



BRAINWARE UNIVERSITY
SCHOOL OF ENGINEERING
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Bachelor of Technology in Computer Science & Engineering – Artificial Intelligence & Machine Learning - 2024

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	BBS00015	Semiconductor Physics	3	1	0	40	60	100	4	BSC
4	BBS00005	Calculus	3	0	0	40	60	100	3	BSC
5	BES00002	Basic Electrical and Electronics Engineering	3	1	0	40	60	100	4	ESC
6	BBS09022	Semiconductor Physics Lab	0	0	2	40	60	100	1	BSC
7	BES09008	Basic Electrical and Electronics Engineering Lab	0	0	2	40	60	100	1	ESC
8	BES09014	Engineering Graphics and Design Lab	0	0	3	40	60	100	1.5	ESC
9	BAU00002	Environmental Sciences	2	0	0	0	0	0	0	AUC
TOTAL			16	2	7	320	480	800	19.5	

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	BBS00010	Engineering Chemistry	3	1	0	40	60	100	4	BSC
3	BBS00002	Algebra and Vector Calculus	3	0	0	40	60	100	3	BSC
4	BES00006	Programming for Problem Solving	3	1	0	40	60	100	4	ESC
5	BES07010	Data Structure and Algorithms	3	0	2	40	60	100	4	ESC
6	BBS09020	Engineering Chemistry Lab	0	0	2	40	60	100	1	BSC
7	BES09012	Programming for Problem Solving Lab	0	0	2	40	60	100	1	ESC
8	BES09015	Workshop and Manufacturing Practices	0	0	3	40	60	100	1.5	ESC
9	BAU00004	Yoga and Sports	2	0	0	0	0	0	0	AUC
TOTAL			16	2	10	320	480	800	21.5	



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SEMESTER – III

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total Marks	Credits	Course Type
						CIA	TEE			
1	BBS00008	Discrete Mathematics	3	0	0	40	60	100	3	BSC
2	BES00007	Python Programming	3	1	0	40	60	100	4	ESC
3	BTA30101	Computer Organization and Architecture	3	1	0	40	60	100	4	PCC
4	BTA30102	Database Management Systems	3	1	0	40	60	100	4	PCC
5	BES09013	Python Programming Lab	0	0	2	40	60	100	1	ESC
6	BTA39103	Computer Organization and Architecture Lab	0	0	2	40	60	100	1	PCC
7	BTA39104	Database Management Systems Lab	0	0	2	40	60	100	1	PCC
8	BAU00001	Constitution of India	2	0	0	0	0	0	0	AUC
TOTAL			14	3	6	320	480	700	18.0	

SEMESTER – IV

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total Marks	Credits	Course Type
						CIA	TEE			
1	BHS00005	Design Thinking for Entrepreneurship and Startups	3	0	0	40	60	100	3	HSMC
2	BBS00014	Probability and Statistics	3	0	0	40	60	100	3	BSC
3	BTA40105	Operating Systems	3	0	0	40	60	100	3	PCC
4	BTA40106	Design and Analysis of Algorithms	3	0	0	40	60	100	3	PCC
5	BTA40107	Object Oriented Programming	3	0	0	40	60	100	3	PCC
6	BTA40108	Formal Language and Automata Theory	3	0	0	40	60	100	3	PCC
7	BTA49109	Operating Systems Lab	0	0	3	40	60	100	1.5	PCC
8	BTA49110	Design and Analysis of Algorithms Lab	0	0	3	40	60	100	1.5	PCC
9	BTA49111	Object Oriented Programming Lab	0	0	3	40	60	100	1.5	PCC
TOTAL			18	0	9	360	540	900	22.5	



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SEMESTER – V

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total Marks	Credits	Course Type
						CIA	TEE			
1	BTA50112	Computer Networks	3	1	0	40	60	100	4	PCC
2	BTA50113	Artificial Intelligence	3	1	0	40	60	100	4	PCC
3	BTA50114	Compiler Design	3	1	0	40	60	100	4	PCC
4	BTA50115	Professional Ethics	2	0	0	40	60	100	2	PCC
5	BTA50201	Professional Elective Course - I	3	0	0	40	60	100	3	PEC
6	BTA59116	Computer Networks Lab	0	0	2	40	60	100	1	PCC
7	BTA59117	Artificial Intelligence Lab	0	0	3	40	60	100	1.5	PCC
8	BTA59118	Compiler Design Lab	0	0	3	40	60	100	1.5	PCC
TOTAL			14	3	8	320	480	800	21.0	

SEMESTER – VI

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total Marks	Credits	Course Type
						CIA	TEE			
1	BTA60119	Machine Learning	3	1	0	40	60	100	4	PCC
2	BTA60120	Data Mining and Data Warehousing	3	0	0	40	60	100	3	PCC
3	BTA60121	Artificial Intelligence in Blockchain	3	1	0	40	60	100	4	PCC
4	BTA60202	Professional Elective Course - II	3	0	0	40	60	100	3	PEC
5	BTA60301	Open Elective Course - I	3	0	0	40	60	100	3	OEC
6	BTA69122	Machine Learning Lab	0	0	2	40	60	100	1	PCC
7	BTA69123	Data Mining and Data Warehousing Lab	0	0	3	40	60	100	1.5	PCC
TOTAL			15	2	5	280	420	700	19.5	



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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	BTA70124	Software Engineering	3	1	0	40	60	100	4	PCC
2	BTA70125	Intelligent Embedded Systems	3	1	0	40	60	100	4	PCC
3	BTA70203	Professional Elective Course - III	3	0	0	40	60	100	3	PEC
4	BTA70302	Open Elective Course - II	3	0	0	40	60	100	3	OEC
5	BTA70303	Open Elective Course - III	3	0	0	40	60	100	3	OEC
6	BTA79126	Software Tools and Techniques Lab	0	0	2	40	60	100	1	PCC
7	BTA78101	Industrial Training	0	0	0	0	100	100	2	PROJ
8	BTA78102	Project - I	0	0	0	40	60	100	4	PROJ
TOTAL			15	2	2	280	520	800	24.0	

SEMESTER – VIII

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total Marks	Credits	Course Type
						CIA	TEE			
1	BTA88103	Project - II	0	0	0	40	60	100	12	PROJ
2	BTA88104	Grand Viva Voce	0	0	0	0	100	100	4	PROJ
TOTAL			0	0	0	40	160	200	16	



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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]				
BTA50201	A. Soft Computing	3	0	0	3	3
	B. Image Processing	3	0	0	3	3
	C. Cloud Computing	3	0	0	3	3
PROFESSIONAL ELECTIVE COURSES [PEC - II]						
BTA60202	A. Computer Vision	3	0	0	3	3
	B. Pattern Recognition	3	0	0	3	3
	C. Optimization Techniques	3	0	0	3	3
PROFESSIONAL ELECTIVE COURSES [PEC - III]						
BTA70203	A. Deep Learning	3	0	0	3	3
	B. Quantum Computing	3	0	0	3	3
	C. Cyber Threat Intelligence	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. MOOCs	3	0	0	3	3
OPEN ELECTIVE COURSES [OEC - II]						
BTA70302	A. Innovation and Entrepreneurship	3	0	0	3	3
	B. Cyber law and Ethics	3	0	0	3	3
	C. MOOCs	3	0	0	3	3
OPEN ELECTIVE COURSES [OEC - III]						
BTA70303	A. Financial Management	3	0	0	3	3
	B. Engineering Economics	3	0	0	3	3
	C. MOOCs	3	0	0	3	3