

**BHARATHIAR UNIVERSITY: COIMBATORE 641 046**  
**M.Sc., Biotechnology Curriculum (AFFILIATED COLLEGES)**

*(For the students admitted during the academic year 2023 – 24 onwards)*

Course Code	Title of the Course		Hrs. / week	Credits	Hours		Maximum Marks		
					Theory	Practical	CIA	ESE	Total
<b>FIRST SEMESTER</b>									
13A	Paper – I	Molecular Biology and Genetics	4	4	3		25	75	100
13B	Paper – II	Biochemistry	5	4	3		25	75	100
13C	Paper – III	Applied Microbiology	4	4	3		25	75	100
13D	Paper -IV	Bioinstrumentation & Biostatistics	4	4	3		25	75	100
	Practical I		5	-	-	-	-	-	-
	Practical II		4	-	-	-	-	-	-
1EA / 1EB	Elective paper I		4	4	3		25	75	100
	<b>Total</b>		<b>30</b>	<b>20</b>					<b>500</b>
<b>SECOND SEMESTER</b>									
23A	Paper – V	Immunology & Immunotechnology	5	4	3		25	75	100
23B	Paper -VI	Genetic Engineering	4	4	3		25	75	100
23C	Paper –VII	Plant Biotechnology	4	4	3		25	75	100
23D	Paper - VIII	Animal Biotechnology	4	4	3		25	75	100
23P	Practical – I		5	4		6	40	60	100
23Q	Practical – II		4	4		6	40	60	100
2EA / 2EB	Elective paper II		4	4	3		25	75	100
	Industrial Training		-	-	-	-	-	-	-
	<b>Total</b>		<b>30</b>	<b>28</b>					<b>700</b>
<b>THIRD SEMESTER</b>									
33A	Paper IX	Bioprocess Technology	4	4	3		25	75	100
33B	Paper X	Pharmaceutical Biotechnology	4	4	3		25	75	100
33C	Paper XI	Genomics & Proteomics	4	4	3		25	75	100
33D	Paper XII	Bio-entrepreneurship	4	4	3		25	75	100
	Practical III		5	-	-	-	-	-	-
	Practical IV		5	-	-	-	-	-	-
3EA / 3EB	Elective Paper III		4	4	3		25	75	100
36A	Industrial Training			2			50*		50
	<b>Total</b>		<b>30</b>	<b>22</b>					<b>550</b>
<b>FOURTH SEMESTER</b>									
47V	Project		16**	8	-	-	-	-	200***
43P	Practical III		5	4		6	40	60	100
43Q	Practical IV		5	4		6	40	60	100
4EA / 4EB	Elective Paper IV		4	4	3		25	75	100
	<b>Total</b>		<b>30</b>	<b>20</b>					<b>500</b>
	<b>Grand Total</b>		<b>120</b>	<b>90</b>					<b>2250</b>
<b>ONLINE COURSES (Optional)</b>									

\* Industrial Training has to be undergone during the II semester vacation period. Mark shall be given based on the training report and presentation.

\*\* Sixteen hours should be allotted for Project Guidance to the respective guides. As per the university norms, 16 hours of project guidance should be considered equivalent to 8 hours of teaching while calculating the workload of respective guides.

\*\*\* **For Project Report – 100 marks Viva-voce – 100 marks**

**List of Group Elective papers (Colleges can choose any one of the Group papers as electives)**

Paper/ Sem	GROUP A	GROUP B
I	Occupational Health and Industrial Safety	Plant System Physiology
II	Bioethics, Biosafety and IPR	Animal System Physiology
III	Biotechniques	Developmental Biology
IV	Conservation Biology	Evolution and Behavior

**PROJECT GUIDELINES**

- 1) Project pertains to the field of Biotechnology
- 2) Three review meetings should be conducted at regular intervals in the presence of the HOD and respective guide. The evaluation for the review is as follows

Review	Maximum Marks
I Review	15
II Review	15
III Review	20

Dissertation evaluation by External Examiner	50
Viva-voce	100

**ONLINE COURSES (NPTEL/SWAYAM):**

Students can choose any one of the Courses offered by NPTEL/SWAYAM

- ❖ It's optional for the students to avail the online course
- ❖ On Successful completion of the course additional credits will be awarded