

**B.Sc. BIOTECHNOLOGY****CHOICE BASED CREDIT SYSTEM –****LEARNING OUTCOMES BASED CURRICULUM FRAMEWORK (CBCS - LOCF)**

(Applicable to the candidates admitted from the academic year 2022-23 onwards)

**(For the 2024-2025 batch, the Naan Mudhalvan scheme has been implemented in the 2nd semester)**

Sem.	Part	Course	Title	Ins. Hrs	Credit	Exam Hours	Marks		Total
							Int.	Ext.	
I	I	Language Course – I (Tamil \$ / Other Languages + #)		6	3	3	25	75	100
	II	English Course - I		6	3	3	25	75	100
	III	Core Course – I (CC)	Cell Biology	5	5	3	25	75	100
		Core Practical – I (CP)	Cell Biology	4	4	3	40	60	100
		First Allied Course – I (AC)	Basic Microbiology	4	4	3	25	75	100
		First Allied Practical (AP)	Microbiology	3	-	-	-	-	-
	IV	Value Education		2	2	3	25	75	100
<b>TOTAL</b>				<b>30</b>	<b>21</b>	-	-	-	<b>600</b>
II	I	Language Course - II (Tamil \$ / Other Languages + #)		6	3	3	25	75	100
	II	English Course - II		4	3	3	25	75	100
	III	Core Course – II (CC)	Molecular Biology	5	5	3	25	75	100
		Core Practical – II (CP)	Molecular Biology	4	4	3	40	60	100
		First Allied Practical (AP)	Microbiology	3	2	3	40	60	100
		First Allied Course – II (AC)	Applied Microbiology	4	4	3	25	75	100
		Add on Course – I ##	Professional English – I	6*	4	3	25	75	100
	IV	Environmental Studies		2	2	3	25	75	100
	VI	Naan Mudhalvan Scheme (NMS) @@	Overview of English Language Communication	2	2	3	25	75	100
<b>TOTAL</b>				<b>30</b>	<b>29</b>	-	-	-	<b>900</b>

III	I	Language Course – III (Tamil \$ / Other Languages + #)		6	3	3	25	75	100
	II	English Course - III		6	3	3	25	75	100
	III	Core Course – III (CC)	rDNA Technology	5	5	3	25	75	100
		Core Practical - III (CP)	rDNA Technology	4	4	3	40	60	100
		Second Allied Course – I (AC)	Biomolecules	4	4	3	25	75	100
		Second Allied Practical (AP)	Biochemistry	3	-	-	-	-	-
		Add on Course – II ##	Professional English - II	6*	4	3	25	75	100
	IV	Non-Major Elective I @ - Those who choose Tamil in Part I can choose a non-major elective course offered by other departments. Those who do not choose Tamil in Part I must choose either a) Basic Tamil if Tamil language was not studied in school level <b>or</b> b) Special Tamil if Tamil language was studied upto 10 <sup>th</sup> & 12 <sup>th</sup> std.	Biotechnology for Human Welfare	2	2	3	25	75	100
	<b>TOTAL</b>			<b>30</b>	<b>25</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>700</b>
IV	I	Language Course –IV (Tamil \$ / Other Languages + #)		6	3	3	25	75	100
	II	English Course – IV		6	3	3	25	75	100
	III	Core Course - IV (CC)	Immunology and Immunotechnology	5	5	3	25	75	100
		Core Practical - IV (CP)	Immunology	4	4	3	40	60	100
		Second Allied Practical (AP)	Biochemistry	3	2	3	40	60	100
		Second Allied Course – II (AC)	Analytical Biochemistry	4	4	3	25	75	100
	IV	Non-Major Elective II @ - Those who choose Tamil in Part I can choose a non-major elective course offered by other departments. Those who do not choose Tamil in Part I must choose either a) Basic Tamil if Tamil language was not studied in school level <b>or</b> b) Special Tamil if Tamil language was studied upto 10 <sup>th</sup> & 12 <sup>th</sup> std.	Food Processing Technology	2	2	3	25	75	100
	<b>TOTAL</b>			<b>30</b>	<b>23</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>700</b>

V	III	Core Course -V (CC)	Plant Biotechnology	5	5	3	25	75	100
		Core Course – VI (CC)	Animal Biotechnology	5	5	3	25	75	100
		Core Course – VII (CC)	Environmental Biotechnology	5	5	3	25	75	100
		Core Practical -V (CP)	Plant Animal Biotechnology and Environmental Biotechnology	4	4	3	40	60	100
		Major Based Elective – I (Any one)	1. Developmental Biology 2. Bioinformatics	5	4	3	25	75	100
	IV	Skill Based Elective I	Molecular Diagnostics	4	2	3	25	75	100
		Soft Skills Development	Soft Skills Development	2	2	3	25	75	100
	TOTAL			30	27	-	-	-	700
VI	III	Core Course - VIII (CC)	Microbial Biotechnology	6	5	3	25	75	100
		Core Course - IX (CC)	Biostatistics and Biosafety	6	5	3	25	75	100
		Core Practical – VI(CP)	Microbial Biotechnology	4	4	3	40	60	100
		Major Based Elective – II (Any one)	1. IPR and Bioethics 2. Nanotechnology	5	4	3	25	75	100
		Project		4	3	-	20	80	100
	IV	Skill Based Elective – II	Clinical Trial and Data Management	4	2	3	25	75	100
	V	Gender Studies		1	1	3	25	75	100
		Extension Activities **		-	1	-	-	-	-
	TOTAL			30	25	-	-	-	700
GRAND TOTAL			180	150	-	-	-	4300	

\$ For those who studied Tamil upto 10<sup>th</sup> +2 (Regular Stream).

+ Syllabus for other Languages should be on par with Tamil at degree level.

# Those who studied Tamil upto 10<sup>th</sup> +2 but opt for other languages in degree level under Part- I should study special Tamil in Part – IV.

## The Professional English – Four Streams Course is offered in the 2<sup>nd</sup> and 3<sup>rd</sup> Semester (only for 2022-2023 Batch) in all UG Courses. It will be taught apart from the Existing hours of teaching / additional hours of teaching (1 hour /day) as a 4 credit paper as an add on course on par with Major Paper and completion of the paper is must to continue his / her studies further. (As per G.O. No. 76, Higher Education (K2) Department dated: 18.07.2020).

\* The Extra 6 hrs / cycle as per the G.O. 76/2020 will be utilized for the Add on Professional English Course.

@ NCC Course is one of the Choices in Non-Major Elective Course. Only the NCC cadets are eligible to choose this course. However, NCC Course is not a Compulsory Course for the NCC Cadets.

\*\* Extension Activities shall be outside instruction hours.

@@ Naan Mudhalvan Scheme.

### SUMMARY OF CURRICULUM STRUCTURE OF UG PROGRAMMES

Sl. No.	Part	Types of the Courses	No. of Courses	No. of Credits	Marks
1.	I	Language Courses	4	12	400
2.	II	English Courses	4	12	400
3.	III	Core Courses	9	45	900
4.		Core Practical	6	24	600
5.		Allied Courses I & II	4	16	400
6.		Allied Practical	2	4	200
7.		Major Based Elective Courses	2	8	200
8.		Add on Courses	2	8	200
9.		Project	1	3	100
10.	IV	Non-Major Elective Courses	2	4	200
11.		Skill Based Elective Courses	2	4	200
12.		Soft Skills Development	1	2	100
13.		Value Education	1	2	100
14.		Environmental Studies	1	2	100
15.	V	Gender Studies	1	1	100
16.		Extension Activities	1	1	0
17.	VI	Naan Mudhalvan Scheme	1	2	100
	<b>Total</b>		<b>44</b>	<b>150</b>	<b>4300</b>