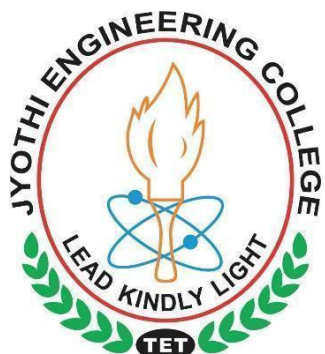


Reaccredited with NAAC (Grade A) and
NBA Programmes* (*CE, CS, EC, EE, ME, MR)
Jyothi Hills, P. O. Vettikkattiri, Cheruthuruthy
Thrissur, Kerala, India, 679531
04884 259000 | info@jecc.ac.in | www.jecc.ac.in

A Centre of Excellence in Science and Technology by the Catholic Archdiocese of Trichur

B. TECH CURRICULUM - 2026



(AUTONOMOUS)
CREATING TECHNOLOGY
LEADERS OF TOMORROW
ESTD 2002

Semester I to VIII

Department of
Artificial Intelligence and Data Science
Branch Code: AD

Recommended by BoS on 05/11/2025

Approved by Academic Council on 27/11/2025

(Reference: JEC/AD/2025/BoS/MOM/-02,

JEC/2025/AC/MOM/02/AC/02/A2)

CONTENTS

Sl. No.	Contents	Page No.
1	List of Abbreviations	3
2	Vision & Mission -Institution	4
3	Vision & Mission - Department	5
4	Programme Educational Objectives	6
5	Programme Specific Outcomes	6
6	Programme Outcomes	7
7	Knowledge and Attitude profile	8
8	Cumulative Credits	9
9	Credit Assignment	9
10	Credit Distribution	9
11	Course Category and Credit Distribution	10
12	Course Types and Assessment Pattern Modes	10
13	Semester Wise Subjects	11
14	Appendix - Course Category	15

LIST OF ABBREVIATIONS

L	Lecture hours per week
T	Tutorial hours per week
P	Practical hours per week
H	Hands on project per week
S	Self-learning hours per week
PO	Programme Outcome
PSO	Programme Specific Outcome
PEO	Programme Educational Objective
WK	Knowledge and Attitude Profile
BS	Basic Science Courses
ES	Engineering Science Courses
HM	Humanities, Social Science and Management Courses
PC	Programme Core Courses
PE	Programme Elective Courses
PI	Project Work/Seminar/ Internship
SE	Skill Enhancement Courses
IK	Indian Knowledge System
HW	Health and Wellness
SA	Student Activities
TC	Theory Course
PL	Practical Course
TP	Theory Course Embedded with Practical
PB	Theory Course Embedded with Micro projects
PT	Project
PI	Internship
SR	Seminar
SE	Skill Enhancement Courses.

VISION & MISSION OF THE INSTITUTION

VISION: To be a global leader in education, nurturing ethical professionals, fostering holistic excellence and sustainable societal impact.

MISSION

- **M1** - Excellence in Education: Provide outcome-based and industry-relevant education that builds technical competence, innovation, and lifelong learning.
- **M2** - Ethics and Values: Inspire integrity, empathy, and social responsibility to develop ethical and service-oriented professionals.
- **M3** - Research, Innovation, and Entrepreneurship: Encourage creativity, research, and entrepreneurship for sustainable technological and economic growth.
- **M4** - Holistic and Global Development: Promote all-round development, leadership, and global competence through collaboration and community engagement.

VISION & MISSION OF THE DEPARTMENT

VISION: To be a global leader in Artificial Intelligence and Data Science by nurturing ethical professionals who practice responsible AI and create innovative, sustainable, and socially impactful solutions.

MISSION

- **M1** – Excellence in Education: Provide quality education in AI & Data Science through innovative teaching, experiential learning and industry collaboration.
- **M2** – Ethics and Values: Inspire integrity, empathy, and responsible AI practices to develop ethical and socially responsible data professionals.
- **M3** – Research, Innovation, and Entrepreneurship: Foster research, innovation, and entrepreneurship in AI and intelligent data systems for sustainable technological and economic growth.
- **M4** – Holistic and Global Development: Promote holistic development, leadership, and global competence through interdisciplinary collaboration and community engagement.

PROGRAMME EDUCATIONAL OBJECTIVES

PEO 1	Graduates will excel in AI, machine learning, and data science roles, applying computing, mathematical, and statistical foundations to responsibly solve real-world problems.
PEO 2	Graduates will innovate and lead ethically, contributing to entrepreneurship, research, and sustainable societal development through multidisciplinary teamwork.
PEO 3	Graduates will adapt to evolving technologies through lifelong learning, global exposure, and continuous professional growth.

PROGRAMME SPECIFIC OUTCOMES

PSO 1	Graduates will be able to integrate knowledge of science, engineering, and mathematics to build AI-based solutions for real world challenges.
PSO 2	Graduates will be able to develop scalable and efficient algorithms and intelligent systems using contemporary as well as modern programming languages, data structures, cloud computing, and data engineering technologies.
PSO 3	Graduates will be able to Integrate ethical, social, and security considerations to ensure responsible and sustainable AI deployment.

PROGRAMME OUTCOMES

PO1	Engineering Knowledge: Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop the solution of complex engineering problems
PO2	Problem Analysis: Identify, formulate review research literature and analyse complex engineering problems reaching substantiated conclusions with consideration for sustainable development. (WK1 to WK4)
PO3	Design/Development of Solutions: Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required. (WK5)
PO4	Conduct Investigations of Complex Problems: Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. (WK8)
PO5	Engineering Tool Usage: Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems. (WK2 and WK6)
PO6	The Engineer and The World: Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment. (WK1, WK5, and WK7)
PO7	Ethics: Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws. (WK9)
PO8	Individual and Collaborative Team work: Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.
PO9	Communication: Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences
PO10	Project Management and Finance: Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.
PO11	Life-Long Learning: Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change. (WK8)

KNOWLEDGE AND ATTITUDE PROFILE (WK)

WK1	A systematic, theory-based understanding of the natural sciences applicable to the discipline and awareness of relevant social sciences.
WK2	Conceptually based mathematics, numerical analysis, data analysis, statistics and formal aspects of computer and information science to support detailed analysis and modelling applicable to the discipline.
WK3	A systematic, theory-based formulation of engineering fundamentals required in the engineering discipline.
WK4	Engineering specialist knowledge that provides theoretical frameworks and bodies of knowledge for the accepted practice areas in the engineering discipline; much is at the forefront of the discipline.
WK5	Knowledge, including efficient resource use, environmental impacts, whole-life cost, re-use of resources, net zero carbon, and similar concepts, that supports engineering design and operations in a practice area.
WK6	Knowledge of engineering practice (technology) in the practice areas in the engineering discipline.
WK7	Knowledge of the role of engineering in society and identified issues in engineering practice in the discipline, such as the professional responsibility of an engineer to public safety and sustainable development.
WK8	Engagement with selected knowledge in the current research literature of the discipline, awareness of the power of critical thinking and creative approaches to evaluate emerging issues.
WK9	Ethics, inclusive behaviour and conduct. Knowledge of professional ethics, responsibilities, and norms of engineering practice. Awareness of the need for diversity by reason of ethnicity, gender, age, physical ability etc. with mutual understanding and respect, and of inclusive attitudes.

CUMULATIVE CREDITS

Cumulative credits for the entire B. Tech program is 170 credits

CREDIT ASSIGNMENT

[Ref: National Credit Framework – Sept 2022]

Course Delivery	Code	Hours per Week	Credit
Lecture	L	1	1
Tutorial	T	1	1
Practical	P	2	1
Hands on Project	H	3/4	1

CREDIT DISTRIBUTION: YEAR/SEMESTER WISE

Year	ODD Semester	Even Semester	Total credit
First	20	22	42
Second	25	24	49
Third	23	23	46
Fourth	18	12	30
Academic Credits			167
Student Activities			3
B Tech			170
B Tech with Honours			185
B Tech with Minor			185
B Tech with Minor and Honours			200

COURSE CATEGORY AND CREDIT DISTRIBUTION

Sl.	Course Category	Nomenclature	Credits	Number of Courses
1	Basic Science Courses	BS	21	6
2	Engineering Science Courses	ES	28	8
3	Humanities, Social Science and Management	HM	10	6
4	Programme Core Courses	PC	61	21
5	Programme Elective Courses	PE	20	6
6	Open Elective Courses/Industry Linked Elective Courses.	OE/IE	8	3
7	Project Work/Seminar/ Internship	PI	13	3
8	Skill Enhancement Courses	SE	3	3
9	Indian Knowledge System	IK	2	1
10	Health and Wellness	HW	1	1
11	Student Activities	SA	3	-
Total			170	58

COURSE TYPES AND ASSESSMENT PATTERN

Course Type	Nomenclature	Credits	Assessment pattern		
			CIE	ESE	Total
Workshop	PL	1	100	NA	100
Theory Course	TC	1/2/3/4	40	60	100
Lab Course	PL	2	50	50	100
Theory + Practical	TP	4	60	40	100
Theory + Project	PB	4	60	40	100
Project	PT	3,4	50	50	100
Seminar	SR	2	100	NA	100
Skill Enhancement Courses.	SE	1	100	NA	100

SEMESTER I

Sl.	Slot	Course Code	Course Category	Course Type	Course Title	Hours/Week					Credits	Total Marks		Total
						L	T	P	H	S		CIE	ESE	
1	A	J1BST111	BS	TC	Multivariable Calculus	3	0	0	0	4.5	3	40	60	100
2	B	J1BSP212	BS	TP	Chemistry for Engineers	3	0	2	0	5.5	4	60	40	100
3	C	J1EST103	ES	TC	Programming in C	3	1	0	0	5	4	40	60	100
4	D	J1ESP104	ES	TP	Engineering Graphics and Computer Aided Drawing.	2	0	2	0	4	3	60	40	100
5	E	J1ESP105	ES	TP	Fundamentals of Electrical and Electronics Engineering	3	0	2	0	5.5	4	60	40	100
6	F	J1HWP126/ J1HMP126	HW/ HM	TP	Health and Wellness/Life Skills and Professional Communication	1	0	1	0	2	1	100	-	100
7	J	J1ESL117	ES	PL	Programming in C Workshop	0	0	2	0	1	1	100	-	100
8	S	J1SET109	SE	TP	Skill Enhancement Course	0	0	0	0	2	-			-
Total						15	1	9	0	29.5	20			700

SEMESTER II

Sl.	Slot	Course Code	Course Category	Course Type	Course Title	Hours/Week					Credits	Total Marks		Total
						L	T	P	H	S		CIE	ESE	
1	A	J1BST211	BS	TC	Applied Linear Algebra for Computing	3	0	0	0	4.5	3	40	60	100
2	B	J1BSP112	BS	TP	Physics for Information Science	3	0	2	0	5.5	4	60	40	100
3	C	J1EST223	ES	TC	Programming in Python	3	0	0	0	4.5	3	40	60	100
4	D	J1ESP224	ES	TP	Foundations of Computing: Hardware to Web Design	3	0	2	0	5.5	4	60	40	100
5	E	J1EST205	ES	TC	Engineering Entrepreneurship & IPR	2	0	0	0	3	2	40	60	100
6	F	J1HWP126 /J1HMP126	HW/ HM	TP	Health and Wellness/Life Skills and Professional Communication	1	0	1	0	2	1	100	-	100
7	G	J1CST207	PC	TC	Discrete Mathematical Structures	2	1	0	0	3.5	3	40	60	100
8	J	J1ESL228	ES	PL	Programming in Python Workshop	0	0	2	0	1	1	100	-	100
9	S	J1SET109	SE	TP	Skill Enhancement Course	0	0	0	0	2	1	-	-	-
Total						16	1	7	0	31.5	22			800

SEMESTER III

Sl.	Slot	Course Code	Course Category	Course Type	Course Title	Hours/Week					Credits	Total Marks		Total
						L	T	P	H	S		CIE	ESE	
1	A	J1BST311	BS	TC	Probability and Stochastic Processes	3	0	0	0	4.5	3	40	60	100
2	B	J1CST302	PC	TC	Data Structures and Algorithms	3	1	0	0	5	4	40	60	100
3	C	J1ADZ303	PC	PB	Introduction to Data Science	3	0	0	2	6.5	4	60	40	100
4	D	J1ESP304	ES	TP	Logic Circuits & System Design	3	0	2	0	5.5	4	60	40	100
5	E	J1ADT305	PC	TC	Foundations of Artificial Intelligence	2	1	0	0	5	3	40	60	100
6	F	J1HMT346 /J1HMT436	HM	TC	Economics for Engineers / Engineering Ethics and Sustainable Development	2	0	0	0	3	2	40	60	100
7	J	J1CSL307	PC	PL	Data Structures Lab	0	0	3	0	1.5	2	50	50	100
8	K	J1ADL308	PC	PL	AI & Data Science Lab	0	0	3	0	1.5	2	50	50	100
9	S	J1SET3N9	SE	TP/TC	Skill Enhancement Course	1	0	0	0	1.5	1	100	-	100
Total						17	2	8	2	34	25			900

SEMESTER IV

Sl.	Slot	Course Code	Course Category	Course Type	Course Title	Hours/Week					Credits	Total Marks		Total
						L	T	P	H	S		CIE	ESE	
1	A	J1CST401	PC	TC	Operating Systems	2	1	0	0	5	3	40	60	100
2	B	J1ADT402	PC	TC	Machine Learning Concepts and Techniques	2	1	0	0	5	3	40	60	100
3	C	J1ADZ403	PC	PB	Database Management Systems	3	0	0	2	6.5	4	60	40	100
4	D	J1BSP414	BS	TP	Graph Theory and Network Algorithms	3	0	2	0	5.5	4	60	40	100
5	E	J1ADT4N5	PE	TC	Programme Elective -1	3	0	0	0	4.5	3	40	60	100
6	F	J1HMT346/ J1HMT436	HM	TC	Economics for Engineers / Engineering Ethics and Sustainable Development	2	0	0	0	3	2	40	60	100
7	J	J1ADL407	PC	PL	Machine Learning Lab	0	0	3	0	1.5	2	50	50	100
8	K	J1CSL408	PC	PL	DBMS Lab	0	0	3	0	1.5	2	50	50	100
9	S	J1SET4N9	SE	TC/TP	Skill Enhancement Course	1	0	0	0	1.5	1	100	-	100
Total						16	2	8	2	34	2			900

SEMESTER

Sl.	Slot	Course Code	Course Category	Course Type	Course Title	Hours/Week					Credits	Total Marks		Total
						L	T	P	H	S		CIE	ESE	
1	A	J1ADT501	PC	TC	Natural Language Processing	2	1	0	0	5	3	40	60	100
2	B	J1ADT502	PC	TC	Robotics and Intelligent Systems	2	1	0	0	5	3	40	60	100
3	C	J1ADZ503	PC	PB	Pattern Recognition	3	0	0	2	6.5	4	60	40	100
4	D	J1ADT504	PC	TC	Big Data Analytics	3	0	0	0	4.5	3	40	60	100
5	E	J1ADP5N5	PE	TP	Programme Elective-2	3	0	2	0	5.5	4	60	40	100
6	F	J1IKT5N6	IK	TC	Indian Knowledge System	2	0	0	0	3	2	40	60	100
7	J	J1ADL507	PC	PL	Robotics Lab	0	0	3	0	1.5	2	50	50	100
8	K	J1ADL508	PC	PL	Data Analytics Lab	0	0	3	0	1.5	2	50	50	100
Total						15	2	8	2	31.5	23			800

SEMESTER VI

Sl.	Slot	Course Code	Course Category	Course Type	Course Title	Hours/week					Credits	Total Marks		Total
						L	T	P	H	S		CIE	ESE	
1	A	J1ADT601	PC	TC	Deep Learning	2	1	0	0	5	3	40	60	100
2	B	J1ADT602	PC	TC	Internet of Things	2	1	0	0	5	3	40	60	100
3	C	J1EST6N3	ES	TC	Design Thinking and Product Development	2	0	0	0	3	2	40	60	100
4	D	J1ADP604	PC	TP	Business Analytics	3	0	2	0	5.5	4	60	40	100
5	E	J1ADZ6N5	PE	PB	Programme Elective -3	3	0	0	2	6.5	4	60	40	100
6	F	J1XXO6N6/ J1XXI6N6	OE/ IE	TC	Open Elective-1 /ILE	2	0	0	0	3	2	40	60	100
7	J	J1ADL607	PC	PL	Deep Learning Lab	0	0	3	0	1.5	2	50	50	100
8	K	J1ADD608	PI	PT	Mini project	0	0	0	6	6	3	50	50	100
Total						14	2	5	8	35.5	23			800

SEMESTER VII														
Sl.	Slot	Course Code	Course Category	Course Type	Course Title	Hours/Week					Credits	Total Marks		Total
						L	T	P	H	S		CIE	ESE	
1	A	J1ADT7N1/ J1ADM7N1	PE	TC	Programme Elective-4/ MOOC/Self-Study	3	0	0	0	4.5	3	40	60	100
2	B	J1ADT7N2/ J1ADM7N2	PE	TC	Programme Elective 5/ MOOC/Self-Study	3	0	0	0	4.5	3	40	60	100
3	C	J1XXO7N3/ J1XXI7N3/ J1XXM7N3	OE	TC	Open Elective-2/ILE/M OOC/Self-Study	3	0	0	0	4.5	3	40	60	100
4	D	J1HMT7N4/ J1HMM7N4	HM	TC	HM-6/ MOOC/Self-	2	0	0	0	3	2	40	60	100
5	E	J1HMT705/ J1HMM7N5	HM	TC	Constitution of India/ MOOC/ Self-Study	1	0	0	0	1.5	1	40	60	100
6	J	J1ADQ706	PI	SR	Seminar	0	0	4	0	2	2	100	-	100
7	K	J1ADD707/ J1INT707	PI	PT	Project/Internship	0	0	0	16	16	4	100	-	100
Total						12	0	4	16	36	18			700

SEMESTER VIII														
Sl .	Slot	Course Code	Course Category	Course Type	Course Title	Hours					Credits	Total Marks		Total
						L	T	P	H	S		CIE	ESE	
1	A	J1ADT8N1/ J1ADM8N1	PE	TC	Programme Elective 6/MOOC/ Self-Study	3	0	0	0	4.5	3	40	60	100
2	B	J1XXO8N2/ J1XXM8N2	OE	TC	Open Elective-3/MOOC Self-Study	3	0	0	0	4.5	3	40	60	100
3	C	J1HMT8N3/ J1XXM8N3	HM	TC	HM-7/MOOC Self Study	2	0	0	0	3	2	40	60	100
4	K	J1ADD804/ J1INT804	PI	PT	Project/ Internship	0	0	0	16	16	4	50	50	100
Total						8	0	0	16	28	12			400

APPENDIX-- COURSE CATEGORY

1.PROGRAMME CORE COURSES

Sl.	Semester	Course Code	Course Name	Course Type	Credits
1	S2	J1CST207	Discrete Mathematical Structures	TC	3
2	S3	J1CST302	Data Structures and Algorithms	TC	4
3	S3	J1ADZ303	Introduction to Data Science	PB	4
4	S3	J1ADT305	Foundations of Artificial Intelligence	TC	3
5	S3	J1CSL307	Data Structures Lab	PL	2
6	S3	J1ADL308	AI & Data Science Lab	PL	2
7	S4	J1CST401	Operating Systems	TC	3
8	S4	J1ADT402	Machine Learning Concepts and Techniques	TC	3
9	S4	J1ADZ403	Database Management Systems	PB	4
10	S4	J1ADL407	Machine Learning Lab	PL	2
11	S4	J1CSL408	DBMS Lab	PL	2
12	S5	J1ADT501	Natural Language Processing	TC	3
13	S5	J1ADT502	Robotics and Intelligent Systems	TC	3
14	S5	J1ADZ503	Pattern Recognition	PB	4
15	S5	J1ADT504	Big Data Analytics	TC	3
16	S5	J1ADL507	Robotics Lab	PL	2
17	S5	J1ADL508	Data Analytics Lab	PL	2
18	S6	J1ADT601	Deep Learning	TC	3
19	S6	J1ADT602	Internet of Things	TC	3
20	S6	J1ADP604	Business Analytics	TP	4
21	S6	J1ADL607	Deep Learning Lab	PL	2
			Total Credits		61

2. PROGRAMME ELECTIVE

2.1 PROGRAMME ELECTIVE-1 (SEMESTER-IV)

Sl.	Slot	Subject Code	Subject	Category
1	E	J1ADT415	Fundamentals of Image Processing	Stream Elective-1
2	E	J1ADT425	Basic concepts of Computer Networks	Stream Elective-2
3	E	J1ADT435	Fundamentals of Bioinformatics	General Elective
4	E	J1ADT445	Data Science Privacy & Ethics	General Elective
5	E	J1CST455	Software Engineering	General Elective
6	E	J1ADT465	Foundations of Soft Computing	General Elective
7	E	J1CST475	Functional Programming	General Elective

2.2 PROGRAMME ELECTIVE-2 (SEMESTER-V)

Sl.	Slot	Subject Code	Subject	Category
1	E	J1ADP515	Advanced Image Processing and Image Compression	Stream Elective-1
2	E	J1ADP525	Cryptography and Network Security	Stream Elective-2
3	E	J1ADP535	Information Systems	General Elective
4	E	J1ADP545	Computational Biology	General Elective
5	E	J1CSP555	Data Compression	General Elective
6	E	J1CSP565	Advanced Computer Architectures	General Elective
7	E	J1ADP575	Computer Graphics & Multimedia	General Elective
8	E	J1ADP585	Microprocessors & Microcontrollers	General Elective

2.3 PROGRAMME ELECTIVE-3 (SEMESTER-VI)

Sl.	Slot	Subject Code	Subject	Category
1	E	J1ADZ615	Intelligent Vision Systems	Stream Elective-1
2	E	J1ADZ625	Block chain Technology and Cryptocurrencies	Stream Elective-2
3	E	J1ADZ635	Large Language Models	General Elective
4	E	J1ADZ645	Social Media and Social Network Mining	General Elective
5	E	J1ADZ655	Generative AI	General Elective
6	E	J1CSZ665	Quantum Computing	General Elective
7	E	J1ADZ675	Machine Learning in Computational Biology	General Elective
8	E	J1ADZ685	R Programming	General Elective

2.4 PROGRAMME ELECTIVE-4 (SEMESTER-VII)

Sl.	Slot	Subject Code	Subject	Category
1	A	J1ADT711	Recommendation Systems	General Elective/MOOC
2	A	J1ADT721	Financial Data Science	General Elective/MOOC
3	A	J1ADT731	Computational Linguistics	General Elective/MOOC
4	A	J1ADT741	Software Testing	General Elective/MOOC
5	A	J1ADT751	Web Mining	General Elective/MOOC
6	A	J1ADT761	Time Series Modelling	General Elective/MOOC
7	A	J1ADT771	Large Language Models	General Elective/MOOC
8	A	J1ADT781	Responsible and Sustainable AI	General Elective/MOOC

2.5 PROGRAMME ELECTIVE-5 (SEMESTER-VII)

Sl.	Slot	Subject Code	Subject	Category
1	B	J1CST712	Responsible Artificial Intelligence	General Elective/MOOC
2	B	J1ADT722	Computational Health Informatics	General Elective/MOOC
3	B	J1CST732	Game Theory and Mechanism Design	General Elective/MOOC
4	B	J1ADT742	Digital Forensics	General Elective/MOOC
5	B	J1ADT752	Graph Databases and Analysis	General Elective/MOOC
6	B	J1ADT762	High Performance Computing	General Elective/MOOC
7	B	J1ADT772	Programming Languages	General Elective/MOOC
8	B	J1ADT782	Data mining in Social Networking	General Elective/MOOC

2.6 PROGRAMME ELECTIVE-6(SEMESTER-VIII)

Sl.	Slot	Subject Code	Subject	Category
1	A	JIADT811	Software Architectures	General Elective/MOOC
2	A	JICST821	Computational Complexity	General Elective/MOOC
3	A	JIADT831	Bio Inspired Optimization Techniques	General Elective/MOOC

4	A	JICST841	Prompt Engineering	General Elective/MOOC
5	A	JIADT851	Speech and Audio Processing	General Elective/MOOC
6	A	JIADT861	Next Generation Interaction Design	General Elective/MOOC
7	A	JIADT871	Edge AI and Tiny ML	General Elective/MOOC
8	A	JIADT881	Explainable Artificial Intelligence	General Elective/MOOC

3. OPEN/INDUSTRY LINKED ELECTIVES

3.1 OPEN/INDUSTRY LINKED ELECTIVES (SEMESTER-VI)

Sl.	Slot	Subject Code	Subject	Category
1	F	J1CSO616	Introduction to VR	Open Elective
2	F	J1CSO626	Human Computer Interaction	Open Elective
3	F	J1CSO636	Software Project Management	Open Elective
4	F	J1CSO646	Introduction to Data Structures	Open Elective
5	F	J1CSO656	Machine Learning for Engineers	Open Elective
6	F	J1XXI6N6	-----	Industry Linked Elective (If any)

3.2 OPEN/INDUSTRY LINKED ELECTIVES (SEMESTER-VII)

Sl.	Slot	Subject Code	Subject	Category
1	C	J1CSO713	Cyber Security	Open Elective
2	C	J1CSO723	Cloud Computing	Open Elective
3	C	J1CSO733	Principles of Software Engineering	Open Elective
4	C	J1CSO743	Basic Concepts of Computer Networks	Open Elective
5	C	J1CSO753	Mobile Application Development	Open Elective
6	C	J1XXI763	-----	Industry Linked Elective (If any)

3.3 OPEN/INDUSTRY LINKED ELECTIVES (SEMESTER-VIII)

Sl.	Slot	Subject Code	Subject	Category
1	B	J1CSO812	Introduction to Algorithms	Open Elective
2	B	J1CSO822	Web Programming	Open Elective
3	B	J1CSO832	Software Testing	Open Elective
4	B	J1CSO842	Internet of Things	Open Elective

5	B	J1CSO852	Computer Graphics	Open Elective
6	B	J1XXI862	-----	Industry Linked Elective (If any)

4. HUMANITIES, SOCIAL SCIENCE AND MANAGEMENT

Sl.	Semester	Course Code	Course	Course Type	Credits
1	S1/S2	J1HMP126	Life Skills and Professional Communication	TC	1
2	S3/S4	J1HMT346	Economics for Engineers	TC	2
3		J1HMT436	Engineering Ethics and Sustainable Development	TC	2
4	S7	J1HMT7N4	Elective (Project Management/Foreign Languages)	TC	2
5	S7	J1HMT705/ J1HMM7N5	Constitution Of India. (MOOC)	TC	1
6	S8	J1HMT8N3	Organizational Behavior and Business Communication	TC	2
Total Credits					10

5. INDIAN KNOWLEDGE SYSTEM

Sl.	Semester	Course Code	Course	Course Type	Credits
1	S5	J1IKT5N6	Indian knowledge system	TC	2
Total Credits					2

6. HEALTH AND WELLNESS

Sl.	Semester	Course Code	Course	Course Type	Credits
1	S1/S2	J1HWP126	Health and Wellness	TP	1
Total Credits					1

7. BASIC SCIENCE COURSES

Sl.	Semester	Course Code	Course	Course Type	Credits
1	S1	J1BST111	Multivariable Calculus	TC	3
2	S1	J1BSP212	Chemistry for Engineers	TP	4
3	S2	J1BSP112	Physics for Information Science	TP	4
4	S2	J1BST211	Applied Linear Algebra for Computing	TC	3

5	S3	J1BST311	Probability and Stochastic Processes	TC	3
6	S4	J1BSP414	Graph Theory and Network Algorithms	TP	4
Total Credits					21

8. ENGINEERING SCIENCE COURSES

Sl.	Semester	Course Code	Course	Course Type	Credits
1	S1	J1EST103	Programming in C	TC	4
2	S1	J1ESP104	Engineering Graphics and Computer-Aided Drawing.	TP	3
3	S1	J1ESP105	Fundamentals of Electrical & Electronics Engineering	TP	4
4	S1	J1ESL117	Programming in C Workshop	PL	1
5	S2	J1EST223	Programming in Python	TC	3
6	S2	J1ESP224	Foundations of Computing: Hardware to Web Design	TP	4
6	S2	J1EST205	Engineering Entrepreneurship & IPR	TC	2
7	S2	J1ESL228	Programming in Python Workshop	PL	1
8	S3	J1ESP304	Logic Circuits & System Design	TP	3
	S6	J1EST603	Design Thinking and Product Development	TC	2
Total Credits					27

9. SKILL ENHANCEMENT COURSES / ADD ON COURSES

Sl.	Semester	Course Code	Course	Course Type	Credits
1	S1	J1SET1N9	Skill Enhancement Course		-
2	S2	J1SET1N9	Skill Enhancement Course		1
3	S3	J1SET3N9	Skill Enhancement Course (Aptitude Proficiency-1)		1
4	S4	J1SET4N9	Skill Enhancement Course (Aptitude Proficiency-2)		1
Total Credits					3