

J.J COLLEGE OF ARTS AND SCIENCE (AUTONOMOUS), Pudukkottai.
DEPARTMENT OF BIOTECHNOLOGY

B.Sc., BIOTECHNOLOGY

Proposed Course Structure based on **TANSCH** and **UGC - LOCF**

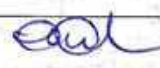
(Choice Based Credit System)

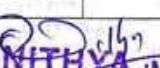
(Applicable for the Candidates admitted from academic Year **2023-2024** Onwards)

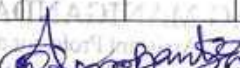
Sem	Part	Course Code	Course Title	Ins. Hrs/ Week	Credit	Exam Hrs	Marks		Total
							Int.	Ext.	
I	I	UIR3TL1/HL1/FL1	Language Course - I(Tamil/ Hindi/ French	6	3	3	25	75	100
	II	UIR3EL1	Language II - English	6	3	3	25	75	100
	III	UIR3BTCC1	Cell and Molecular Developmental Biology	5	5	3	25	75	100
		UIR3BTCC2P	Practical - I (Cell and Molecular Developmental Biology)	5	5	3	40	60	100
		UIR3BTDSE1:1/1:2	Biological Chemistry / Anatomy & Physiology	4	3	3	25	75	100
	IV	UIR3CSSEC1(NME)	Office Automation	2	2	3	25	75	100
		UIR3BTFC	Good Laboratory Practices (GLP)	2	2	3	25	75	100
	Total			30	23	-	-	-	700
II	I	U2R3TL2/HL2/FL2	Language Course - I(Tamil/ Hindi/ French	6	3	3	25	75	100
	II	U2R3EL2	Language II - English	6	3	3	25	75	100
	III	U2R3BTCC3	Genetics	5	5	3	25	75	100
		U2R3BTCC4P	Practical-II (Covering CC-3)	5	5	3	40	60	100
		U2R3BTDSE2	Microbiology	4	3	3	25	75	100
	IV	U2R3MASEC2	(NME2) - Quantitative Aptitude II	2	2	3	25	75	100
		U2R3BTSEC3:1/3:2	Marine Biotechnology/ Stem cell technology	2	2	3	25	75	100
	Total			30	23	-	-	-	700
III	I	U2R3TL3/HL3/FL3	Language Course - I(Tamil/ Hindi/ French	6	3	3	25	75	100
	II	U2R3EL3	Language II - English	6	3	3	25	75	100
	III	U3R3BTCC5	Immunology and Immunotechnology	5	5	3	25	75	100
		U3R3BTCC6P	Practical - III (Covering CC5)	5	5	3	40	60	100
	IV	U3R3BTDSE3:1/3:2	Bioinstrumentation/ Bioresource technology	4	3	3	25	75	100
		U3R3VE	Value education	2	2	3	25	75	100
		U3R3BTSEC4:1/4:2	Aquatic Biotechnology/ Vermitechnology	2	2	-	25	75	100
Total				30	23	-	-	-	700


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IV	I	U4R3TL4/HL4/FL4	Language Course - IV (Tamil/ Hindi/ French	5	3	3	25	75	100
	II	U2R3EL4	Language IV - English	5	3	3	25	75	100
	III	U4R3BTCC7	Genetic Engineering	5	5	3	25	75	100
		U4R3BTCC8P	Practical - IV (Covering CC7)	5	5	3	40	60	100
		U4R3BTDSE4:1/4:2	Bioinformatics and Biostatistics/ Bioethics and Biosafety	4	3	3	25	75	100
		U4R3BTSEC5:1/5:2	Bromatology/II/ Food safety & Quality control	2	2	3	25	75	100
	IV	U4R3BTSEC6:1/6:2	Mushroom Technology/ Biofertilizers	2	2	3	25	75	100
		U4R3ES	Environmental Studies	2	2	3	25	75	100
		Total			30	25	-	-	-

700

V	III	U5R3BTCC9	Plant Biotechnology	5	5	3	25	75	100
		U5R3BTCC10	Animal Biotechnology	5	4	3	25	75	100
		U5R3BTCC11	Industrial Biotechnology	5	4	3	25	75	100
		U5R3BTCC12P	Practical - V (Covering CC9,CC10 & CC11)	5	4	3	40	60	100
		U5R3BTDSE5:1/ 5:2	Cancer Biology/ Enzymology	5	3	3	25	75	100
		U5R3BTDSE6:1/ 6:2	Gene Therapy/ Bioenterpreneurship	5	3	3	25	75	100
	IV	U5R3BTINT	Internship	-	2	-	25	75	100
Total				30	25	-	-	-	700

VI	III	U6R3BTCC13	Environmental Biotechnology	5	4	3	25	75	100
		U6R3BTCC14P	Practical VI (Covering CC13)	5	4	3	25	75	100
		U6R3BTCC15PW	Project work	6	4	-	40	60	100
		U6R3BTDSE7:1/ 7:2	Nanobiotechnology/ Forensic Science	5	3	3	25	75	100
		U6R3BTDSE8:1/ 8:2	Agricultural Biotechnology/Genomics and proteomics	4	3	3	25	75	100
	IV	U5R3BTSEC7:1/7:2	Pharmaceutical Biotechnology/ Diagnostic Biotechnology	3	2	-	-	-	100
		U5R3BTGS	Gender Studies	2	1	-	-	-	100
		-	Extension Activities		1				
	Total				30	22	-	-	-
Grand Total					141				4300

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Assist

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Dr.S. GOVINDARAJAN
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CC-Core Course / AC – Allied Course / NME – Non Major Elective/ DSE – Discipline Specific Elective

Total Credit – 141/ Total Marks – 4300

Extension Activities Shall Be Outside the Instruction Hours.

CORE COURSES - (CC)

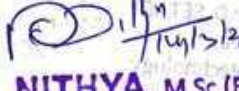
- 1) Cell and Molecular Developmental Biology
- 2) Practical I - Cell and Molecular Developmental Biology
- 3) Genetics
- 4) Practical II - Covering CC3
- 5) Immunology and Immunotechnology
- 6) Practical III - Covering CC5
- 7) Genetic Engineering
- 8) Practical IV - Covering CC7
- 9) Plant Biotechnology
- 10) Animal Biotechnology
- 11) Industrial Biotechnology
- 12) Practical IV - Covering CC9,10,11
- 13) Environmental Biotechnology
- 14) Practical V - Covering CC13
- 15) Project work

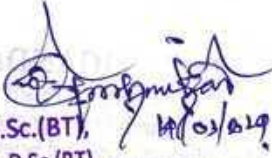
DISCIPLINE SPECIFIC ELECTIVE - (DSE)

1. Biological Chemistry
2. Anatomy & Physiology
3. Microbiology
4. Bioinstrumentation
5. Bioresource Technology
6. Bioinformatics & Biostatistics
7. Bioethics and Biosafety
8. Cancer Biology
9. Enzymology
10. Gene therapy
11. Bioenterpreneurship
12. Nanobiotechnology
13. Agricultural Biotechnology
14. Genomics and Proteomics
15. Forensic Science


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SKILL ENHANCEMENT COURSE - (SEC)

1. Office Automation - from CS Department
2. Quantitative Aptitude II - from Maths Department
3. Marine Biotechnology
4. Stem cell technology
5. Aquatic Biotechnology
6. Vermitechnology
7. Bromotology
8. Food Safety & Quality control
9. Mushroom Technology
10. Biofertilizers
11. Pharmaceutical Biotechnology
12. Dignostic Biotechnology

FOUNDATION COURSE

1. Good Laboratory Practices (GLP)

NON-MAJOR ELECTIVES (NME)

FIRST SEMESTER

1. Food and Nutrition
2. Herbal Medicine
3. Public Health and Hygiene
4. Environment Management in Industries
5. Good Laboratory Practices
6. Organic Farming and Health Management
7. Biotechnology for Society
8. Computational Biology

SECOND SEMESTER

9. Concepts of Biotechnology
10. Applications of Biotechnology in Society


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(Applicable for the Candidates Admitted from Academic Year 2023-2024 Onwards)

Sem	Course Code	Course Title	Hrs/ Week	Credit	Exam Hrs	Marks		
						Int.	Ext.	Total
I	PIR3BTCC1	Biochemistry	7	5	3	25	75	100
	PIR3BTCC2	Microbiology	7	5	3	25	75	100
	PIR3BTCC3P	Practical - I (Covering CC1,CC2)	6	4	6	40	60	100
	PIR3BTDSE1:1/1:2	Bioinstrumentation / Cell Signaling	5	3	3	25	75	100
	PIR3BTDSE2:1/2:2	Enzyme Technology/ Diagnostic Biotechnology	5	3	3	25	75	100
Total			30	20	-	-	-	500
II	P2R3BTCC4	Molecular Genetics	6	5	3	25	75	100
	P2R3BTCC5	Plant and Animal Biotechnology	6	5	3	25	75	100
	P2R3BTCC6P	Practical -II (Covering CC4,CC5)	6	4	6	40	60	100
	P2R3BTDSE3:1/3:2	Virology / Medical Bacteriology	4	3	3	25	75	100
	P2R3BTDSE4:1/4:2	Environmental Biotechnology / Pharmaceutical Technology /	4	3	3	25	75	100
	P2R3BTSEC1:1/1:2	Genetic Engineering / Food Technology	4	2	3	25	75	100
Total			30	22	-	-	-	600
III	P3R3BTCC7	Bioprocess Technology	6	5	3	25	75	100
	P3R3BTCC8	Immunology	5	5	3	25	75	100
	P3R3BTCC9	Bioinformatics	5	5	3	25	75	100
	P3R3BTCC10P	Practical -III (Covering CC7,CC8 & CC9)	6	5	6	40	60	100
	P3R3BTDSE5:1/5:2	Research Methodology/ Oncology	4	3	3	25	75	100
	P3R3BTSEC2:1/2:2	Nano Biotechnology/Bioethics,Biosafety IPR and System Biology	4	2	3	25	75	100
	P3R3BTINT	Internship	-	3	-	-	-	100
Total			30	28	-	-	-	700
IV	P4R3BTCC11	Stem cells technology	6	5	3	25	75	100
	P4R3BTCC12	Genomics and Proteomics	6	5	-	-	-	100
	P4R3BTCC13PW	Project Work	18	10	3	-	-	100
Total			30	20	-	-	-	300
Grand Total			120	90	-	-	-	2100

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