

CURRICULUM

Academic Batch 2025 – 2029 (Autonomous) Undergraduate Bachelor of Engineering Program- B.E Outcome Based Education (OBE)



III TO VIII SEM

DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING

**An Autonomous Institution Affiliated to Visvesvaraya Technological University (VTU) Belagavi Approved by All India Council for Technical Education (AICTE), New Delhi. Recognized by Govt. of Karnataka
UG programs Accredited by National Board of Accreditation (NBA): CSE, ECE & ISE**

2025-2029

About the Institution

East Point College of Engineering and Technology (EPCET), established in 1999 by the M.G. Charitable Trust, is a premier engineering institution located in the eastern corridor of Bangalore at Bidarahalli, Virgonagar Post, just 5 km from K.R. Puram. The college is affiliated with Visvesvaraya Technological University (VTU), Belagavi, and is NAAC accredited with an 'A' Grade. All undergraduate and postgraduate programs are approved by the All India Council for Technical Education (AICTE).

EPCET offers a wide range of undergraduate B.E. programs in:

- Computer Science and Engineering
- Information Science and Engineering
- Electronics and Communication Engineering
- Artificial Intelligence and Machine Learning
- Civil Engineering
- CSE (IoT, Cyber Security including Blockchain Technology)
- CSE (Data Science)

The college also offers postgraduate M.Tech programs in Mechanical and Civil Engineering. With a current student strength of over 2,500 and a faculty team of more than 145 members (25% of whom hold Ph.D. qualifications), the institution places a strong emphasis on academic excellence, research, and innovation. Several faculty members collaborate with reputed national research organizations such as LRDE-DRDO, contributing to peer-reviewed publications.

Three departments—Computer Science and Engineering (CSE), Electronics and Communication Engineering (ECE), and Information Science and Engineering (ISE)—have been NBA accredited for the periods 2008–2011 and 2023–2026.

EPCET maintains a strong placement record, with over 80% of eligible students receiving on-campus job offers from leading companies such as VMware, Cognizant, Infosys, Accenture, IBM, and Covance. Students benefit from industry-integrated training through the Industry-Institute Integrated Learning Program (IILP) in collaboration with technology leaders including CISCO, AWS, Salesforce, Google Cloud, ARM, UiPath, Microsoft, and Texas Instruments. These programs enable students to acquire industry-recognized certifications.

The campus features modern infrastructure including spacious classrooms, tutorial rooms, seminar halls, well-equipped laboratories, and a library housing over 50,000 volumes. The campus is fully Wi-Fi enabled and provides students access to industry-standard software tools.

EPCET also encourages faculty to participate in and organize academic seminars, conferences, and Faculty Development Programs (FDPs), hosting at least 5–6 such events annually.

EPCET is part of a larger academic ecosystem that includes a Medical College, an 800-bed Superspeciality Hospital, a Pharmacy College, two Nursing Institutes, a Higher Education Institute, and a Pre-University College. This offers engineering students unique interdisciplinary learning opportunities and exposure to diverse academic fields. The college supports a vibrant campus life with transportation, hostel facilities, sports infrastructure, and over 15 student-led clubs for extracurricular engagement.

Driven by a vision for academic excellence and holistic education, EPCET continually adapts to new teaching methodologies, student assessment models, and innovations in learning to enhance student satisfaction and prepare graduates for global careers.

Institute Vision and Mission

Vision

The East Point College of Engineering and Technology aspires to be a globally acclaimed institution, recognized for excellence in engineering education, applied research, and nurturing students for holistic development

Mission

M1: To create Engineering graduates through quality education and to nurture innovation, creativity and excellence in teaching, learning and research.

M2: To serve the technical, scientific, economic and societal developmental needs of our communities.

M3: To induce integrity, teamwork, critical thinking, personality development, and ethics in students and to lay the foundation for lifelong learning.

About the department

Department of Information Science and Engineering, affiliated to Visveswaraya Technological University (VTU), Belagavi, approved by AICTE and accredited with NBA Certification is functioning since 2001. The department offers BE program in Information Science and Engineering with an intake of 120 students. The program imparts basic and advanced knowledge in Information Science and Engineering, technical competencies and necessary IT skills and prepares the students for the development of information science-based solutions for the real-world paradigms. The department provides opportunities to students to exhibit talents, leadership qualities through the departmental forum and student chapters. The department organizes International and

national conferences, Seminars, Student Symposia, youth festivals, short-time training programs, and value-added courses. This provides a wide range of opportunities for students and faculty members to bring out their potential and innovative skills in various fields.

About the program

Year of Establishment	2001-2002
Name of the Program offered	BE- Information Science and Engineering
Intake	120

Department Vision and Mission

Vision

The Department aspires to be center of excellence for engineering education in the field of Information Science and Engineering, fosters academic and career success for holistic development.

Mission

M1: To create graduates in Information Science and Engineering by nurturing innovation, creativity and excellence in Teaching, Learning and Research.

M2: To develop and disseminate technical skills to address current and future industrial needs.

M3: To encourage team work, critical thinking, personality development and ethics in students to lay the foundation for lifelong learning.

Program Educational Objectives (PEOs)

PEO1: To produce graduates who have the knowledge of science and engineering concepts for a computer professional to perform technical roles in the software industry.

PEO2: To produce graduates who formulate, analyze and provide innovative solutions to real world problems in Information Science and Engineering by adapting to new trends in the domain to carve a successful career in the industry.

PEO3: To produce graduates who exhibit leadership capability and be a supportive member serving the society in every possible way to build some innovative ideas for solving problems by applying research methodologies.

Program Specific Outcome (PSO)

PSO1: To collect data, validate the data, design and develop software models, convert the model into a working solution using appropriate algorithms and programming language.

PSO2: To expertise in the sub domains of Information Science and Engineering such as file structures, data mining, big data analytics, cloud computing, robotic process automation to reach industry needs.

PSO3: Ability to develop practical competency in programming languages and open source platforms.

Program Outcomes as defined by NBA (PO) Engineering Graduates will be able to:

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 to the solution of complex engineering problems.

PO2: Problem Analysis: Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusion 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)

East Point College of Engineering and Technology

Total Courses

Sl. No	Category	No. of Courses	No. of Credits
1	Humanity and Social Science and management Course (HSMC)	2	4
2	Programming Language Courses (PLC)/Emerging Technology Courses (ETC)	2	7
3	Basic Science Courses (BSC)/-Applied Science Course (ASC)	3	20
4	Integrated Professional Core Course(IPCC)	5	20
5	Professional Core Course (PCC)	9	34
6	Professional Elective Course (PEC)	4	15
7	Open Elective Course (OEC)	2	7
8	Professional Core Course laboratory (PCCL)	5	5
9	Engineering Science Course (ESC)	5	15
10	Ability Enhancement Course (AEC)/ Skill Enhancement Course (SEC)/ Skill Development Course (SDC)/Universal Human Value Course (UHV)	6	12
11	Internship (INT)	1	5
12	Project (PROJ)	3	16
13	Skill Lab(SK)	5	5
14	Mandatory Course (Non-credit)- NCMC	3	-
Total		55	165

Credit Distribution

Sl. No	Category	Credits Per Semester								Total Credits	Credits in %
		I	II	III	IV	V	VI	VII	VIII		
1	HSMC		1			3				4	3%
2	PLC/ETC	7								7	4%
3	BSC/ASC	8	8	4						20	12%
4	IPCC			4	4	4	4	4		20	12%
5	PCC		4	6	9	4	3	8		34	21%
6	PEC					7	4	4		15	9%
7	OEC						3	4		7	4%
8	PCCL			1	1	1	1	1		5	3%
9	ESC	3	6	3	3					15	9%
10	AEC/ SEC/ SDC/ TS/UHV	2	1	2	3	1	3			12	7%
11	INT								5	5	3%
12	PROJ						2	2	12	16	10%
13	SK			1	1	1	1	1		5	3%
Total		20	20	20+1	20+1	20+1	20+1	23+1	17	160+5	100%

SDA-Skill Development Activities, TD/PSB- Teaching Department / Paper Setting Board, ASC-Applied Science Course, ESC- Engineering Science Courses, ETC- 29052023/V10 scheme for Computer Science and Engineering and allied branches (CSE/ISE and BT all allied branches of CSE) 2 Emerging Technology Course, AEC- Ability Enhancement Course, HSMS-Humanity and Social Science and management Course, SDC- Skill Development Course, CIE–Continuous Internal Evaluation, SEE- Semester End Examination, IC – Integrated Course (Theory Course Integrated with Practical Course)

PCC Value Course, NCMC: Non Credit Mandatory Course, AEC: Ability Enhancement Course, SEC: Skill Enhancement Course, L: Lecture, T: Tutorial, P: Practical. ESC: Engineering Science Course, ETC: Emerging Technology Course, PLC: Programming Language Course, MC Mandatory Course, PCC: Professional Core Course, PCCL: Professional Core Course laboratory, UHV: Universal Human

BE in Information Science & Engineering
Scheme of Teaching III Semester
Outcome Based Education and Choice Based Credit System (CBCS)
Effective from the academic year Batch - 2025-29

Sl. No	Course	Course Code	Course Title	Teaching Department (TD)/ Board	Teaching Hours /Week			TW & SL	TH/S	Examination			Credits
					L	T	P			CIE Marks	SEE Marks	Total Marks	
1	BSC	25IS31	Probability, Distributions and Statistics	Mathematics	3	2	0	50	120	50	50	100	4
2	PCC	25IS32	Operating System	ISE	3	0	0	48	90	50	50	100	3
3	PCC	25IS33	Data Structures and Applications	ISE	3	0	0	48	90	50	50	100	3
4	IPCC	25IS34	Digital Design & Computer Organization	ISE	3	0	2	50	120	50	50	100	4
5	PCCL	25ISL35	Data Structure & Applications lab	ISE	0	0	2	02	30	50	50	100	1
6	ESC/ PLC	25IS36X	ESC/ETC/ PLC	ISE	2	0	2	34	90	50	50	100	3
7	AEC	25ISL37X	Ability Enhancement Course - III	ISE dept/ IT Industry	0	0	2	02	30	50	50	100	1
8	NCMC	25NS38/ 25PE38/ 25YO38	NSS/ PE/ YOGA	NSS/YOGA/ PE Coordinator	0	0	0	28	28	100	-	100	PP
9	SDC	25SE39	Community project)Project Based learning ot societal projecr)		0	0	0	30	30	50	50	100	1
Total									628	500	400	900	20
10	NCMC	25MDIP310	Mathematics course for Lateral Entry Students	Maths Dept	1	0	0	14	28	100	-	100	PP
11	SK	25ISSK311	Skill Lab-1: Web Programming	ISE	0	0	2	02	30	50	50	100	1
Total									686	650	450	1100	20+1

Note:

L: Lecture , T: Tutorial, P: Practical

TW & SL: Term Work & Self Learning, TH/S: Total Hous/Semester

Engineering Science Course (ESC/ETC/PLC)– III			
25IS36A	Object Oriented Programming with Java	25IS36B	Object Oriented Programming with C++

Ability Enhancement Course – III			
25ISL37A	Data Analytics using Excel	25ISL37C	Prompt Engineering
25ISL37B	Project Management with Git		

BE in Information Science & Engineering
Scheme of Teaching IV Semester
 Outcome Based Education and Choice Based Credit System (CBCS)
 Effective from the academic year Batch - 2025-29

Sl. No	Course	Course Code	Course Title	Teaching Department (TD)/ Board	Teaching Hours /Week			TW & SL	TH/S	Examination			
					L	T	P			CIE Marks	SEE Marks	Total Marks	Credits
1	PCC	25IS41	Analysis and Design of Algorithms	ISE	3	0	0	48	90	50	50	100	3
2	PCC	25IS42	Data Base Management System	ISE	3	0	0	48	90	50	50	100	3
3	PCC	25IS43	Software Engineering	ISE	3	0	0	48	90	50	50	100	3
4	IPCC	25IS44	Fundamentals of Cloud Computing	ISE	3	0	2	50	120	50	50	100	4
5	PCCL	25ISL45	Analysis and Design of Algorithms Lab	ISE	0	0	2	02	30	50	50	100	1
6	BSC/ ESC	25IS46X	BSC/ESC	Mathematics	2	2	0	34	90	50	50	100	3
7	AEC	25ISL47X	Ability Enhancement Course-IV	ISE dept/ IT Industry	0	0	2	02	30	50	50	100	1
8	UHV	25UH48	Universal Human Values	Any dept	1	0	0	16	30	50	50	100	1
9	NCMC	25NS49/ 25PE49/ 25YO49	NSS/YOGA/ PE	NSS/ YOGA/ PE Coordinator	0	0	0	28	28	100	-	100	PP
10	SDC	25SC410	Environmental Science Project		0	0	0	30	30	50	50	100	1
Total									628	550	450	1000	20
11	NCMC	25MDIP411	Mathematics course for Lateral Entry Students	Maths Dept	1	0	0	14	28	100	-	100	PP
12	SK	25ISSK412	Skill Lab-2: Mobile Application Development	ISE	0	0	2	02	30	50	50	100	1
Total									686	700	500	1200	20+1

Note:

L: Lecture , T: Tutorial, P: Practical

TW & SL: Term Work & Self Learning, TH/S: Total Hous/Semester

BSC/Engineering Science Course (ESC/ETC/PLC)– IV

25IS46A	Linear Algebra	25IS46C	Graph Theory
25IS46B	Discrete Mathematics structures		

Ability Enhancement Course / Skill Enhancement Course - IV

25ISL47A	UI/UX Design Tool	25ISL47C	Technical writing using LATEX
25ISL47B	DBMS with SQL and MongoDB		

V Semester

BE in Information Science & Engineering Scheme of Teaching V Semester Outcome Based Education and Choice Based Credit System (CBCS) Effective from the academic year Batch - 2025-29													
Sl. No	Course	Course Code	Course Title	Teaching Department (TD)/ Board	Teaching Hours /Week			TW & SL	TH/ S	Examination			
					L	T	P			CIE Marks	SEE Marks	Total Marks	Credits
1	HSMC	25IS51	Software Quality and Project Management	ISE	3	0	0	48	90	50	50	100	3
2	PCC	25IS52	Theory of Computation	ISE	3	2	0	50	120	50	50	100	4
3	IPCC	25IS53	Computer Networks	ISE	3	0	2	50	120	50	50	100	4
4	PCCL	25ISL54	Data Analytics with Power BI and Tableau Lab	ISE	0	0	2	02	30	50	50	100	1
5	PEC	25IS55X	Program Elective Course-1	ISE	3	0	0	48	90	50	50	100	3
6	PEC	25IS56X	Program Elective Course-2	ISE	4	0	0	64	120	50	50	100	4
7	NCMC	25ES57	Environmental Studies and E-Waste Management	CV	1	0	0	14	28	100	-	100	PP
8	NCMC	25NS58/ 25PE58/ 25YO58	NSS/YOGA/ PE	NSS/ YOGA/ PE Coordinator	0	0	0	28	28	100	-	100	PP
9	SDC	25SC59	Hackathon Based Project		0	0	0	30	30	50	50	100	1
10	SK	25ISSK510	Skill Lab-3: DevOps	ISE	0	0	2	02	30	50	50	100	1
Total									686	600	400	1000	20+1

Note:

L: Lecture , T: Tutorial, P: Practical

TW & SL: Term Work & Self Learning

TH/S: Total Hous/Semester

Program Elective Course-1						
25IS55A	Fundamentals of Data Science	25IS55B	Computer Vision	25IS55C	Data Warehousing And Data Mining	

Program Elective Course-2			
25IS56A	Business Intelligence	25IS56C	Quantum Algorithms and Cryptography
25IS56B	Data Analytics with R		

VI Semester

BE in Information Science & Engineering
Scheme of Teaching VI Semester
 Outcome Based Education and Choice Based Credit System (CBCS)
 Effective from the academic year Batch - 2025-29

Sl. No	Course	Course Code	Course Title	Teaching Department (TD)/ Board	Teaching Hours /Week			TW & SL	TH /S	Examination			
					L	T	P			CIE Marks	SEE Marks	Total Marks	Credits
1	PCC	25IS61	AI & Machine Learning	ISE	3	0	0	48	90	50	50	100	3
2	IPCC	25IS62	Software Testing	ISE	3	0	2	50	120	50	50	100	4
3	PCCL	25ISL63	Machine Learning Lab	ISE	0	0	2	02	30	50	50	100	1
4	PEC	25IS64X	Program Elective Course- 3	ISE	3	2	0	50	120	50	50	100	4
5	AEC	25RM65	Research Methodology and IPR	ISE	3	0	0	48	90	50	50	100	3
6	OEC	25XX66X	Open-Elective -1	Concerned Dept	3	0	0	48	90	50	50	100	3
7	PROJ	25ISP67	Mini Project	ISE	0	0	0	60	60	100	-	100	2
8	NCMC	25NS68/ 25PE68/ 25YO68	NSS/YOGA/ PE	NSS/ YOGA/ PE Coordinator	0	0	0	28	28	100	-	100	PP
9	NCMC	25IKS69	Indian Knowledge System	ISE	1	0	0	14	28	100	-	100	PP
10	SK	25ISSK610	Skill Lab-4: Natural Language Processing	ISE	0	0	2	02	30	50	50	100	1
Total									686	650	350	1000	20+1

Note:

L: Lecture , T: Tutorial, P: Practical

TW & SL: Term Work & Self Learning

TH/S: Total Hous/Semester

Program Elective Course-3

25IS64A	Integrated Full Stack Application Development	25IS64C	Generative AI
25IS64B	Big Data Analytics	25IS64D	Incident Response and Management

Open Elective Course-1

25IS66A	Introduction to Data Structures	25IS66C	Introduction to Artificial Intelligence
25IS66B	Fundamentals of Operating Systems		

VII Semester

BE in Information Science & Engineering

Scheme of Teaching VI Semester

Outcome Based Education and Choice Based Credit System (CBCS)

Effective from the academic year Batch - 2025-29

Sl. No	Course	Course Code	Course Title	Teaching Department (TD)/ Board	Teaching Hours /Week			TW & SL	TH/S	Examination			
					L	T	P			CIE Marks	SEE Marks	Total Marks	Credits
1	PCC	25IS71	Cryptography & Network Security	ISE	4	0	0	64	120	50	50	100	4
2	PCC	25IS72	Internet of Things	ISE	3	2	0	50	120	50	50	100	4
3	IPCC	25IS73	Parallel Computing	ISE	3	0	2	50	120	50	50	100	4
4	PCCL	25ISL74	Big Data Analytics laboratory	ISE	0	0	2	02	30	50	50	100	1
5	PEC	25IS75X	Program Elective Course -4	ISE	4	0	0	64	120	50	50	100	4
6	OEC	25XX76X	Open Elective- 2	Concerned Department	4	0	0	64	120	100	50	100	4
7	PROJ	25ISP77	Project Work phase -1	ISE	0	0	0	60	60	100	-	100	2
8	SK	25ISSK78	Skill Lab-5: Edge AI and TinyML	ISE	0	0	2	02	30	50	50	100	1
Total									720	450	350	800	23+1

Note:

L: Lecture , T: Tutorial, P: Practical

TW & SL: Term Work & Self Learning

TH/S: Total Hous/Semester

Professional Elective Course-4

25IS75A	Deep Learning	25IS75C	Blockchain Technology
25IS75B	Cloud Operations		

Open Elective Course-2

25IS76A	Introduction to DBMS	25IS76C	Software Engineering
25IS76B	Introduction to Algorithms		

VIII Semester

BE in Information Science & Engineering Scheme of Teaching VIII Semester Outcome Based Education and Choice Based Credit System (CBCS) Effective from the academic year Batch - 2025-29													
Sl. No	Course	Course Code	Course Title	Teaching Department (TD)/ Board	Teaching Hours /Week			TW & SL	TH /S	Examination			
					L	T	P			CIE Marks	SEE Marks	Total Marks	Credits
1	INT	25INT81	Research / Industrial Internship	ISE	0	0	10	150	150	100	100	200	5
2	PROJ	25ISP82	Project Work Phase - II	ISE	0	0	24	360	360	100	100	200	12
Total									510	200	200	400	17

Note:

L: Lecture , T: Tutorial, P: Practical

TW & SL: Term Work & Self Learning

TH/S: Total Hous/Semester