Autonomous Scheme Handbook

EPCET | ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

(Batch 2024-2028)



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 www.epcet.edu.in

CURRICULUM

Academic Year 2024 – 2025 (Autonomous)

Undergraduate Bachelor of Engineering Program- B.E.

Outcome Based Education (OBE)

Scheme for ITO VIII SEM

DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

East Point College of Engineering and Technology

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

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About the Institute

East Point College of Engineering and Technology (EPCET) was established in the year 1999 by M. G. Charitable Trust, Bangalore. The College is located in the eastern part of Bangalore at Bidarahalli, Virgonagar Post, off old Madras Road. It is at a 5 km distance from K R Puram, Bangalore.

The College is affiliated to Visvesvaraya Technological University (VTU), Belgaum and NAAC accredited with an A grade. All the Undergraduate B.E. and Post Graduate programs M.Tech. offered at EPCET have the approval of AICTE. The College at present offers programs in Artificial Intelligence and Data Science, Computer Science & Engineering, Information Science & Engineering, Electronics & Communication Engineering, Mechanical Engineering, CSE (IOT) and Civil Engineering leading to BE degree of VTU. The college is also offering three M. Tech programs- one each in Mechanical Engineering and Civil Engineering. At EPCET, more than 2500 students are studying in various programs, and there are more than 145 faculty members with about 25% of them having Ph.D. Qualifications. Faculty members, in addition to teaching and routine administrative work, undertake research. A few faculty members work in collaboration with prestigious national laboratories like LRDE- DRDO and publish their research findings in Refereed Peer Reviewed Journals. The programs offered by the college were accredited by NBA during 2008-2011 and 2023-2026.

All the students of the final year undergo internships in reputed industries and more than 80% of the students get placement offer on campus in companies like VMware, Cognizant, Infosys, Accenture, IBM, Covance, and so on. The departments offer various competency and skill development courses to prepare the students for the job market. In addition to this Institute has a unit "Industry Institute Integrated Learning Program (IILP)" with CISCO, AWS, Salesforce, Google Cloud, ARM, UiPath, Microsoft and Texas Instruments. These courses are conducted and students are encouraged and supported to obtain certification. A significant number of Alumni have assumed important positions in industry and government. A few alumni have set up their own start-ups in and around Bangalore and a considerable number have settled down overseas. The Institute has sufficient number of classrooms, Tutorial rooms, seminar halls, well-equipped laboratories, and a library with more than 50000 books. The campus is completely Wi-Fi enabled. In the laboratories, industry-standard software is made available for students to learn and practice

The college encourage faculty members to attend seminars, conferences organized by other Colleges and industries. Also, faculty have been given the freedom to organize seminars, conferences, and faculty development programs annually. Every year at least 5-6 seminars/conferences/FDP are conducted. Seminar halls are available within the college for organizing

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Student Development programmes and conferences. The College has entered into MoU with a number of industries and foreign Universities.

The campus has Medical College, a Superspecialist hospital with 800 beds, Pharmacy college, Two Nursing Institutes, a Higher Education Institute and a PU Institute. Students have opportunities to interact with students of medical, pharmacy nursing, management, commerce, and Science. Students have transport, hostel and sports facilities. There are more than 15 students' clubs for students to participate in various activities and experience. The College has set an ambitious vision and it is working continuously to adapt newer concepts in teaching, learning, and student assessments to realize its vision through working on its mission. The College aims to increase the students' satisfaction level with a holistic approach to education.

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

The Department of Artificial Intelligence and Data Science was established in the year 2021 with a vision of exploring the emerging trends in the domain of AI and training the students as professionals who can excel in the field and help for the betterment of the society. The Department has a team of well qualified and experienced faculty members who deliver the required skills to the students through a 360o teaching-learning environment. The faculty members are dedicated to impart not only the curriculum based formal education but also teaches beyond the curriculum to make the students ready for the upcoming challenges in the market. The Department faculty members have a good interest in research and have

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several publications in reputed journals, conferences and multiple patents to their name.

The students of the Department are continuously mentored and motivated by the faculty members for the continuous improvement and participation in different activities. The students are motivated not only for academic excellence but also for the research & development. Also, the students are facilitated with the placement training sessions for a better opportunity.

About the program

Year of Establishment	2021-22
Name of the Program offered	BE- ARTIFICIAL INTELLIGENCE AND DATA SCIENCE
Intake	60

Department Vision and Mission

Vision

The department orients towards identifying and exploring emerging global trends in Artificial Intelligence and Data Science through academic excellence and quality research, producing proficient professionals for a flourishing society.

Mission

M1: To nurture students with quality education, life-long learning, values and ethics.

M2: To produce ethical and competent professionals through comprehensive and holistic methodologies that align with the global industry demands in Artificial Intelligence and Data Science

Program Educational Objectives (PEOs)

PEO-1: Graduates will possess the ability to apply their knowledge of fundamental engineering, Computer Science and Data Science.

PEO-2: Graduates will have sound intercommunication skills, ethical values and responsibilities to work and serve for the development of the society.

PEO-3: Graduates will be able to understand, interpret, model and implement the Artificial Intelligence and Data Science based solutions for real world problems

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Program Specific Outcome (PSO)

PSO1: To formulate solutions for the real-world problems with the application of basic engineering principles and technical skills of Artificial Intelligence and Data Science.

PSO2: To cater and enhance the analytical and technical skills of the graduates in order to be ready for the professional development, research and pursue higher education.

Program Outcomes (POs)

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 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.

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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)

Total Courses

Sl. No	Category	No. of Courses	No. Of Credits
1	Humanity and Social Science and management Course (HSMC)	4	6
2	Programming Language Courses (PLC)/Emerging Technology Courses (ETC)	2	6
3	Basic Science Courses (BSC)/-Applied Science Course (ASC)	5	20
4	Integrated Professional Core Course (IPCC)	5	20
5	Professional Core Course (PCC)	9	31
6	Professional Elective Course (PEC)	4	16
7	Open Elective Course (OEC)	2	7
8	Professional Core Course laboratory (PCCL)	5	5
9	Engineering Science Course (ESC)	6	18
10	Ability Enhancement Course (AEC)/ Skill Enhancement Course (SEC)/ Skill Development Course (SDC)/Universal Human Value Course (UHV)	7	10
11	Internship (INT)	1	5
12	Project (PROJ)	3	16
13	Mandatory Course (Non-credit) - NCMC	2	-
	Total	55	160

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Semester wise Credit Breakdown for B.E Degree Curriculum Batch 2024-28 and 2025-2029

Sl.	Category	Credits Per Semester								Total Credits	Credits in %
No		I	II	III	IV	V	VI	VII	VIII		
1	HSMC	1	2			3				6	4%
2	PLC/ETC	3	3							6	4%
3	BSC/ASC	8	8	4						20	13%
4	IPCC			4	4	4	4	4		20	13%
5	PCC			7	9	4	3	8		31	19%
6	PEC					4	8	4		16	10%
7	OEC						3	4		7	4%
8	PCCL			1	1	1	1	1		5	3%
9	ESC	6	6	3	3					18	11%
10	AEC/ SEC/ SDC/ TS/ASC/UHV	2	1	1	3	3				10	6%
11	INT								5	5	3%
12	PROJ						2	2	12	16	10%
	Total	20	20	20	20	19	21	23	17	160	100%

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East Point College of Engineering and Technology, Scheme of Teaching and Examinations- 2024 Outcome-Based Education(OBE)and Choice Based Credit System(CBCS) (Effective from the academic year 2024-2025)

I Semester (CSE Stream) (Physics Group)

Sl. No	Category	Course Code	Course Title	Teaching Dept/ Board	L	Т	Р	Exam Duration (hrs)	CIE Marks	SEE Marks	Total Marks	Credits
1	ASC (IC)	EPMTS101	Mathematics-I for CSE Stream	TD: Maths PSB: Maths	2	2	2	3	50	50	100	4
2	ASC (IC)	EPPHS102	Applied Physics for CSE Stream	TD: Phy PSB: Phy	2	2	2	3	50	50	100	4
3	ESC	EPPPS103	Principles of Programming Using C	TD: CSE PSB:CSE	2	0	2	3	50	50	100	3
4	ESC-I	EPESK104x	Engineering Science Course-I (select any one)	Respective Dept	3	0	0	3	50	50	100	3
5	ETC-I / PLC-I	EPETK105x / EPPLK105x	Emerging Technology Course-I / Programming Languages Course-I	Respective Dept	3/2	0	0/2	3	50	50	100	3
6	IIAFC	EPENK106 / EPPWK106	Communicative English / Professional Writing Skills	Humanities	1	0	0	1	50	50	100	1
7	HSMC	EPSKK107 / EPBKK107 / EPICK107	Samskrutika Kannada / Balake Kannada / Indian Constitution	Humanities	1	0	0	1	50	50	100	1
8	IIAEC/SDC I	EPIDK158 / EPSFK158	Innovation and Design Thinking / Scientific Foundations of Health	Any	1	0	0	1	50	50	100	1
								Total	400	400	800	20

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East Point College of Engineering and Technology, scheme of Teaching and Examinations- 2024 Outcome-Based Education(OBE)and Choice Based Credit System(CBCS) (Effective from the academic year 2024-2025)

II Semester (CSE Stream) Studied Physics Cycle in 1st Sem

Sl. No	Category	Course Code	Course little	Teaching Dept/ Board	L	Т	Р	Exam Dur. (hrs)	CIE Marks	SEE Marks	Total Marks	Credits
1	ASC (IC)	EPMTS201	Mathematics-II for CSE Stream	TD: Maths PSB: Maths	2	2	2	3	50	50	100	4
2	ASC (IC)	EPCHE202	Applied Chemistry for USE Stream	TD: Che PSB:Che	2	2	2	3	50	50	100	4
3	ESC	EPEDK203	Computer-Aided Engineering Drawing	TD: Mech PSB: Mech	2	0	2	3	50	50	100	3
4	ESC-II	EPESK204x		Respective Dept	3	0	0	3	50	50	100	3
5	ETC-II / PLC- II			Respective Dept	3/2	0	0/2	3	50	50	100	3
6	AEC		Professional Writing Skills / Communicative English	Humanities	1	0	0	1	50	50	100	1
7	HSMC	IEPSKK207/	Indian Constitution / Samskrutika Kannada / Balake Kannada	Humanities	1	0	0	1	50	50	100	1
8	HSMS/SDC	EPSF258 / EPIDK258	Scientific Foundations of Health / Innovation and Design Thinking	Any	1	0	0	1	50	50	100	1
					_			Total	400	400	800	20

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East Point College of Engineering and Technology, Scheme of Teaching and Examinations- 2024 Outcome-Based Education(OBE)and Choice Based Credit System(CBCS) (Effective from the academic year 2024-2025)

I Semester (CSE Stream) (Chemistry Group)

Sl. No	Category	Course Code	Course Title	Teaching Dept/ Board	L	Т		Exam Duration (hrs)	CIE Marks	SEE Marks	Total Marks	Credits
1	ASC (IC)	EPMTS101	Mathematics-I for CSE Stream	TD: Maths PSB: Maths	2	2	2	3	50	50	100	4
2	ASC (IC)	EPCHE102	Applied Chemistry for CSE Stream	TD: Che PSB: Che	2	2	2	3	50	50	100	4
3	ESC	EPEDK103	Computer-Aided Engineering Drawing	TD: Mech PSB: Mech	2	0	2	3	50	50	100	3
4	ESC-I		Engineering Science Course-I (select any one)	Respective Dept	3	0	0	3	50	50	100	3
5			Emerging Technology Course-I / Programming Languages Course-I	Respective Dept	3/2	0	0/2	3	50	50	100	3
6	AFC		Professional Writing Skills / Communicative English	Humanities	1	0	0	1	50	50	100	1
7	HSMC	IEPSKK107/	Indian Constitution / Samskrutika Kannada / Balake Kannada	Humanities	1	0	0	1	50	50	100	1
8	HSMS/SDC I	EPSFK158 / EPIDK158	Scientific Foundations of Health / Innovation and Design Thinking	Any	1	0	0	1	50	50	100	1
								Total	400	400	800	20

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East Point College of Engineering and Technology, Scheme of Teaching and Examinations- 2024 Outcome-Based Education(OBE)and Choice Based Credit System(CBCS)

		(Effective from the academic year 2024-2025)											
	II Semester (CSE Stream)	Studied Chemistry Cycle in 1st Se	em									
Sl. No	('atagary	Course Code	Course Title	Teaching Dept/ Board	L	Т	P	Exam Duration (hrs)	CIE Mark s	SEE Marks	Total Marks	Credits	
1	ASC (IC)	EPMTS201	Mathematics-II for CSE Stream	TD: Maths PSB: Maths	2	2	2	3	50	50	100	4	
2	ASC (IC)	EPPHS202	Applied Physics for CSE Stream	TD: Phy PSB: Phy	2	2	2	3	50	50	100	4	
3	ESC	EPPPS203		TD: CSE PSB: CSE	2	0	2	3	50	50	100	3	
4	ESC-II	EPESK204x	-	Respective Dept	3	0	0	3	50	50	100	3	
5		EPPLK205x / EPETK205x	Programming Language Course-II / Emerging Technology Course-II	Respective Dept	2/3	0	2/0	3	50	50	100	3	
6	AEC	EPENK206 / EPPWK206	Communicative English / Professional Writing Skills	Humanities	1	0	0	1	50	50	100	1	
7	HSMC	EPSKK207 / EPBKK207 / EPICK207	Samskrutika Kannada / Balake Kannada / Indian Constitution	Humanities	1	0	0	1	50	50	100	1	
8	AEC/SDC	EPIDK258 / EPSFK258	Innovation and Design Thinking / Scientific Foundations of Health	Any	1	0	0	1	50	50	100	1	
								Total	400	400	800	20	

			1	st Se	mester				
(ESC-I) Engine	eering Science Courses-I				(ETC-I) Emer	ging Technology Courses-I			
Code	Title L T P Code Title Introduction to Civil Engineering 3 0 0 EPETK105A Smart Materials and Systems Introduction to Electronics 3 0 0 EPETK105B Green Buildings Introduction to Electronics 3 0 0 EPETK105C Introduction to Nano Technology Introduction to Mechanical 5 0 0 EPETK105D Introduction to Sustainable Engineering EPETK105D Engineering Introduction to C Programming 2 0 2 EPETK105E Renewable Energy Sources EPETK105F Waste Management EPETK105G Emerging Applications of Biosensors EPETK105H Introduction to Cyber Security EPETK105J Introduction to Cyber Security EPETK105J Introduction to Embedded System			L	Т	Р			
EPESK104A	Introduction to Civil Engineering	3	0	0	EPETK105A	Smart Materials and Systems	3	0	0
EPESK104B	Introduction to Electrical Engineering	3	0	0	EPETK105B	Green Buildings	3	0	0
EPESK104C		3	0	0	EPETK105C	Introduction to Nano Technology	3	0	0
EPESK104D		3	0	0	EPETK105D		3	0	0
EPESK104E	Introduction to C Programming	2	0	2	EPETK105E	Renewable Energy Sources	3	0	0
					EPETK105F	Waste Management	3	0	0
					EPETK105G	Emerging Applications of Biosensors	3	0	0
					EPETK105H	Introduction to Internet of Things (IoT)	3	0	0
					EPETK105I	Introduction to Cyber Security	3	0	0
					EPETK105J	Introduction to Embedded System	3	0	0
(PLC-I) Progra	mming Language Courses-I								
Code	Title	L	Т	Р					
EPPLK105A	Introduction to Web Programming	2	0	2					
EPPLK105B	Introduction to Python Programming	2	0	2					
EPPLK105C	Basics of JAVA Programming	2	0	2					
EPPLK105D	Introduction to C++ Programming	2	0	2					

			2	nd Se	mester				
(ESC-I) Engine	eering Science Courses-I				(ETC-I) Emer	ging Technology Courses-I			
Code	Title	L	Т	P	Code	Title	L	Т	Р
BESCK204A	Introduction to Civil Engineering	3	0	0	BETCK205A	Smart Materials and Systems	3	0	0
BESCK204B	Introduction to Electrical Engineering	3	0	0	BETCK205B	Green Buildings	3	0	0
BESCK204C	Introduction to Electronics Communication	3	0	0	BETCK205C	Introduction to Nano Technology	3	0	0
BESCK204D	Introduction to Mechanical Engineering	3	0	0	BETCK205D	Introduction to Sustainable Engineering	3	0	0
BESCK204E	Introduction to C Programming	2	0	2	BETCK205E	Renewable Energy Sources	3	0	0
					BETCK205F	Waste Management	3	0	0
					BETCK205G	Emerging Applications of Biosensors	3	0	0
					BETCK205H	Introduction to Internet of Things (IoT)	3	0	0
					BETCK205I	Introduction to Cyber Security	3	0	0
					BETCK205J	Introduction to Embedded System	3	0	0
(PLC-I) Progra	mming Language Courses-I	1	•	•					
Code	Title	L	Т	Р					
BPLCK205A	Introduction to Web Programming	2	0	2					
BPLCK205B	Introduction to Python Programming	2	0	2					
BPLCK205C	Basics of JAVA Programming	2	0	2					
BPLCK205D	Introduction to C++ Programming	2	0	2					

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SDA - Skill Development Activities, TD/PSB - Teaching Department / Paper Setting Board, ASC - Applied Science Course, ESC - Engineering Science Courses, ETC - 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)

** B.MAT301SHall have the 03 hours of theory examination (SEE), however, practical sessions (subject-wise) shall be included in the theory question papers. ** The mathematics subject should be taught by a single faculty member per division, with no sharing of the course(subject)module-wise by different faculty members.

Procedure: SEE shall have the 03 hours of theory examination and 02-03 hours of practical examination ESC or ETC of 03 credits Courses shall have only a theory component (L:T:P:S=3:0:0:0) or if the nature of the course required experiential learning syllabus shall be designed as an Integrated course (L:T:P:S=2:0:2:0).

All 01 credit- courses shall have the SEE of 01 hours duration and the pattern of the question paper shall be MCQ

Credit Definition:

1-hour Lecture (L) per week = 1 Credit 04-Credits courses are to be designed for 50 hours of Teaching-Learning Session

2-hours Tutorial (T) per week = 1 Credit 04-Credits courses are to be designed for 40 hours' theory and 12-14 hours of practical sessions

2-hours Practical / Drawing (P) per week = 1 Credit 03-Credits courses are to be designed for 40 hours of Teaching-Learning Session

2-hours Practical / Drawing (P) per week = 1 Credit 02-Credits courses are to be designed for 25 hours of Teaching-Learning Session

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2-hours Skill Development Activities (SDA) per week = 1 Credit 01-Credit courses are to be designed for 12-15 hours of Teaching-Learning sessions

Student's Induction Program: Motivating (Inspiring) Activities under the Induction program - The main aim of the induction program is to provide newly admitted students a broad understanding of society, relationships, and values. Along with the knowledge and skill of his/her study, students' character needs to be nurtured as an essential quality by which s/he should understand and fulfill the responsibility as an engineer. The following activities are to be covered in 21 days. Physical Activity, Creative Arts, Universal Human Values, Literary, Proficiency Modules, Lectures by Eminent People, Visits to Local areas, Familiarization with Department/Branch and Innovation, etc. For details, refer the ANNEXURE-I of Induction Programs notification of the University published at the beginning of the 1st semester.

AICTE Activity Points to be earned by students admitted to BE/B.Tech. / B. Plan day college program (For more details refer to Chapter 6, AICTE Activity Point Program, Model Internship Guidelines). Over and above the academic grades, every regular student admitted to the 4 years Degree program and every student entering 4 years Degree programs through lateral entry, shall earn 100 and 75 Activity Points respectively for the award of degree through AICTE Activity Point Program. Students transferred from other Universities to the 5th semester are required to earn 50 Activity Points from the year of entry to VTU. The Activity Points earned shall be reflected on the student's eighth semester Grade Card. The activities can be spread over the years, any time during the semester weekends, and holidays, as per the liking and convenience of the student from the year of entry to the program. However, the minimum hours' requirement should be fulfilled. Activity Points (non-credit) do not affect SGPA/CGPA and shall not be considered for vertical progression. In case students fail to earn the prescribed activity Points, an Eighth Semester Grade Card shall be issued only after earning the required activity points. Students shall be admitted for the award of the degree only after the release of the Eighth semester Grade Card.

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III Semester

BE in Artificial Intelligence and Data Science

Scheme of Teaching III Semester

Outcome Based Education and Choice Based Credit System (CBCS)
Effective from the academic year Batch - 2024-2028

Sl.				Teaching	Teac	hing Hours	s/Week		Examir	nation	
No	Course	Course Code	Course Title	Dept. (TD)/	Theory	Tutorial	Practical	CIE	SEE	Total	Credits
110				Board	L	T	P	Marks	Marks	Marks	Cicuits
1	BSC	24AD31	Mathematics III for CSE	TD: Maths	2	2	0	50	50	100	0.4
1	ВЗС	2 1 AD31	Wathernaties III for CSE	PSB: Maths	3	2	U	50	50	100	04
2	PCC	24AD32	Operating systems	TD:AD	4	0	0	7 0	5 0	100	0.4
2	rcc	24AD32	Operating systems	PSB AD	4	0	U	50	50	100	04
3	PCC	24AD33	Data Stanatura & Amaliantiana	TD:AD		•	0	•	-0	400	0.2
	rcc	24AD33	Data Structure & Applications	PSB AD	3	0	U	50	50	100	03
4	IPCC	24AD34	Digital Design & Computer	TD:AD	2	0	2	7 0	5 0	100	0.4
 	ircc	24AD34	Organization	PSB AD	3	0	2	50	50	100	04
5	PCCL	24ADL35	Data Structure & Applications	TD:AD	0	0	2	5 0	5 0	100	0.1
<i>J</i>	FCCL	24ADL33	lab	PSB AD	0	0	2	50	50	100	01
6	ESC/PL	24AD36X	ESC/ETC/PLC	TD:AD	•	0	2	7 0	5 0	100	0.2
	С	24AD30A	ESC/ETC/FLC	PSB AD	2	0	2	50	50	100	03
7	AEC	24AD37X	Ability Enhancement Course -	TD:AD	0	0	2	7 0	5 0	100	0.1
/	ALC	24AD3/A	III	PSB AD	0	0	2	50	50	100	01
		24NS38/24PE		NSS/YOGA/							
8	MC	38/24YO38	NSS/ PE/ YOGA	PE	0	0	2	100	-	100	-
		2 3. 2 . 1 3 2 3		coordinator							
			Total					450	350	800	20

Engineering	Science Course (ESC/ETC/PLC)		
24AD36A	Object Oriented Programming with Java	24AD36C	Python Programming for Data Science
24AD36B	Object Oriented Programming with C++	2.112500	Tymon Tregramming for Batta Serence
Ability Enhan	ncement Course – III		
24AD37A Data Analytics with Excel		24AD37C	Prompt Engineering with ChatGPT
24AD37B	Project Management with Git	24AD37C	Frompt Engineering with ChatGF1

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IV Semester

BE in Artificial Intelligence and Data Science

Scheme of Teaching IV Semester

Outcome Based Education and Choice Based Credit System (CBCS)

Effective from the academic year Batch - 2024-2028

Sl.				Teaching	Teach	ing Hours	/Week		Exami	nation	
No	Course	Course Code	Course Title	Dept. (TD)/	Theory	Tutorial	Practical	CIE	SEE	Total	Credits
110				Board	L	T	P	Marks	Marks	Marks	Creans
1	PCC	24AD41	Design and Analysis Algorithm	TD:AD	3	0	0	50	50	100	3
			, , , , , , , , , , , , , , , , , , ,	PSB AD	<i>J</i>	U		50		100	<i>J</i>
2	PCC	24AD42	Database Management system	TD:AD	2	0	0	50	50	100	2
	100	2 17 110 12	Database Wanagement System	PSB AD	3	0	O .	30	30	100	3
3	PCC	24AD43	Principles of AI	TD:AD	2	0	0	50	5 0	100	2
	100	24AD43	Timespies of Ai	PSB AD	3	0	U	50	50	100	3
4	IPCC	24AD44	Data Amalytica with D	TD:AD	_		2				
4	ircc	24AD44	Data Analytics with R	PSB AD	3	0	2	50	50	100	4
5	DCCI	24 A DI 45	Design and Analysis Algorithm	TD:AD			2				
3	PCCL	24ADL45	Lab	PSB AD	0	0	2	50	50	100	1
6	BSC/ES	24AD46X	ESC	TD:AD	_	_	0				
U	С	24AD40A	ESC	PSB AD	2	2	0	50	50	100	3
7	AEC	24 A D 47 V	Ability Enhancement Comme	TD:AD			2				
/	AEC	24AD47X	Ability Enhancement Course	PSB AD	0	0	2	50	50	100	1
8	UHV	24UH48	Universal Human Values	Any dept	2	0	0	50	50	100	2
		24NS49/		NSS/YOGA/							
9	MC	24PE49/	NSS/PE/YOGA	PE	0	0	2	100	_	100	_
		24YO49		coordinator							
			Total					500	400	900	20

Engineering Science Course (ESC/ETC/PLC)							
24AD46A	Algorithmic Game Theory	24AD46C	Graph Theory				
24AD46B	Discrete Mathematics Structures	24AD46D	Optimization Technique				
Ability Enhancement Course – III							
24AD47A	Angular JS	24AD47C	MERN				
24AD47B	DBMS with SQL and Mango DB	24AD4/C	WEKN				

Autonomous Scheme Handbook

V Semester

BE in Artificial Intelligence and Data Science **Scheme of Teaching V Semester**

Outcome Based Education and Choice Based Credit System (CBCS) Effective from the academic year Batch - 2024-2028

Sl.		Course		Teaching	Teach	ing Hours	/Week		Exan	nination	
No	Course	Course	Course Title	Dept. (TD)/	Theory	Tutorial	Practical	CIE	SEE	Total	Credits
110		Code		Board	L	T	P	Marks	Marks	Marks	Credits
1	HSMC	24AD51	Software Engineering with Project	TD:AD	3	0	0	50	50	100	2
_	TIONIC	24711031	Management	PSB AD	3	U	U	30	30	100	3
2	PCC	24AD52	Theory of computations	TD:AD	2	2	0	50	50	100	4
	100	24AD32	Theory of computations	PSB AD	3	2	U	50	50	100	4
3	IPCC	24AD53	Computer Networks	TD:AD	2	•	2	50	50	100	4
3	псс	24AD33	Computer Networks	PSB AD	3	0	2				4
4	PCCL	24ADL54	Data Visualization using Power BI	TD:AD	•	•	2	.	7 0	100	
	TCCL	Z4ADL34	and Tableau	PSB AD	0	0	<u> </u>	50	50	100	1
5	PEC	24AD55X	Professional Elective 1	TD:AD	,	0	0	5 0	50	100	4
<i>J</i>	TEC	Z4ADJJA	Professional Elective 1	PSB AD	4	0	U	50			4
6	AEC	24RM56	Research Methodology and IPR	Any dept	3	0	0	50	50	100	3
7	NCMC	24ES57	Environmental Studies and E-waste	TD:CV			0	50		100	-
/	INCIVIC	24ES3 /	Management*	PSB CV	1	0	0		50	100	
		24NS58/		NSS/YOGA/							
8	MC	24PE58/	NSS/PE/YOGA	PE	0	0	2	100	-	100	-
		24YO58		coordinator							
NO	Total							450	350	800	19

^{*}Environmental Studies and E-waste Management is under the category of NCMC, 1 hour teaching per week has to be allocated in the timetable.

PEC-1			
24AD55A	Introduction to Computational Learning Theory	24AD55C	Business Intelligence
24AD55B	Data Mining & Warehousing	24AD55D	Cloud Computing

Autonomous Scheme Handbook

VI Semester

BE in Artificial Intelligence and Data Science

Scheme of Teaching VI Semester

Outcome Based Education and Choice Based Credit System (CBCS)

Effective from the academic year Batch - 2024-2028

	Teaching			Teaching Hours /Week			Examination				
Sl. No	Course	Course Code	Course Title	Dept. (TD)/ Board	Theor y L	Tutorial T	Practical P	CIE Marks	SEE Marks	Total Marks	Credits
1	PCC	24AD61	Machine Learning	TD:AD PSB AD	3	0	0	50	50	100	3
2	IPCC	24AD62	Big Data analytics	TD:AD PSB AD	3	0	2	50	50	100	4
3	PCCL	24AD63	Machine Learning lab	TD:AD PSB AD	0	0	2	50	50	100	1
4	PEC	24AD64X	Program Elective Course-2	TD:AD PSB AD	3	2	0	50	50	100	4
5	PEC	24AD65X	Program Elective Course-3	TD:AD PSB AD	4	0	0	50	50	100	4
6	OEC	24XX6X	Open Elective -1	Respective Dept	3	0	0	50	50	100	3
7	PROJ	24ADP67	Mini Project	TD:AD PSB AD	0	0	4	100	-	100	2
8	MC	24NS68/24PE68 / 24YO68	NSS/PE/YOGA	NSS/YOGA/ PE coordinator	0	0	2	100	-	100	ı
			Total					500	300	800	21

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PEC-2			
24AD64A	Computer Vision	24AD64C	Exploratory Data Analysis
24AD64B	Information Retrieval	24AD64D	Digital Image Processing
PEC-3			
24AD65A	Human-Centered AI	24AD65C	Blockchain Technology
24AD65B	Natural Language Processing	24AD65D	Time Series Analysis
_			
Open Elective	e -1		
24AD66A	Introduction to Data Structures	24AD66C	Mobile Application Development
24AD66B	Fundamentals of Operating Systems	24AD66D	Introduction to Artificial Intelligence

Autonomous Scheme Handbook

VII Semester

BE in Artificial Intelligence and Data Science

Scheme of Teaching VII Semester

Outcome Based Education and Choice Based Credit System (CBCS)

Effective from the academic year Batch - 2024-2028

				Teaching	Teach	ing Hours	/Week	Examination				
Sl. No	Cours e	Course Code	Course Title	Dept. (TD)/ Board	Theory L	Tutorial T	Practical P	CIE Marks	SEE Mark s	Total Marks	Credits	
1	PCC	24AD71	Data Security & Privacy	TD:AD PSB AD	4	0	0	50	50	100	4	
2	PCC	24AD72	Statistical Machine Learning for Data Science	TD:AD PSB AD	3	2	0	50	50	100	4	
3	IPCC	24AD73	Deep Learning & Reinforcement Learning	TD:AD PSB AD	3	0	2	50	50	100	4	
4	PCCL	24ADL74	Generative AI Lab	TD:AD PSB AD	0	0	2	50	50	100	1	
5	PEC	24AD75X	Program Elective Course-4	TD:AD PSB AD	4	0	0	50	50	100	4	
6	OEC	24XX76X	Open Elective -2	Respective Dept	4	0	0	50	50	100	4	
7	PROJ	24ADP77	Project Work Pahse-1	TD:AD PSB AD	0	0	4	100	-	100	2	
			Total					400	300	700	23	

Autonomous Scheme Handbook

PEC-4			
24AD75A	Scalable Data Systems	24AD75C	Business Analytics
24AD75B	Data Engineering & MLOps	24AD75D	Social Network Analysis

Open Elective Course -2							
24AD76A	Introduction to DBMS	24AD76C	Software Engineering				
24AD76B	Data Analytics	24AD76D	Introduction to Machine Learning				

VIII Semester

BE in Artificial Intelligence and Data Science

Scheme of Teaching VIII Semester
Outcome Based Education and Choice Based Credit System (CBCS) Effective from the academic year Batch - 2024-2028

Teaching Teaching Hours / Week E					Exami	amination					
Sl. No Course		Course	('ourse Title	Dept. (TD)/		Tutorial	Practical Practical	CIE	SEE	Total	Credits
110		Code		Board	L	T	P	Marks	Marks	Marks	Credits
1	INT	24INT81	Research / Industrial Internship	TD:AD PSB AD	Two contact between the	100	100	200	5		
2	PROJ	24ADP82	Project Work Phase - II	TD:AD PSB AD	Three contact hours for interaction between the faculty and students			100	100	200	12
			Total					200	200	400	17