BRAINWARE UNIVERSITY
SCHOOL OF ENGINEERING
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING – ARTIFICIAL INTELLIGENCE
Bachelor of Technology in Computer Science & Engineering – Artificial Intelligence & Robotics - 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	BBS00010	Engineering Chemistry	3	1	0	40	60	100	4	BSC
4	BBS00005	Calculus	3	0	0	40	60	100	3	BSC
5	BES00006	Programming for Problem Solving	3	1	0	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**	**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	BBS00015	Semiconductor Physics	3	1	0	40	60	100	4	BSC
3	BBS00002	Algebra and Vector Calculus	3	0	0	40	60	100	3	BSC
4	BES00002	Basic Electrical and Electronics Engineering	3	1	0	40	60	100	4	ESC
5	BES07010	Data Structure and Algorithms	3	0	2	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**	**11**	**320**	**480**	**800**	**21.5**	

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	BTR30101	Computer Organization and Architecture	3	1	0	40	60	100	4	PCC
4	BTR30102	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	BTR39103	Computer Organization and Architecture Lab	0	0	2	40	60	100	1	PCC
7	BTR39104	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**	**280**	**420**	**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	BTR40105	Robot Operating Systems	3	0	0	40	60	100	3	PCC
4	BTR40106	Design and Analysis of Algorithms	3	0	0	40	60	100	3	PCC
5	BTR40107	Object Oriented Programming	3	0	0	40	60	100	3	PCC
6	BTR40108	Formal Language and Automata Theory	3	0	0	40	60	100	3	PCC
7	BTR40109	Material Science	3	0	0	40	60	100	3	PCC
8	BTR49110	Robot Operating Systems Lab	0	0	2	40	60	100	1	PCC
9	BTR49111	Object Oriented Programming Lab	0	0	3	40	60	100	1.5	PCC
		TOTAL	**21**	**0**	**5**	**360**	**540**	**900**	**23.5**	

SEMESTER – V

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total Marks	Credits	Course Type
						CIA	TEE			
1	BTR50112	Robotics and Artificial Intelligence	3	1	0	40	60	100	4	PCC
2	BTR50113	Robot Safety and Maintenance	3	0	0	40	60	100	3	PCC
3	BTR50114	Theory of Machine & Machine Design	3	0	0	40	60	100	3	PCC
4	BTR50115	Professional Ethics	2	0	0	40	60	100	2	PCC
5	BTR50116	Robotic Algorithms	3	0	0	40	60	100	3	PCC
6	BTR57201	Professional Elective Course - I	2	0	2	40	60	100	3	PEC
7	BTR59117	Robotics and Artificial Intelligence Lab	0	0	2	40	60	100	1	PCC
TOTAL			**16**	**1**	**4**	**280**	**420**	**700**	**19.0**	

SEMESTER – VI

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total Marks	Credits	Course Type
						CIA	TEE			
1	BTR60118	Machine Learning	3	1	0	40	60	100	4	PCC
2	BTR60119	Robot Programming	3	1	0	40	60	100	4	PCC
3	BTR60120	Cognitive Robotics	3	1	0	40	60	100	4	PCC
4	BTR67202	Professional Elective Course - II	2	0	2	40	60	100	3	PEC
5	BTR60301	Open Elective Course-I	3	0	0	40	60	100	3	OEC
6	BTR69121	Machine Learning Lab	0	0	2	40	60	100	1	PCC
7	BTR69122	Robot Programming Lab	0	0	2	40	60	100	1	PCC
8	BTR69123	Cognitive Robotics Lab	0	0	2	40	60	100	1	PCC
TOTAL			**14**	**3**	**8**	**320**	**480**	**800**	**21.0**	

SEMESTER – VII

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total Marks	Credits	Course Type
						CIA	TEE			
1	BTR70124	Kinematics and Dynamics of Robots	3	0	0	40	60	100	3	PCC
2	BTR70125	Automation in Manufacturing Systems	3	0	0	40	60	100	3	PCC
3	BTR70126	Robot System Design	3	0	0	40	60	100	3	PCC
4	BTR77203	Professional Elective Course - III	2	0	2	40	60	100	3	PEC
5	BTR70302	Open Elective Course-II	3	0	0	40	60	100	3	OEC
6	BTR70303	Open Elective Course-III	3	0	0	40	60	100	3	OEC
7	BTR78101	Industrial Training	0	0	0	40	60	100	2	PROJ
8	BTR78102	Project-I	0	0	0	40	60	100	4	PROJ
TOTAL			**17**	**0**	**2**	**320**	**480**	**800**	**24.0**	

SEMESTER – VIII

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total Marks	Credits	Course Type
						CIA	TEE			
1	BTR88103	Project-II	0	0	0	40	60	100	12	PROJ
2	BTR88104	Grand Viva - Voce	0	0	0	40	60	100	4	PROJ
TOTAL			**0**	**0**	**0**	**80**	**120**	**200**	**16.0**	

Total Credit: 162.5

Total Marks: 5700

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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]					
BTR57201	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]					
BTR67202	A. Embedded System	2	0	2	3	4
	B. Control Systems	2	0	2	3	4
	C. VLSI Design	2	0	2	3	4
	PROFESSIONAL ELECTIVE COURSES [PEC - III]					
BTR77203	A. Robotic Sensors	2	0	2	3	4
	B. RIoT	2	0	2	3	4
	C. Quantum Computing	2	0	2	3	4

OPEN ELECTIVE COURSES [OEC]						

Course Code	Course Name	Hours per week			Credits	Credit Hours
		L	T	P		
	OPEN ELECTIVE COURSES [OEC- I]					
BTR60301	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]					
BTR70302	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
	OPEN ELECTIVE COURSES [OEC - III]					
BTR70303	A. Financial Management	3	0	0	3	3
	B. Engineering Economics	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)