



SEETHALAKSHMI RAMASWAMI COLLEGE

(Autonomous)

Affiliated to Bharathidasan University
Tiruchirappalli

Accredited with A+ by NAAC (4th Cycle)



B.Sc. Biochemistry

CBCS - OBE Curriculum Structure

(For students admitted from 2024 onwards)

SEM	PART	COURSE	COURSE CODE	COURSE TITLE	HRS	CRD	INT/ EXT	CIA	SE	TOT
I	I	Language-I		Course-I	6	3	EXT	25	75	100
	II	English-I		Course-I	6	3	EXT	25	75	100
	III	Core Course-I		Chemistry of Biomolecules	7	5	EXT	25	75	100
	III	Core Practical-I		Practical-I:Microscopic and Biomolecule Analysis	3	-	INT	-	-	-
	III	First Allied Course-I		General chemistry	4	3	EXT	25	75	100
	III	First Allied Practical		Practical:Biophysical chemistry	2	-	INT	-	-	-
	IV	VBE		Value Based Education	2	2	EXT	25	75	100
	Total					30	16			
		EXTRA CREDIT COURSE		Communicative and Functional English offered by Department of English (MANDATORY)	2	2	INT	25	75	100
II	I	Language-II		Course-II	6	3	EXT	25	75	100
	II	English-II		Course-II	6	3	EXT	25	75	100
	III	Core Course-II		Cell Biology	7	6	EXT	25	75	100
	III	Core Practical-I		Practical-I:Microscopic and Biomolecule Analysis	3	4	INT	40	60	100
	III	First Allied Course-II		Biophysical chemistry	4	3	EXT	25	75	100
	III	First Allied Practical		Practical:Biophysical chemistry	2	3	INT	40	60	100
	IV	EVS		Environmental Studies	2	2	EXT	25	75	100
Total					30	24				700

SEM	PART	COURSE	COURSE CODE	COURSE TITLE	HRS	CRD	INT/ EXT	CIA	SE	TOT	
III	I	Language-III		Course-III	6	3	EXT	25	75	100	
	II	English-III		Course-III	6	3	EXT	25	75	100	
	III	Core Course-III		Techniques in Biochemistry	6	6	EXT	25	75	100	
	III	Core Practical-II		Practical-II:Biochemical techniques and Enzyme analysis	2	-	INT	-	-	-	
	III	Second Allied Course-I		Offered by the Department of Biotechnology	4	3	EXT	25	75	100	
	III	Second Allied Practical		Offered by the Department of Biotechnology	2	-	INT	-	-	-	
	IV	NME-I*		Offered by other Departments	2	2	EXT	25	75	100	
	IV	SBE-I		Herbal Medicine	2	2	EXT	25	75	100	
	Total					30	19				600
			EXTRA CREDIT COURSE		Internship-I - (II Semester vacation) Online/Offline - Certificate, Report & Photo (MANDATORY)	-	1	INT	-	-	100
				Community outreach activity (II Semester vacation - Report, Photo & Feedback) (OPTIONAL	-	1	INT	-	-	100	

SEM	PART	COURSE	COURSE CODE	COURSE TITLE	HRS	CRD	INT/ EXT	CIA	SE	TOT	
IV	I	Language-IV		Course -IV	6	3	EXT	25	75	100	
	II	English-IV		Course-IV	6	3	EXT	25	75	100	
	III	Core Course-IV		Enzymology	6	6	EXT	25	75	100	
	III	Core Practical-II		Practical-II:Biochemical techniques and Enzyme analysis	2	4	INT	40	60	100	
	III	Second Allied Course-II		Offered by the Department of Biotechnology	4	3	EXT	25	75	100	
	III	Second Allied Practical		Offered by the Department of Biotechnology	2	3	INT	40	60	100	
	IV	NME-II*		Offered by other Departments	2	2	EXT	25	75	100	
	IV	SBE-II		Drug Biochemistry	2	2	EXT	25	75	100	
	Total					30	26				800
			EXTRA CREDIT COURSE		Certificate Course (IKS) – Offered by other Departments (beyond class hours) (MANDATORY)	2	2	INT	25	75	100
				Office Automation (MANDATORY)	2	2	INT	25	75	100	
				Internship – II (III Semester vacation) - Online/Offline - Certificate, Report & Photo (OPTIONAL)	-	1	INT	-	-	100	

* Offered by the Department to the students of other disciplines

SEM	PART	COURSE	COURSE CODE	COURSE TITLE	HRS	CRD	INT/ EXT	CIA	SE	TOT	
V	III	Core Course-V		Molecular Biology	5	5	EXT	25	75	100	
	III	Core Course-VI		Metabolism	5	5	EXT	25	75	100	
	III	Core Course-VII		Genetics	5	5	EXT	25	75	100	
	III	Core Practical-III		Practical-III:Phytochemical analysis	6	5	INT	40	60	100	
	III	MBE-I		Plant and Microbial Biochemistry	5	4	EXT	25	75	100	
	IV	SBE-III		Nutritional Biochemistry	2	2	EXT	25	75	100	
	IV	SSD		Soft Skill Development	2	2	INT	25	75	100	
				Total	30	28				700	
			EXTRA CREDIT COURSE		Value Added Course-offered to the same department (beyond class hours) (MANDATORY)	2	2	INT	25	75	100
					Web Designing (MANDATORY)	2	2	INT	25	75	100
					Internship-III (IV Semester vacation) - Online/Offline - Certificate, Report & Photo (OPTIONAL)	-	1	INT	-	-	100
				Online Course (MOOC/ Swayam / NPTEL) - Before V Semester (OPTIONAL)	-	2	INT	-	-	100	

SEM	PART	COURSE	COURSE CODE	COURSE TITLE	HRS	CRD	INT/ EXT	CIA	SE	TOT	
VI	III	Core Course-VIII		Endocrinology	5	5	EXT	25	75	100	
	III	Core Course-IX		Clinical Biochemistry	5	5	EXT	25	75	100	
	III	Core Practical-IV		Practical-IV:Blood and Urine Analysis	6	4	INT	40	60	100	
	III	MBE-II		Immunology	5	4	EXT	25	75	100	
	III	MBE-III		Human Physiology	5	4	EXT	25	75	100	
	III	Project		Group project	3	3	EXT	20	80	100	
	V	GS		Gender Studies	1	1	INT	25	75	100	
	V	Extension		Extension Activities (NSS/NCC/YRC/Sports and Exnora)	-	1	INT	-	-	100	
	Total					30	27				800
	Grand Total					180	140				4100
		EXTRA CREDIT COURSE		Capacity Building for Enhancing Professional Skills-Offered by the Department (MANDATORY)	2	2	INT	-	-	100	
				Internet Concepts (MANDATORY)	2	2	INT	25	75	100	

TOTAL DISTRIBUTION OF HOURS, CREDITS & MARKS FOR UG PROGRAMME			
SEMESTER	HOURS	CREDITS	TOTAL MARKS
I	30	16	500
II	30	24	700
III	30	19	600
IV	30	26	800
V	30	28	700
VI	30	27	800
TOTAL	180	140	4100

ALLIED COURSES

(Offered to the Students of Biotechnology)

SEM	PART	COURSES	COURSE CODE	COURSE TITLE	HRS	CREDIT	INT /EXT	CIA	SE	TOT
III	III	Allied Course-I		Basic Biochemistry	4	3	EXT	25	75	100
IV	III	Allied Course-II		Microbial Metabolism	4	3	EXT	25	75	100
		Second Allied Practical		Analysis of Biomolecules	4	3	INT	40	60	100
TOTAL					12	9				300

MAJOR BASED ELECTIVES COURSES

SEM	PART	GROUP	COURSE CODE	COURSE TITLE	HRS	CRD	INT/EXT	CIA	SE	TOT
V	III	Group-I (Choose any one Course)		A) Plant and Microbial biochemistry B) Basic Bioinformatics (Optional)	5	4	EXT	25	75	100
VI	III	Group-II (Choose any one Course)		A) Immunology B) Microbiology (Optional)	5	4	EXT	25	75	100
VI	III	Group-III (Choose any one Course)		A) Human Physiology B) Biostatistics (Optional)	5	4	EXT	25	75	100
TOTAL					15	12				300

SKILL BASED ELECTIVES

SEM	PART	GROUP	COURSE CODE	COURSES	HRS	CRD	INT/ EXT	CIA	SE	TOT
III	IV	Group-I (Choose any One Course)		A) Herbal Medicine B) First Aid Management (Optional)	2	2	EXT	25	75	100
IV	IV	Group-II (Choose any One Course)		A) Drug Biochemistry B) Hospital Management (Optional)	2	2	EXT	25	75	100
V	IV	Group-III (Choose any One Course)		A) Nutritional Biochemistry B) Industrial Biochemistry (Optional)	2	2	EXT	25	75	100
TOTAL					6	6				300

NON MAJOR BASED ELECTIVES

SEM	PART	COURSE CODE	COURSE TITLE	HRS	CRD	INT/ EXT	CIA	SE	TOT
III	IV		NME-I Biomolecules	2	2	EXT	25	75	100
IV	IV		NME-II Diagnosis of diseases	2	2	EXT	25	75	100
TOTAL				4	4				200

VALUE ADDED COURSE

Extra Credit Course for Skill Development

SEM	COURSE	COURSE CODE	COURSE TITLE
V	I		Medical coding

CERTIFICATE COURSE OFFERED TO OTHER DEPARTMENTS

Extra Credit Course for Skill Development

SEM	COURSE	COURSE CODE	COURSE TITLE
IV	I		Lifestyle Diseases

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Affiliated to Bharathidasan University
TIRUCHIRAPPALLI – 620 002
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B.Sc. Biochemistry
(CBCS System)
(For Students admitted from June 2024 onwards)

Subject	Number of Courses	Hours	Credit
Language	4	24	12
English	4	24	12
Core Course	9	51	48
Core Practical	4	22	17
Allied Course	4	16	12
Allied Practical	2	8	6
Major Based Elective Course (3x4)	3	15	12
Skill Based Elective Course	3	6	6
Non Major Elective Course	2	4	4
Value Based Education	1	2	2
Environmental Studies	1	2	2
Soft Skill Development	1	2	2
Gender Studies	1	1	1
Extension Activities	1		1
Group Project	1	3	3
Total	41	180	140

B.Sc. Biochemistry
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EXTRA CREDIT COURSES FOR SKILL DEVELOPMENT*

Subject	Common/Subject Specific	Number of Courses	Credit
**Office Automation (MANDATORY)	Common to All	1	2
**Web Designing (MANDATORY)	Common to All	1	2
**Internet Concepts (MANDATORY)	Common to All	1	2
**Online Course (MOOC/SWAYAM/NPTEL) (OPTIONAL)	Subject Specific	1	2
Communicative and Functional English (MANDATORY)	Common to All	1	2
Community outreach activity (OPTIONAL)	Subject Specific	1	1
Certificate Course (IKS - Indian Knowledge System) (MANDATORY)	Subject Specific (offered to other departments)	1	2
Value Added Course (MANDATORY)	Subject Specific	1	2
Internship – I To be completed during II Semester Vacation (MANDATORY) Internship – II & III (OPTIONAL)	Subject Specific	3	3
Capacity Building for Enhancing Professional Skills (MANDATORY)	50%Common to All (Placement Training) 50% Subject Specific(Career Guidance by the respective Departments)	1	2
TOTAL		12	20

*The extra credit courses have been introduced in the OBE-CBCS Curriculum pattern to be implemented from 2024 onwards based on the recommendations of the apex bodies namely TANSICHE, UGC, Bharathidasan University (Parent University), NAAC in lieu of the National Education Policy.

**Courses with Credit Transfer provision

**B.Sc. Biochemistry
(CBCS System)**

EXTRA CREDIT COURSE FOR SKILL DEVELOPMENT*

SEM	COURSE	COURSE CODE	COURSE TITLE	HRS	CRD	INT/EXT	CIA	SE	TOT
I	EXTRA CREDIT COURSES		Communicative and Functional English offered by Department of English (MANDATORY)	2	2	INT	25	75	100
III			Community outreach activity (II Semester vacation – Report, Photo & Feedback) (OPTIONAL)	-	1	INT	-	-	100
III			Internship – I - (II Semester vacation) Online/Offline - Certificate, Report & Photo (MANDATORY)	-	1	INT	-	-	100
IV			Certificate Course (IKS) – Offered to other Department (beyond class hours) (MANDATORY)	2	2	INT	25	75	100
IV			Internship – II (III Semester vacation) - Online/Offline -Certificate, Report & Photo (OPTIONAL)	-	1	INT	-	-	100
IV			Office Automation (MANDATORY)	2	2	INT	25	75	100
V			Value Added Course – Offered to the same department (beyond class hours) (MANDATORY)	2	2	INT	25	75	100
V			Internship – III (IV Semester vacation) – Online/Offline - Certificate, Report & Photo (OPTIONAL)	-	1	INT	-	-	100
V			Web Designing (MANDATORY)	2	2	INT	25	75	100
V			Online – Course (MOOC/Swayam/NPTEL) – Before V Semester (OPTIONAL)	-	2	INT	-	-	100
VI			Capacity Building for Enhancing Professional Skills – Offered by the Department (MANDATORY)	2	2	INT	-	-	100
VI			Internet Concepts (MANDATORY)	2	2	INT	25	75	100
				TOTAL		20			

**B.Sc. Biochemistry
(CBCS System)**

MANDATORY EXTRA CREDIT COURSE FOR SKILL DEVELOPMENT*

SEM	COURSE CODE	COURSE TITLE	HRS	CRD	INT/EXT	CIA	SE	TOT
I		Communicative and Functional English offered by Department of English	2	2	INT	25	75	100
III		Internship – I - (II Semester vacation) Online/Offline - Certificate, Report & Photo	-	1	INT	-	-	100
IV		Certificate Course (IKS) – Offered to other Department (beyond class hours)	2	2	INT	25	75	100
IV		Office Automation	2	2	INT	25	75	100
V		Value Added Course – Offered to the same department (beyond class hours)	2	2	INT	25	75	100
V		Web Designing	2	2	INT	25	75	100
VI		Capacity Building for Enhancing Professional Skills – Offered by the Department	2	2	INT	-	-	100
VI		Internet Concepts	2	2	INT	25	75	100
		TOTAL NO OF COURSES 8	14	15				800

**B.Sc. Biochemistry
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OPTIONAL EXTRA CREDIT COURSE FOR SKILL DEVELOPMENT***

SEM	COURSE CODE	COURSE TITLE	HRS	CRD	INT/EXT	CIA	SE	TOT
III		Community outreach activity (II Semester vacation – Report, Photo & Feedback)	-	1	INT	-	-	100
IV		Internship – II (III Semester vacation) - Online/Offline -Certificate, Report & Photo	-	1	INT	-	-	100
V		Internship – III (IV Semester vacation) – Online/Offline - Certificate, Report & Photo	-	1	INT	-	-	100
V		Online – Course (MOOC/Swayam/NPTEL) – Before V Semester	-	2	INT	-	-	100
		TOTAL NO OF COURSES	4	5				400