



**BRAINWARE UNIVERSITY
SCHOOL OF ENGINEERING**

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 Code	Course Name	L	T	P	Evaluation Scheme		Total Marks	Credits	Course Type
						CIA	TEE			
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 Code	Course Name	L	T	P	Evaluation Scheme		Total Marks	Credits	Course Type
						CIA	TEE			
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 – VII

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total Marks	Credits	Course Type
						CIA	TEE			
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

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total Marks	Credits	Course Type
						CIA	TEE			
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 COURSES [PEC]						
Course Code	Course Name	Hours per week			Credits	Credit Hours
		L	T	P		
	PROFESSIONAL ELECTIVE COURSES [PEC - I]					
BTA57201	A. Soft Computing	2	0	2	3	4
	B. Image Processing	2	0	2	3	4
	C. Cloud Computing	2	0	2	3	4
	PROFESSIONAL ELECTIVE COURSES [PEC - II]					
BTA67202	A. Computer Vision	2	0	2	3	4
	B. Pattern Recognition	2	0	2	3	4
	C. Optimization Techniques	2	0	2	3	4
	PROFESSIONAL ELECTIVE COURSES [PEC - III]					
BTA77203	A. Deep Learning	2	0	2	3	4
	B. Quantum Computing	2	0	2	3	4
	C. Cyber Threat Intelligence	2	0	2	3	4
	PROFESSIONAL ELECTIVE COURSES [PEC - IV]					
BTA70204	A. Internet of Things	3	0	0	3	3
	B. Full Stack Using Scripting Technologies	3	0	0	3	3
	C. Introduction to Big Data Analytics	3	0	0	3	3

OPEN ELECTIVE COURSES [OEC]						
Course Code	Course Name	Hours per week			Credits	Credit Hours
		L	T	P		
	OPEN ELECTIVE COURSES [OEC - I]					
BTA60301	A. Software Project Management	3	0	0	3	3
	B. Organisational Behaviour	3	0	0	3	3
	C. MOOC	3	0	0	3	3
	OPEN ELECTIVE COURSES [OEC - II]					
BTA70302	A. Entrepreneurship Basics	3	0	0	3	3
	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)