025P16	CYBER SECURITY TOOLS (THEORY AND PRACTICALS)	CSE / INTEL - NEC	EC-PS	3	0	2	4	NIL
4	I35025P28	ETHICAL HACKING TECHNIQUES (THEORY AND PRACTICALS)	CSE / INTEL - NEC	EC-PS	3	0	2	4	NIL
5	I35025P12	CRYPTOGRAPHY TECHNIQUES (THEORY AND PRACTICALS)	CSE / INTEL - NEC	EC-PS	3	0	2	4	NIL
6	I35025I26	SECURE NETWORKING AND INFRASTRUCTURE (THEORY AND PRACTICALS)	CSE / INTEL - NEC	EC-IE	3	0	2	4	NIL
7	I35025I10	CYBER SECURITY IN PUBLIC CLOUD PLATFORMS (THEORY AND PRACTICALS)	CSE / INTEL - NEC	EC-IE	3	0	2	4	NIL

INTEL – NEC – INTERNET OF THINGS

1	I37025E01	FUNDAMENTALS OF C PROGRAMMING USING INTEL LIBRARIES (THEORY AND PRACTICALS)	CSE / INTEL - NEC	FC-ES	3	0	2	4	NIL
2	I35025E06	PYTHON PROGRAMMING AND RASPBERRY PI FUNDAMENTALS (THEORY AND PRACTICALS)	CSE / INTEL - NEC	FC-ES	3	0	2	4	NIL
3	I35025P08	BUILDING INTERNET OF THINGS (THEORY AND PRACTICALS)	CSE / INTEL - NEC	EC-PS	3	0	2	4	NIL
4	I35025P09	COMMUNICATION PROTOCOLS FOR IOT (THEORY AND PRACTICALS)	CSE / INTEL - NEC	EC-PS	3	0	2	4	NIL
5	I35025P26	EMBEDDED SYSTEM DESIGN (THEORY AND PRACTICALS)	CSE / INTEL - NEC	EC-PS	3	0	2	4	NIL
6	I35025I16	EMBEDDED IOT (THEORY AND PRACTICALS)	CSE / INTEL - NEC	EC-IE	3	0	2	4	NIL
7	I35025I27	SENSOR CONCEPTS AND TECHNIQUES (THEORY AND PRACTICALS)	CSE / INTEL - NEC	EC-IE	3	0	2	4	NIL

HCLTECH – DATA ENGINEERING AND VISUALIZATION

1	I35025P17	DATA ENGINEERING AND PYTHON PROGRAMMING FUNDAMENTALS (THEORY AND PRACTICALS)	CSE / HCLTECH	EC-PS	3	0	2	4	NIL
2	I35025P02	ADVANCED PYTHON LIBRARIES, WORKING WITH SQL AND NOSQL (THEORY AND PRACTICALS)	CSE / HCLTECH	EC-PS	3	0	2	4	NIL
3	I35025P46	DATA WAREHOUSE AND MODELLING (THEORY AND PRACTICALS)	CSE / HCLTECH	EC-PS	3	0	2	4	NIL
4	I35025I12	DATA VISUALIZATION CONCEPTS AND WORKING WITH VISUALIZATION TOOLS (THEORY AND PRACTICALS)	CSE / HCLTECH	EC-IE	3	0	2	4	NIL

HCLTECH – ESSENTIALS OF EMBEDDED AND IOT DEVELOPMENT

1	I35025P35	IOT NETWORKING, DATA MANAGEMENT & SECURITY IN IOT APPLICATIONS (THEORY AND PRACTICALS)	CSE / HCLTECH	EC-PS	3	0	2	4	NIL
2	I35025P27	EMBEDDED SYSTEMS PROGRAMMING USING ARM CORTEX (THEORY AND PRACTICALS)	CSE / HCLTECH	EC-PS	3	0	2	4	NIL
3	I35025P25	EMBEDDED SYSTEM ARCHITECTURE AND PIC PROGRAMMING (THEORY AND PRACTICALS)	CSE / HCLTECH	EC-PS	3	0	2	4	NIL
4	I35025I19	FUNDAMENTALS OF IOT: ARCHITECTURE, HARDWARE & CONNECTIVITY (THEORY AND PRACTICALS)	CSE / HCLTECH	EC-IE	3	0	2	4	NIL

HCLTECH-FULLSTACKJAVADEVELOPMENTWITHAI

1	I35025P07	BASICS OF JAVA, AGILE AND GEN AI (THEORY AND PRACTICALS)	CSE / HCLTECH	EC-PS	3	0	2	4	NIL
2	I35025P31	FRONT- END USER INTERFACE DESIGN AND DEVELOPMENT (THEORY AND PRACTICALS)	CSE / HCLTECH	EC-PS	3	0	2	4	NIL
3	I35025P45	WORKING WITH SPRING FRAMEWORK (THEORY AND PRACTICALS)	CSE / HCLTECH	EC-PS	3	0	2	4	NIL
4	I35025I15	DEVOPS AND ITS TOOLS (THEORY AND PRACTICALS)	CSE / HCLTECH	EC-IE	3	0	2	4	NIL

HCLTECH – FUNDAMENTALS OF AI AND WORK PRODUCTIVITY TOOLS

1	I35025P38	POWER OF TRUCTURED QUESTIONS	CSE / HCLTECH	EC-PS	2	0	0	2	NIL
2	I35025P03	AI AND GEN AI	CSE / HCLTECH	EC-PS	2	0	0	2	NIL
3	I35025P01	ADOPTION OF AI IN CAREERS	CSE / HCLTECH	EC-PS	2	0	0	2	NIL
4	I35025P36	M365 COLLABORATIVE TOOLS	CSE / HCLTECH	EC-PS	2	0	0	2	NIL
5	I35025P44	UNDERSTANDING DATA AND ANALYTICS TOOLS	CSE / HCLTECH	EC-PS	2	0	4	4	NIL
6	I35025I09	CYBER AND DATA SECURITY AT WORK	CSE / HCLTECH	EC-IE	2	0	4	4	NIL

AMTZ

1	I35325P04	MEDICAL EQUIPMENT TROUBLESHOOTING - CRITICAL CARE	BME / AMTZ	EC-SE	3	0	0	3	NIL
2	I35325P05	MEDICAL EQUIPMENT TROUBLESHOOTING - OPERATION THEATER	BME / AMTZ	EC-SE	3	0	0	3	NIL
3	I35325P06	MEDICAL EQUIPMENT TROUBLESHOOTING - RADIOLOGY	BME / AMTZ	EC-SE	3	0	0	3	NIL
4	I35325P01	CLINICAL LABORATORY EQUIPMENT	BME / AMTZ	EC-SE	3	0	0	3	NIL
5	I35325I02	HEALTH CARE SAFETY AND STANDARDS	BME / AMTZ	EC-SE	3	0	0	3	NIL
5	I35325I03	NABH & NABL& JCI ACCREDITATIONS	BME / AMTZ	EC-IE	3	0	0	3	NIL
7	I35325I01	FACILITIES AND GENERAL MANAGEMENT	BME / AMTZ	EC-IE	3	0	0	3	NIL

EXPERIENTIAL TECHNOLOGY INNOVATION CENTER (XTIC) AT IITM

1	I35025B01	MATHEMATICS AND PHYSICS FOR XR	CSE / XTIC	FC-BS	3	0	0	3	NIL
2	I37025E02	PROGRAMMING FUNDAMENTALS FOR XR	CSE / XTIC	FC-ES	3	0	0	3	NIL
3	I35025P19	DATA STRUCTURES AND ALGORITHMS FOR XR	CSE / XTIC	EC-SE	3	0	0	3	NIL
4	I35025P11	COMPUTER VISION, IOT, ROBOTICS	CSE / XTIC	EC-SE	3	0	0	3	NIL
5	I35025P10	COMPUTER GRAPHICS AND 3D MODELING FOR XR	CSE / XTIC	EC-SE	3	0	0	3	NIL
6	I35025P04	AI AND MACHINE LEARNING FOR XR	CSE / XTIC	EC-SE	3	0	0	3	NIL
7	I35025I18	FOUNDATION OF VIRTUAL REALITY	CSE / XTIC	EC-SE	3	0	0	3	NIL
8	I35025I22	HUMAN COMPUTER INTERACTION FOR XR	CSE / XTIC	EC-IE	3	0	0	3	NIL
9	I35025I20	INTRODUCTION TO GAME DESIGN THINKING IN XR	CSE / XTIC	EC-IE	3	0	0	3	NIL
10	I35025R02	CAPSTONE PROJECT WORK	CSE / XTIC	PI-P	0	0	16	8	NIL

MICRO CREDENTIAL COURSES

1	34625J85	RPTO (REMOTE PILOT TRAINING ORGANIZATION) LICENSE-DRONE PILOT LICENSE	EEE	MCC	0	0	2	1	NIL
2	34625J84	MATLAB OR SIMULINK BASICS	EEE	MCC	0	0	4	2	NIL
3	34625J83	LEAN STARTUP & BUSINESS MODEL CANVAS	EEE	MCC	0	0	2	1	NIL
4	34625J82	EXCEL FOR ENGINEERS : DATA HANDLING & VISUALIZATION	EEE	MCC	0	0	2	1	NIL
5	34625J81	ENTREPRENEURSHIP & STARTUP FUNDAMENTALS	EEE	MCC	0	0	2	1	NIL

SKILL DEVELOPMENT COURSES

1	34625S84	PLC PROGRAMMING	EEE	SDC	0	0	2	2	NIL
2	34625S81	DESIGN METHODOLOGY OF DRONE	EEE	SDC	0	0	2	2	NIL
3	34625S85	SOLAR TECHNICIAN AND INSTALLATION TRAINING	EEE	SDC	0	0	2	2	NIL
4	34625S82	ELECTRICAL COMPUTER - AIDED DESIGN (E-CAD)	EEE	SDC	0	0	2	2	NIL
5	34625S83	LIGHTING SYSTEM DESIGN USING HOMERPRO	EEE	SDC	0	0	2	2	NIL

MINOR DEGREE PROGRAMMES (18-20)

SOLAR AND ALTERNATE ENERGY

1	34625G08	NEW AND RENEWABLE ENERGY SOURCES AND ITS APPLICATIONS	EEE	MIN	3	0	0	3	NIL
2	34625G12	SOLAR COLLECTORS AND THERMAL ENERGY CONVERSION	EEE	MIN	3	0	0	3	NIL
3	34625G04	ENERGY CONSERVATION AND ENERGY EFFICIENCY	EEE	MIN	3	0	0	3	NIL
4	34625G01	APPLICATIONS OF GREEN BUILDING TECHNOLOGIES	EEE	MIN	3	0	0	3	NIL
5	34625G02	CONVENTIONAL ENERGY TECHNOLOGIES	EEE	MIN	3	0	0	3	NIL
6	34625G81	SOLAR ENERGY LAB	EEE	MIN	0	0	4	2	NIL
7	34625G82	WIND ENERGY LAB	EEE	MIN	0	0	4	2	NIL

INDUSTRIAL AUTOMATION									
1	34625G11	SENSORS & ACTUATORS	EEE	MIN	3	0	0	3	N
2	34625G09	PLC& ITS APPLICATIONS	EEE	MIN	3	0	0	3	N
3	34625G05	INDUSTRIAL AUTOMATION & CONTROL	EEE	MIN	3	0	0	3	N
4	34625G03	DIGITAL TWIN FOR PROCESS INDUSTRY	EEE	MIN	3	0	0	3	N
5	34625G06	INDUSTRIAL INTERNET OF THINGS	EEE	MIN	3	0	0	3	N
6	34625G07	MICRO-MECHANICAL SYSTEMS	EEE	MIN	3	0	0	3	N
7	34625G10	PROCESS CONTROL DESIGN	EEE	MIN	3	0	0	3	N

HONORS DEGREE PROGRAMMES (18-20)									
AUTOMOTIVE SYSTEMS									
1	34625A08	FUNDAMENTALS OF AUTOMOTIVE SYSTEMS	EEE	HON	3	0	0	3	NIL
2	34625A20	VEHICULAR NETWORKS AND COMMUNICATION	EEE	HON	3	0	0	3	NIL
3	34625A07	E-MOBILITY BUSINESS AND POLICIES	EEE	HON	3	0	0	3	NIL
4	34625A02	AUTOMOTIVE ELECTRONICS	EEE	HON	3	0	0	3	NIL
5	34625A01	AUTOMOTIVE CONTROL SYSTEMS	EEE	HON	3	0	0	3	NIL
6	34625A19	VEHICLE DYNAMICS AND CONTROL	EEE	HON	3	0	0	3	NIL
INDUSTRIAL AUTOMATION									
1	34625A15	SENSORS & ACTUATORS	EEE	HON	3	0	0	3	NIL
2	34625A12	PLC & ITS APPLICATIONS	EEE	HON	3	0	0	3	NIL
3	34625A09	INDUSTRIAL AUTOMATION & CONTROL	EEE	HON	3	0	0	3	NIL
4	34625A04	DIGITAL TWIN FOR PROCESS INDUSTRY	EEE	HON	3	0	0	3	NIL
5	34625A10	INDUSTRIAL INTERNET OF THINGS	EEE	HON	3	0	0	3	NIL
6	34625A11	MICRO – MECHANICAL SYSTEMS	EEE	HON	3	0	0	3	NIL
7	34625A13	PROCESS CONTROL DESIGN	EEE	HON	3	0	0	3	NIL

SMARTGRID TECHNOLOGIES

1	34625A06	ELEMENTS OF SMART GRID SYSTEM	EEE	HON	3	0	0	3	NIL
2	34625A05	DYNAMICS OF RENEWABLE ENERGY RESOURCES	EEE	HON	3	0	0	3	NIL
3	34625A18	SMART GRID PROTECTION	EEE	HON	3	0	0	3	NIL
4	34625A16	SMART GRID COMMUNICATIONS AND PROTOCOLS	EEE	HON	3	0	0	3	NIL
5	34625A17	SMART GRID PLANNING AND OPERATION	EEE	HON	3	0	0	3	NIL
6	34625A03	DEREGULATED SMART GRIDS	EEE	HON	3	0	0	3	NIL
7	34625A14	SCADA SYSTEM AND APPLICATIONS	EEE	HON	3	0	0	3	NIL

