



BRAINWARE UNIVERSITY
SCHOOL OF BIOTECHNOLOGY & BIOSCIENCES
DEPARTMENT OF BIOTECHNOLOGY
Bachelor of Technology in Biotechnology – 2026
As per NEP 2020

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	Credits	Course Type
						CIA	TEE			
1	BHS00001	English for Technical Communication	3	0	0	40	60	100	3	HSMC
2	BBS00004	Applied Physics	3	0	0	40	60	100	3	BSC
3	BBS09017	Applied Physics Lab	0	0	2	40	60	100	1	BSC
4	BBS00006	Chemistry	3	0	0	40	60	100	3	BSC
5	BBS09018	Chemistry Lab	0	0	2	40	60	100	1	BSC
6	BES00002	Basic Electrical and Electronics Engineering	3	1	0	40	60	100	4	ESC
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	BBS00007	Calculus and Linear Algebra	3	0	0	40	60	100	3	BSC
10	BAU00004	Yoga and Sports*	2*	0	0	0	0	0	0	AUC*
TOTAL			15+2*	1	9	360	540	900	20.5	

SEMESTER – II

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	TEE			
1	BHS07008	Effective Communication and Soft Skills	2	0	2	40	60	100	3	HSMC
2	BHS00004	Understanding Harmony and Ethical Human Conduct	2	0	0	40	60	100	2	HSMC
3	BBS00003	Applied Chemistry	3	1	0	40	60	100	4	BSC
4	BBS09016	Applied Chemistry Lab	0	0	2	40	60	100	1	BSC
5	BBS00023	Numerical Methods	3	0	0	40	60	100	3	BSC
6	BES00004	Computer Fundamentals and Python	3	0	0	40	60	100	3	ESC
7	BES09009	Computer Fundamentals and Python 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	BTB20101	Introduction to Biotechnology	2	0	0	40	60	100	2	ESC
10	BAU00001	Constitution of India*	2*	0	0	0	0	0	0	AUC*
TOTAL			15+2*	1	9	360	540	900	20.5	
11	UGPC0001	Foundations of Professional Communication	0	0	0	100	0	100	0	GPC



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SEMESTER – III

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	TEE			
1	BTB30102	Molecular Biology	4	0	0	40	60	100	4	PCC
2	BTB39103	Molecular Biology Lab	0	0	2	40	60	100	1	PCC
3	BTB30104	Cell Biology	3	0	0	40	60	100	3	PCC
4	BTB39105	Cell Biology Lab	0	0	3	40	60	100	1.5	PCC
5	BTB30106	Biochemistry	4	0	0	40	60	100	4	PCC
6	BTB39107	Biochemistry Lab	0	0	3	40	60	100	1.5	PCC
7	BTB30108	Microbiology	4	0	0	40	60	100	4	PCC
8	BTB39109	Microbiology Lab	0	0	3	40	60	100	1.5	PCC
9	BAU00002	Environmental Sciences*	2*	0	0	0	0	0	0	AUC*
TOTAL			15+2*	0	11	320	480	800	20.5	

SEMESTER – IV

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	TEE			
1	BTB40110	Immunology	3	0	0	40	60	100	3	PCC
2	BTB49111	Immunology Lab	0	0	3	40	60	100	1.5	PCC
3	BTB40112	Biostatistics	3	0	0	40	60	100	3	PCC
4	BTB40113	Genetics	4	0	0	40	60	100	4	PCC
5	BTB49114	Genetics Lab	0	0	3	40	60	100	1.5	PCC
6	BTB40201	A. Bioinformatics B. Environmental Biotechnology	3	1	0	40	60	100	4	PEC
7	BTB49202	A. Bioinformatics Lab B. Environmental Biotechnology Lab	0	0	3	40	60	100	1.5	PEC
8	BHS00011	Scientific Communication	2	0	0	40	60	100	2	HSMC
TOTAL			15	1	9	320	480	800	20.5	
9	UGPC0002	Workplace Communication and Professional Skills	0	0	0	100	0	100	0	GPC



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SEMESTER – V

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	TEE			
1	BHS00003	Principle and Practices of Management	3	0	0	40	60	100	3	HSMC
2	BTB50115	Enzyme Technology	3	0	0	40	60	100	3	PCC
3	BTB50116	Genetic Engineering and Applications	4	0	0	40	60	100	4	PCC
4	BTB59117	Genetic Engineering and Applications Lab	0	0	3	40	60	100	1.5	PCC
5	BTB50118	Stem Cell Technology	4	0	0	40	60	100	4	PCC
6	BTB50203	A. Cancer Biology B. MOOC*	3	0	0	40	60	100	3	PEC
7	BTB58101	Summer Internship-I	0	0	0	0	100	100	2	PROJ
TOTAL			17	0	3	240	460	700	20.5	
8	UGPC0003	Advanced Professional Communication and Employability Skills	0	0	0	100	0	100	0	GPC

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

SEMESTER – VI

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	TEE			
1	BHS00002	Innovation and Entrepreneurship	3	0	0	40	60	100	3	HSMC
2	BTB60119	Animal Biotechnology	4	0	0	40	60	100	4	PCC
3	BTB69120	Animal Biotechnology Lab	0	0	3	40	60	100	1.5	PCC
4	BTB60121	Bioprocess Engineering and Downstream Processing	4	0	0	40	60	100	4	PCC
5	BTB69122	Bioprocess Engineering and Downstream Processing Lab	0	0	3	40	60	100	1.5	PCC
6	BTB60204	A. Advanced Genomics and Proteomics B. Genome Editing and Protein Engineering C. MOOC*	4	0	0	40	60	100	4	PEC
7	BTB60301	A. IPR and Bioethics B. MOOC*	3	0	0	40	60	100	3	OEC
TOTAL			18	0	6	280	420	700	21	

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



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SEMESTER – VII

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	TEE			
1	BTB70123	Agricultural Biotechnology	4	0	0	40	60	100	4	PCC
2	BTB79124	Agricultural Biotechnology Lab	0	0	3	40	60	100	1.5	PCC
3	BTB70205	A. Biomaterials and Nanoengineering B. Food Technology C. MOOC*	3	0	0	40	60	100	3	PEC
4	BTB70206	A. Drug Development and Clinical Trials B. Comparative Genomics and Personalised Medicine C. MOOC*	3	0	0	40	60	100	3	PEC
5	BTB70302	A. Organisational Behaviour B. Engineering Economics C. MOOC*	3	0	0	40	60	100	3	OEC
6	BTB70303	A. Artificial Intelligence B. Data Science for Life Sciences C. MOOC*	3	0	0	40	60	100	3	OEC
7	BTB78102	Summer Internship -II	0	0	0	0	100	100	3	PROJ
TOTAL			16	0	3	240	460	700	20.5	

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

SEMESTER – VIII

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	TEE			
1	BTB88103	Major Project/Internship	0	0	0	40	60	100	12	PROJ
2	BTB88104	Grand Viva-voce	0	0	0	0	100	100	4	PROJ
3	BTB88105	Seminar/Journal Presentation	0	0	0	0	100	100	4	PROJ
TOTAL			0	0	0	40	260	300	20	

Total marks: 5800

Total Credits: 164

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.