



**BRAINWARE UNIVERSITY**  
**SCHOOL OF BIOTECHNOLOGY & BIOSCIENCES**  
**DEPARTMENT OF BIOTECHNOLOGY**  
**Bachelor of Technology in Biotechnology - 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	Credits	Course Type
						CIA	TEE			
						1	BHS00001			
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	BAU00003	Essence of Indian Knowledge and Tradition	2	0	0	0	0	0	0	AUC
<b>TOTAL</b>			<b>17</b>	<b>1</b>	<b>9</b>	<b>360</b>	<b>540</b>	<b>900</b>	<b>20.5</b>	

**SEMESTER – II**

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	TEE			
						1	BHS07008			
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	1	0	40	60	100	4	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	BAU00001	Constitution of India	2	0	0	0	0	0	0	AUC
<b>TOTAL</b>			<b>15</b>	<b>2</b>	<b>9</b>	<b>320</b>	<b>480</b>	<b>800</b>	<b>19.5</b>	



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**SEMESTER – III**

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	TEE			
1	BTB30101	Introduction to Biotechnology	3	0	0	40	60	100	3	PCC
2	BTB39102	Introduction to Biotechnology Lab	0	0	2	40	60	100	1	PCC
3	BTB30103	Cell Biology	4	0	0	40	60	100	4	PCC
4	BTB39104	Cell Biology Lab	0	0	3	40	60	100	1.5	PCC
5	BTB30105	Biochemistry	4	0	0	40	60	100	4	PCC
6	BTB39106	Biochemistry Lab	0	0	3	40	60	100	1.5	PCC
7	BTB30107	Microbiology	4	0	0	40	60	100	4	PCC
8	BTB39108	Microbiology Lab	0	0	3	40	60	100	1.5	PCC
9	BAU00002	Environmental Sciences	2	0	0	0	0	0	0	AUC
<b>TOTAL</b>			<b>17</b>	<b>0</b>	<b>11</b>	<b>320</b>	<b>480</b>	<b>800</b>	<b>20.5</b>	

**SEMESTER – IV**

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	TEE			
1	BTB40109	Immunology	4	0	0	40	60	100	4	PCC
2	BTB49110	Immunology Lab	0	0	3	40	60	100	1.5	PCC
3	BTB40111	Biostatistics	3	0	0	40	60	100	3	PCC
4	BTB40112	Genetics	4	0	0	40	60	100	4	PCC
5	BTB49113	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
<b>TOTAL</b>			<b>14</b>	<b>1</b>	<b>9</b>	<b>280</b>	<b>420</b>	<b>700</b>	<b>19.5</b>	



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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	BTB50114	Enzyme Technology	3	0	0	40	60	100	3	PCC
3	BTB50115	Molecular Biology	4	0	0	40	60	100	4	PCC
4	BTB50116	Genetic Engineering and Applications	4	0	0	40	60	100	4	PCC
5	BTB59117	Molecular Biology and Genetic Engineering Lab	0	0	3	40	60	100	1.5	PCC
6	BTB50203	A. Stem Cell Technology B. Cancer Biology	3	0	0	40	60	100	3	PEC
7	BTB58101	Summer Internship-I	0	0	0	0	100	100	2	PROJ
<b>TOTAL</b>			<b>17</b>	<b>0</b>	<b>3</b>	<b>240</b>	<b>460</b>	<b>700</b>	<b>20.5</b>	

**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	BTB60118	Animal Biotechnology	4	0	0	40	60	100	4	PCC
3	BTB69119	Animal Biotechnology Lab	0	0	3	40	60	100	1.5	PCC
4	BTB60120	Bioprocess Engineering and Downstream Processing	4	0	0	40	60	100	4	PCC
5	BTB69121	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	3	0	0	40	60	100	3	PEC
7	BTB60301	A. IPR and Bioethics B. MOOCs	3	0	0	40	60	100	3	OEC
8	BTB60302	A. Food and Nutrition B. MOOCs	3	0	0	40	60	100	3	OEC
<b>TOTAL</b>			<b>20</b>	<b>0</b>	<b>6</b>	<b>320</b>	<b>480</b>	<b>800</b>	<b>23</b>	



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**SEMESTER – VII**

Sl. No.	Course Code	Course Name	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	TEE			
1	BTB70122	Agricultural Biotechnology	4	0	0	40	60	100	4	PCC
2	BTB79123	Agricultural Biotechnology Lab	0	0	3	40	60	100	1.5	PCC
3	BTB70205	A. Biomaterials and Nanoengineering B. Food Technology	3	0	0	40	60	100	3	PEC
4	BTB70206	A. Drug Development and Clinical Trials B. Comparative Genomics and Personalised Medicine	3	0	0	40	60	100	3	PEC
5	BTB70303	A. Organisational Behaviour B. MOOC	3	0	0	40	60	100	3	OEC
6	BTB70304	A. Artificial Intelligence B. MOOC	3	0	0	40	60	100	3	OEC
7	BTB78102	Summer Internship -II	0	0	0	0	100	100	3	PROJ
<b>TOTAL</b>			<b>16</b>	<b>0</b>	<b>3</b>	<b>240</b>	<b>460</b>	<b>700</b>	<b>20.5</b>	

**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
<b>TOTAL</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>260</b>	<b>300</b>	<b>20</b>	