

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING-ARTIFICIAL INTELLIGENCE

Bachelor of Technology in Computer Science & Engineering – Artificial Intelligence & Machine Learning - 2025 Mandatory Induction Program (Duration: 3 weeks)

- Physical activity
- Creative Arts
- Universal Human Values
- Literary
- Proficiency Modules
- Lectures by Eminent People
- Visits to local Areas
- Familiarization to Department/Branch & Innovations

SEMESTER - I

Sl. No.	Course	Course Name	L	т	Р	Evaluat Schen		Total	Credits	Course
	Code					CIA	TEE	Marks		Туре
1	BHS00001	English for Technical Communication	3	0	0	40	60	100	3	HSMC
2	BHS00004	Understanding Harmony and Ethical Human Conduct	2	0	0	40	60	100	2	HSMC
3	BHS00010	Design Thinking	1	0	0	20	30	50	1	HSMC
4	BBS00005	Calculus	3	0	0	40	60	100	3	BSC
5	BBS00015	Semiconductor Physics	3	1	0	40	60	100	4	BSC
6	BES00006	Programming for Problem Solving	3	1	0	40	60	100	4	ESC
7	BBS09022	Semiconductor Physics Lab	0	0	2	40	60	100	1	BSC
8	BES09012	Programming for Problem Solving Lab	0	0	2	40	60	100	1	ESC
9	BES00022	Foundations of Artificial Intelligence	1	0	0	20	30	50	1	ESC
10	BAU00002	Environmental Sciences*	2*	0	0	50*	0	50*	0	AUC*
		TOTAL	16+2*	2	4	320+50*	480	800+50*	20.0	

SEMESTER - II

Sl. No.	Course	Course Name	L	т	Р		ation eme	Total	Credits	Course
	Code					CIA	TEE	Marks		Type
1	BHS07008	Effective Communication and Soft Skills	2	0	2	40	60	100	3	HSMC
2	BBS00002	Algebra and Vector Calculus	3	0	0	40	60	100	3	BSC
3	BBS00023	Applied Chemical Sciences	2	0	0	40	60	100	2	BSC
4	BTA20101	Essential Mathematics for Machine Learning	3	1	0	40	60	100	4	PCC
5	BES07010	Data Structure and Algorithms	3	0	2	40	60	100	4	ESC
6	BES07018	Essential Computing and AI Tools for Engineers	2	0	2	40	60	100	3	ESC
7	BBS09024	Applied Chemical Sciences Lab	0	0	2	40	60	100	1	BSC
8	BAU00004	Yoga and Sports*	2*	0	0	0	0	0	0	AUC*
		TOTAL	15+2*	1	8	280	420	700	20.0	



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SEMESTER - III

Sl. No.	Course Code	Course Name	L	т	Р	Evaluat Schen	-	Total	Credits	Course
			_	•	-	CIA	TEE	Marks	O. Guillo	Type
1	BBS00008	Discrete Mathematics	3	0	0	40	60	100	3	BSC
2	BTA30102	Computer Organization and Architecture	3	1	0	40	60	100	4	PCC
3	BTA30103	Database Management Systems	3	0	0	40	60	100	3	PCC
4	BTA30104	Python for Machine Learning	3	0	0	40	60	100	3	PCC
5	BTA39105	Computer Organization and Architecture Lab	0	0	2	20	30	50	1	PCC
6	BTA39106	Database Management Systems Lab	0	0	2	20	30	50	1	PCC
7	BTA39107	Python for Machine Learning Lab	0	0	2	20	30	50	1	PCC
8	BTA38101	Python Projects	0	0	0	40	60	100	4	PROJ
9	BAU00001	Constitution of India*	2*	0	0	50*	0	50*	0	AUC*
		TOTAL	12+2*	1	6	260+50*	390	650+50*	20.0	
# МООС	's to earn additio	onal credits for optional Honours/Minor D	egree			•		•	•	

SEMESTER - IV

Sl. No.	Course Code	Course Name	L	т	Р		ation eme	Total	Credits	Course
						CIA	TEE	Marks		Туре
1	BHS00009	General Proficiency and Workplace Communication	2	0	0	50	0	50	2	HSMC
2	BTA40108	Business Intelligence	3	0	0	40	60	100	3	PCC
3	BTA40109	Operating Systems	3	0	0	40	60	100	3	PCC
4	BTA40110	Design and Analysis of Algorithms	3	0	0	40	60	100	3	PCC
5	BTA40111	Object Oriented Programming	3	0	0	40	60	100	3	PCC
6	BTA40112	Formal Language and Automata Theory	3	0	0	40	60	100	3	PCC
7	BTA49113	Operating Systems Lab	0	0	2	20	30	50	1	PCC
8	BTA49114	Design and Analysis of Algorithms Lab	0	0	2	20	30	50	1	PCC
9	BTA49115	Object Oriented Programming Lab	0	0	2	20	30	50	1	PCC
10	BTA48102	Project on Business Intelligence	0	0	0	40	60	100	4	PROJ
		TOTAL	17	0	6	350	450	800	24.0	

MOOCs to earn additional credits for optional Honours/Minor Degree



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SEMESTER - V

Sl. No.	Course Code	Course Name	L	т	Р		ation eme	Total Marks	Credits	Course
						CIA	TEE	IVIAI NS		Туре
1	BTA50116	Computer Networks	3	0	0	40	60	100	3	PCC
2	BTA50117	Artificial Intelligence	3	0	0	40	60	100	3	PCC
3	BTA50118	Compiler Design	3	1	0	40	60	100	4	PCC
4	BTA57201	Professional Elective Course – I	2	0	2	40	60	100	3	PEC
5	BTA59119	Computer Networks Lab	0	0	2	20	30	50	1	PCC
6	BTA59120	Artificial Intelligence Lab	0	0	2	20	30	50	1	PCC
7	BTA59121	Compiler Design Lab	0	0	2	20	30	50	1	PCC
8	BTA58103	Project on Al	0	0	0	40	60	100	4	PROJ
		TOTAL	11	1	8	260	390	650	20.0	

MOOCs to earn additional credits for optional Honours/Minor Degree

SEMESTER - VI

Sl. No.	Course Code	Course Name	L	т	Р		ation eme	Total	Credits	Course
31.140.	Course coue	Course Nume	-	•	•	CIA	TEE	Marks	Cicuits	Туре
1	BTA60122	Machine Learning	3	1	0	40	60	100	4	PCC
2	BTA60123	Natural Language Processing	3	0	0	40	60	100	3	PCC
3	BTA60124	Data Mining and Data Warehousing	3	0	0	40	60	100	3	PCC
4	BTA60125	Artificial Intelligence in Blockchain	3	1	0	40	60	100	4	PCC
5	BTA67202	Professional Elective Course – II	2	0	2	40	60	100	3	PEC
6	BTA60301	Open Elective Course – I	3	0	0	40	60	100	3	OEC
7	BTA69126	Machine Learning Lab	0	0	2	20	30	50	1	PCC
8	BTA68104	Internship	0	0	0	40	60	100	2	PROJ
		TOTAL	17	2	4	300	450	750	23.0	

MOOCs to earn additional credits for optional Honours/Minor Degree



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SEMESTER - VII

Sl. No.	Course Code	Course Name	L	т	Р	Evalu Sche		Total	Credits	Course
	000.00		_	-	-	CIA	TEE	Marks	O. Guillo	Type
1	BTA70127	Software Engineering	3	1	0	40	60	100	4	PCC
2	BTA70128	Intelligent Embedded Systems	3	1	0	40	60	100	4	PCC
3	BTA77203	Professional Elective Course - III	2	0	2	40	60	100	3	PEC
4	BTA70204	Professional Elective Course - IV	3	0	0	40	60	100	3	PEC
5	BTA70302	Open Elective Course – II	3	0	0	40	60	100	3	OEC
6	BTA79129	Software Engineering Tools and Techniques Lab	0	0	2	20	30	50	1	PCC
7	BTA78105	Industrial Training	0	0	0	40	60	100	2	PROJ
		TOTAL	14	2	4	260	390	650	20.0	

MOOCs to earn additional credits for optional Honours/Minor Degree

SEMESTER - VIII

SI. No.	Course Code	Course Name	L	т	P	Evalu Sche		Total	Credits	Course
		333133113	_	-	-	CIA	TEE	Marks	0.00.10	Type
1	BTA88106	Project	0	0	0	40	60	100	16	PROJ
2	BTA88107	Grand Viva-Voce	0	0	0	40	60	100	4	PROJ
		TOTAL	0	0	0	80	120	200	20.0	

MOOCs to earn additional credits for optional Honours/Minor Degree

[#] Additional 18-20 credits from MOOCs of SWAYAM platform are to be earned for the optional Minor/Honours degree. Students are required to register for this after completion of their first year. Evaluation of MOOCs will be as per the guidelines of the Blended Learning and MOOCs Policy



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	PROFESSIONAL ELECTIVE CO	URSES [PEC	[]			
		Hou	rs per v	veek		
Course Code	Course Name	L	Т	Р	Credits	Credit Hours
		l				
	PROFESSIONAL ELECTIVE COURSES [PEC - I]					
DT457004	A. Soft Computing	2	0	2	3	4
BTA57201	B. Image Processing	2	0	2	3	4
	C. Cloud Computing	2	0	2	3	4
	PROFESSIONAL ELECTIVE COURSES [PEC - II]					
	A. Computer Vision	2	0	2	3	4
BTA67202	B. Pattern Recognition	2	0	2	3	4
	C. Optimization Techniques	2	0	2	3	4
	1			ı		
	PROFESSIONAL ELECTIVE COURSES [PEC - III]					
	A. Deep Learning	2	0	2	3	4
BTA77203	B. Quantum Computing	2	0	2	3	4
	C. Cyber Threat Intelligence	2	0	2	3	4
	PROFESSIONAL ELECTIVE COURSES [PEC - IV]					
	A. Internet of Things	3	0	0	3	3
BTA70204	B. Full Stack Using Scripting Technologies	3	0	0	3	3
	C. Introduction to Big Data Analytics	3	0	0	3	3

	OPEN ELECTIVE CO	URSES [OEC]				
Course Code	Course Name	Hou	rs per v	week	Credits	Credit Hour
course code	Course Name	L	Т	Р	Credits	Credit Hour
	OPEN ELECTIVE COURSES [OEC- I]					
	A. Software Project Management	3	0	0	3	3
BTA60301	B. Organisational Behaviour	3	0	0	3	3
	C. MOOC	3	0	0	3	3
	OPEN ELECTIVE COURSES [OEC - II]					
	A. Entrepreneurship Basics	3	0	0	3	3
BTA70302	B. Cyber Law and Ethics	3	0	0	3	3
	C. MOOC*	3	0	0	3	3

^{*}MOOC/Equivalent MOOC approved by BoS Chair (Evaluation scheme as per Blended Learning and MOOCs Policy)