



**BRAINWARE UNIVERSITY**  
**SCHOOL OF BIOTECHNOLOGY AND BIOSCIENCES**  
**DEPARTMENT OF BIOTECHNOLOGY**  
**BACHELOR OF SCIENCE (HONOURS) IN BIOTECHNOLOGY-2022**  
**(As per UGC CBCS Template)**

**Semester I**

<b>Course Code</b>	<b>Course Name</b>	<b>Course Type</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Total Marks</b>
HU101	English Communication	AECC1	1-0-0	1	50
HU191	English Communication Lab	AECC1	0-0-2	1	50
BBTC103	General Microbiology	CC-1	4-0-0	4	100
BBTC193	General Microbiology Lab	CC-1	0-0-4	2	100
BBTC104	Biochemistry	CC-2	4-0-0	4	100
BBTC194	Biochemistry Lab	CC-2	0-0-4	2	100
GE *	Generic Elective 1 (Any one from the list of GE courses from other subjects)	GE-1	4/5-0/1-0	4/6	100
GE *	Generic Elective 1 (Any one from the list of GE courses from other subjects)	GE-1 Lab	0-0-4	2	100
<b>Total</b>			<b>27/25</b>	<b>20</b>	<b>600/700</b>

**SEMESTER – II**

<b>Course Code</b>	<b>Course Name</b>	<b>Course Type</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Total Marks</b>
ENV201	Environmental Studies	AECC2	2-0-0	2	100
BBTC203	Cell Biology	CC-3	5-1-0	6	100
BBTC204	Molecular Biology	CC-4	4-0-0	4	100
BBTC294	Molecular Biology Lab	CC-4	0-0-4	2	100
GE*	Generic Elective 2 (Any one from the list of GE courses from other subjects)	GE-2	4/5-0/1-0	4/6	100
GE *	Generic Elective 2 (Any one from the list of GE courses from other subjects)	GE-2 Lab	0-0-4	2	100
<b>Total</b>			<b>24/22</b>	<b>20</b>	<b>500/600</b>



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**SEMESTER – III**

Course Code	Course Name	Course Type	L-T-P	Credits	Total Marks
BBTC304	Animal Cell Culture	CC-5	5-1-0	6	100
BBTC305	Plant Biotechnology	CC-6	4-0-0	4	100
BBTC395	Plant Biotechnology Lab	CC-6	0-0-4	2	100
BBTC306	Chemistry - I	CC-7	4-0-0	4	100
BBTC396	Chemistry - I Lab	CC-7	0-0-4	2	100
BBTS302	A. Molecular Diagnostics B. Drug Designing	SEC-1	2-0-0	2	100
GE *	Generic Elective 3 (Any one from the list of GE courses from other subjects)	GE-3	4/5-0/1-0	4/6	100
GE *	Generic Elective 3 (Any one from the list of GE courses from other subjects)	GE-3 Lab	0-0-4	2	100
<b>Total</b>			<b>32/30</b>	<b>26</b>	<b>700/800</b>

**SEMESTER – IV**

Course Code	Course Name	Course Type	L-T-P	Credits	Total Marks
BBTC404	Genetics	CC-8	4-0-0	4	100
BBTC494	Genetics Lab	CC-8	0-0-4	2	100
BBTC405	Bioanalytical Tools and Techniques	CC-9	4-0-0	4	100
BBTC495	Bioanalytical Tools and Techniques Lab	CC-9	0-0-4	2	100
BBTC406	Chemistry - II	CC-10	4-0-0	4	100
BBTC496	Chemistry - II Lab	CC-10	0-0-4	2	100
BBTS402	A. Enzymology B. Industrial Fermentations	SEC-2	2-0-0	2	100
GE *	Generic Elective 4 (Any one from the list of GE courses from other subjects)	GE-4	4/5-0/1-0	4/6	100
GE *	Generic Elective 4 (Any one from the list of GE courses from other subjects)	GE-4 Lab	0-0-4	2	100
<b>Total</b>			<b>34/32</b>	<b>26</b>	<b>800/900</b>



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**SEMESTER – V**

<b>Course Code</b>	<b>Course Name</b>	<b>Course Type</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Total Marks</b>
BBTC503	Bioprocess technology	CC-11	5-1-0	6	100
BBTC504	Recombinant DNA Technology	CC-12	4-0-0	4	100
BBTC594	Recombinant DNA Technology Lab	CC-12	0-0-4	2	100
BBTD503	A. Animal Diversity I B. Plant Diversity I C. Bio-informatics	DSEC-1	5-1-0	6	100
BBTD504	A. Biostatistics B. Environmental Biotechnology C. Rural biotechnology	DSEC-2	4-0-0	4	100
BBTD594	A. Biostatistics Lab B. Environmental Biotechnology Lab C. Rural biotechnology Lab	DSEC-2	0-0-4	2	100
	<b>Total</b>		<b>28</b>	<b>24</b>	<b>600</b>

**SEMESTER – VI**

<b>Course Code</b>	<b>Course Name</b>	<b>Course Type</b>	<b>L-T-P</b>	<b>Credits</b>	<b>Total Marks</b>
BBTC603	Immunology	CC-13	5-1-0	6	100
BBTC604	Genomics & Proteomics	CC-14	5-1-0	6	100
BBTD603	A. Animal Diversity II B. Plant Diversity II C. Medical Biotechnology	DSEC-3	5-1-0	6	100
BBTD693	Project work	DSEC-4	-	6	100
	<b>Total</b>		<b>18</b>	<b>24</b>	<b>400</b>