

# **B. SC. BIOTECHNOLOGY**

**( SEMESTER PATTERN )**

**( For Candidates admitted in the Colleges affiliated to  
Periyar University from 2017 - 2018 onwards )**

**REVISED SYLLABUS FOR**

**UNDER IMPIEMENTATION OF NAAN MUTHALAVAN  
SKILL DEVELOPMENT COURSE- **MEDICAL CODING**  
FOR THE BATCH 2017-2018-**



## REGULATIONS

### Definitions :

- Programme** : “Programme” means a course of study leading to the award of a degree in a discipline.
- Course** : “Course” refers to a subject offered under the degree programme spread over the complete Programme of study a sunder.
- Part I** : means “Tamil/other languages” offered under the programme.
- Part II** : means “English” language offered under the programme.
- Part III** : means “Allied subjects” offered as allied, which is interdisciplinary in nature but related to the programme.
- Part III** : means “Elective subjects” related to the core subjects of the programme concerned.
- Part IV**
- i) “Tamil” means basic orientation in Tamil language for those students who have not studied Tamil upto 12 standard.
  - ii) “Advanced Tamil” means, the subject is meant for students who have studied Tamil language upto 12<sup>th</sup> standard and chosen other languages in college but would like to advance their Tamil language skills.
  - iii) “Non-Major Electives” means option is being given to students who do not come under the above two categories (i & ii).
  - iv) Skill based subject means the courses offered under the programme related to Advanced Skill acquisition for industrial application for which a separate Diploma will be awarded along with the Degree.
  - v) “Foundation Course” means courses offered as
    - 1) Environmental Studies ( 1<sup>st</sup> year) 2) Value Education - Manavalakkali yoga (1<sup>st</sup> year)
- Part V** “Extension Activities” means all those activities which form part of NSS/NCC/Sports/YRC and other co and extracurricular activities.

A detailed explanation of the above with relevant credits are given under “Scheme of Examination along with Distribution of Marks and Credits”

**Duration:** Means the stipulated years of study to complete a programme as prescribed by the University time to time. Currently for the undergraduate programme the duration of study is THREE years. These regulations apply to the regular course of study in approved institutions of the University.

**Credits:** Means the weightage given to each course of study (subjects) attributed by the experts of the Board of Studies concerned.

**Credit System:** Means, the course of study under this pattern, where weightage of credits are spread over to different semesters during the period of study and the Cumulative Grade Point Average will be awarded based on the credits earned by the students. The following are the total credit points:

For Undergraduate Programme (Three years) : 140

#### **4. AIM AND SCOPE OF THE COURSE:**

- ❖ The topics included in different units of different papers would enable the students to develop technical skills in technology and applied branches.
- ❖ Skill based subjects like Biophysics and Bioinstrumentation, Developmental Biology, Nanobiotechnology and Bioinformatics and Proteomics and Genomics have been included in order to provide opportunities in employment and research in Government and Private Organizations.
- ❖ There is also scope for self employment for the students.
- ❖ Practicals included in the syllabus will improve the skills of the students in Plant tissue culture, Animal tissue culture, Molecular biology, Immunology, Genetic engineering, Bioprocess technology, Enzymology and Laboratory techniques.

#### **1. Eligibility for Admission**

Candidate for admission to the first year of the degree of Bachelor of Science Course shall be required to have passed the Higher secondary examination (Academic or Vocational Stream) conducted by the Government of Tamil Nadu or an Examination accepted by the Syndicate, Subject to such conditions may be prescribed therefore shall be permitted to appear and qualify for B.Sc degree examination in Biotechnology.

#### **2. Duration of the Course**

The course for the degree of Bachelor of Science shall consist of three academic years divided in to six semesters. Each semester consists of 90 working days.

#### **3. Passing Minimum:**

The candidate shall be declared to have passed the examinations if he /she secures not less than 40

**DISTRIBUTION OF MARKS : THEORY**

University examination = 75 marks

Internal assessment = 25 marks

**INTERNAL ASSESSMENT STRUCTURE :**

Test = 15 marks

Assignments = 05 marks

Attendance = 05 marks

Passing minimum for Internal Assessment = 10 marks

Passing minimum for University examinations = 30 marks

**PRACTICALS :**

University examinations = 60 marks

Internal Assessment = 40 marks

**INTERNAL ASSESSMENT STRUCTURE:**

Test = 15 marks

Observation record = 10 marks

Regularity in Practical = 15 marks

Passing minimum for internal assessment = 16 marks

Passing minimum for University examinations = 24 marks

**CLASSIFICATION OF SUCCESSFUL CANDIDATES :**

Candidates who secure not less than 60 % of the aggregate marks in the whole examinations shall be declared to have passed the examinations in First class.

Candidates who secure above 50 % and below 60 % shall be declared to have passed the examinations in Second class.

Other successful candidates who secure below 50% shall be declared to have passed the examination in Third class.

## COURSE OF STUDY AND SCHEME OF EXAMINATION

Sem	Paper code	Title of the Paper	Duration Hrs.	CIA	Marks	Total Marks	Credits
<b>I</b>	Language	Tamil I	6	25	75	100	3
	Language	English I	6	25	75	100	3
	Core I	Cell Biology	5	25	75	100	4
	Allied I	Biochemistry I	5	25	75	100	4
	Core Practical I	Lab In Cell Biology	3	40	60	100	3
	Value Education	Manavalakkalai - Yoga	2	25	75	100	2
<b>II</b>	Language	Tamil II	5	25	75	100	3
	Language	English II	5	25	75	100	3
	Core II	Genetics	5	25	75	100	4
	Allied II	Biochemistry II	5	25	75	100	4
	SBEC - I	Biophysics and Bioinstrumentation	2	25	75	100	2
	EVS	Environmental - Studies	2	25	75	100	2
	Core Practical II	Lab In Genetics	3	40	60	100	3
	Allied Practical I	Lab In Biochemistry	3+3	40	60	100	3
<b>III</b>	Language	Tamil III	5	25	75	100	3
	Language	English III	5	25	75	100	3
	Core III	General Microbiology	5	25	75	100	4
	Allied III	Biostatistics	5	25	75	100	4
	SBEC - II	Development Biology	2	25	75	100	2
	NMEC - I	Concepts of Biotechnology	2	25	75	100	2
	Core Practical III	Lab In Microbiology	3	40	60	100	3

Sem	Paper code	Title of the Paper	Duration Hrs.	CIA	Marks	Total Marks	Credits
IV	Language	Tamil IV	5	25	75	100	3
	Language	English IV	5	25	75	100	3
	Core IV	Molecular Biology	6	25	75	100	4
	Allied IV	Computer Applications In Biology	6	25	75	100	4
	NMEC - II	Biotechnology For Society	2	25	75	100	2
	Core	Lab in Molecular Biology	3	40	60	100	3
	Practical IV						
	Allied Practical II	Lab in Computer Applications in Biology & Biostatistics	3	40	60	100	3
V	Core V	Plant Biotechnology	6	25	75	100	5
	Core VI	Immunology and Immunotechnology	6	25	75	100	4
	Core VII	Genetic Engineering	5	25	75	100	4
	SBEC - III	Nanobiotechnology and Bioinformatics	2	25	75	100	2
	Elective - I		5	25	75	100	4
	Core	Lab in Plant Biotechnology	3	40	60	100	4
	Practical V						
	Core Practical VI	Lab in Genetic Engineering and Immunology	3	40	60	100	4
VI	Core VIII	Animal Biotechnology	6	25	75	100	5
	Elective	<b>NMSDC -MEDICAL CODING</b>	2	25	75	100	2
	Core X	Bioprocess & Enzymology Technology	5	25	75	100	4
	SBEC - IV	Pharmaceutical Biotechnology	2	25	75	100	2
	Elective- II		5	25	75	100	4
	Core	Lab in Animal Biotechnology	4	40	60	100	4
	Practical VII						
	Core Practical VIII	Lab in Bioprocess Technology and Enzymology	5	40	60	100	5
		Extension Actitiity					1
	<b>Total</b>					<b>140</b>	

**ELECTIVE SUBJECTS**

Sem	Part	Subject Code	Subject
V	III		Stem cell and Tissue Engineering
			Clinical Biotechnology
VI	III		Food Biotechnology
			Endocrinology

**SKILL BASED ELECTIVE COURSES**

SEM	PART	SUB CODE	COURSE	Hrs.		CRE DIT	MARKS		
				Lect.	LAB		CIA	EA	TOTAL
<b>SEMESTER – IV</b>									
IV	II		Biophysics and Bioinstrumentation	2	-	2	25	75	100
	III		Developmental Biology	2	-	2	25	75	100
	V		Nanobiotechnology and Bioinformatics	2	-	2	25	75	100
			Proteomics and Genomics	2	-	2	25	75	100
<b>ALLIED PAPERS I YEAR</b>									
III	I		Biochemistry I	6	-	4	25	75	100
	II		Biochemistry II	5	-	4	25	75	100
<b>ALLIED PAPERS II YEAR</b>									
III	III		Biostatistics	5	-	4	25	75	100
	IV		Computer Applications in Biology	6	-	4	25	75	100

**ELECTIVE SUBJECTS**

Sem	Part	Subject Code	Subject
IV			Sconcepts of Biotechnology
			Biotechnology for Society





