

# FACULTY OF SCIENCE



**SWAMI VIVEKANAND SUBHARTI UNIVERSITY**  
**MEERUT 250005 (U.P.) INDIA**

**ORDINANCE NO.- V (53A)**  
**BACHELOR OF SCIENCE IN**  
**BIOTECHNOLOGY**  
**(B.SC. BIOTECH.) COURSE**

# **Ordinance No.- V (53A)**

## **Ordinance relating to Bachelor of Science in Biotechnology (B.Sc. Biotech.) Course**

### **Chapter-1**

#### **General**

1. This ordinance may be called “Ordinance Relating to Bachelor of Science in Biotechnology (B.Sc. Biotech.) Course”
2. It shall come into force with immediate effect.
3. This supersedes the previous Ordinance relating to Bachelor of Science in Biotechnology (B.Sc. Biotech.) Course [V-(53A)].

### **Chapter-2**

#### **Eligibility for Admission**

4. (i) An applicant for being eligible to be admitted in the first year of B.Sc. Biotech. Course should be at least 17 years of age as on 31<sup>st</sup> December of the year of admission.  
(ii) An applicant who has passed Intermediate Examination of U.P. Board or an equivalent examination from any other recognized board/University with Physics and Chemistry as compulsory subjects along with Mathematics/ Bio-Technology Computer Science/ Biology as an optional subject will be eligible for admission in the first year of the B.Sc. Biotechnology course.  
(iii) The admission shall be based on the merit in Qualifying examination (Intermediate or equivalent) the candidate should have obtained 45 % marks ( 40% for SC/ST ) or more in the aforementioned three subjects and not less than 40 % marks (35% for SC/ST) in individual subject.

### **Chapter-3**

#### **Teaching course**

5. The B.Sc. Biotechnology course shall be of three years duration, divided into six semesters
6. The Academic calendar shall be as follows

<u>I, III, and V semesters</u>	: 1 <sup>st</sup> August to 30 <sup>th</sup> November,
<b>Exam.</b>	: 1 <sup>st</sup> to 15 <sup>th</sup> Dec.
<u>II, IV, and VI semesters</u>	: 1 <sup>st</sup> January to 30 <sup>th</sup> April,
<b>Exam.</b>	: 1 <sup>st</sup> to 15 <sup>th</sup> May

7. The study and evaluation scheme of the course shall be as given below.

**FIRST YEAR**

**FIRST SEMESTER**

**THEORY PAPER**

S. No.	Subject Name	Sessional				ESE	Subject Total
		CT	TA	Attendance	Total		
		1.	CELL BIOLOGY	15	5	10	
2.	BIOCHEMISTRY AND BIOPHYSICS	15	5	10	30	70	100
3.	BOTANY I: ALGAE, FUNGI, BRYOPHYTA, PTERIDOPHYTA AND GYMNOSPERM	15	5	10	30	70	100
4.	ZOOLOGY I: NON CHORDATES AND PROTOCHORDATES	15	5	10	30	70	100
5.	CHEMISTRY I: PHYSICAL CHEMISTRY	15	5	10	30	70	100
6.	ENVIRONMENTAL SCIENCES	Qualifying				50	

**TOTAL- 500**

**PRACTICAL PAPER**

S. No.	Subject Name	Sessional				ESE	Subject Total
		CT	TA	Attendance	Total		
		1.	PRACTICAL I (Based on 1,2, 3,4)	15	5	10	
2.	PRACTICAL II (Based on 5)	15	5	10	30	70	100

**Total 200**

**Total (I Semester)- 700**

**FIRST YEAR****SECOND SEMESTER****THEORY PAPER**

S. No.	Subject Name	Sessional				ESE	Subject Total
		CT	TA	Attendance	Total		
		1.	GENETICS	15	5	10	
2.	BIOCHEMISTRY AND ENZYMOLOGY	15	5	10	70	100	
3.	BOTANY II: ANGIOSPERM TAXONOMY AND ECONOMIC BOTANY	15	5	10	70	100	
4.	CHEMISTRY II: INORGANIC CHEMISTRY	15	5	10	70	100	
5.	ENGLISH	15	5	10	70	100	

Total -500

**PRACTICAL PAPER**

S. No.	Subject Name	Sessional				ESE	Subject Total
		CT	TA	Attendance	Total		
		1.	PRACTICAL III (Based on 1,2, 3)	15	5	10	
2.	PRACTICAL IV (Based on 4)	15	5	10	30	70	100

Total :200

Total (II Semester):700

Total (I and II Semester):1400

**SECOND YEAR****THIRD SEMESTER****THEORY PAPER**

S. No.	Subject Name	Sessional				ESE	Subject Total	
		CT	TA	Attendance	Total			
		1.	MICROBIOLOGY	15	5			10
2.	BIOINFORMATICS AND BIOSTATISTICS	15	5	10	30	70	100	
3.	ZOOLOGY II: ANIMAL PHYSIOLOGY	15	5	10	30	70	100	
4.	CHEMISTRY III: ORGANIC CHEMISTRY	15	5	10	30	70	100	
5.	B.S.R.G.(Bhartiya Sanskriti and Rashtriya Gaurav)	Qualifying				50		

**Total: 400****PRACTICAL PAPER**

S. No.	Subject Name	Sessional				ESE	Subject Total
		CT	TA	Attendance	Total		
		1.	PRACTICAL V(based on 1,2 and 3)	15	5		
2.	PRACTICAL VI (Based on 4)	15	5	10	30	70	100

**Total 200****Total (III Semester): 600**

**SECOND YEAR**

**FOURTH SEMESTER**

**THEORY PAPER**

S. No.	Subject Name	Sessional				ESE	Subject Total	
		CT	TA	Attendance	Total			
		1.	IMMUNOLOGY	15	5			10
2.	MOLECULAR BIOLOGY	15	5	10	30	70	100	
3.	BOTANYIII: PLANT PHYSIOLOGY	15	5	10	30	70	100	
4.	ZOOLOGY III: ANIMAL PHYSIOLOGY AND ENDOCRINOLOGY	15	5	10	30	70	100	
5.	RELIGION AND CULTURE	Qualifying				50		

**Total: 400**

**PRACTICAL PAPER**

S. No.	Subject Name	Sessional				ESE	Subject Total
		CT	TA	Attendance	Total		
		1.	PRACTICAL VII( Based on 1,2)	15	5		
2.	PRACTICAL VIII (Based on 3,4)	15	5	10	30	70	100

**Total: 200**

**Total (IV Semester) 600**

**Total (III and IV Semester):1200**

**THIRD YEAR****FIFTH SEMESTER****THEORY PAPER**

S. No.	Subject Name						ESE	Subject Total
		Sessional				Total		
		CT	TA	Attendance				
1.	RECOMBINANT DNA TECHNOLOGY	15	5	10	30	70	100	
2.	GENOMICS AND PROTEOMICS	15	5	10	30	70	100	
3.	PLANT BIOTECHNOLOGY AND AGRICULTURAL BIOTECHNOLOGY	15	5	10	30	70	100	
5.	IPR AND BIOSAFETY	15	5	10	30	70	100	
6.	FUNDAMENTALS OF COMPUTER	Qualifying			50			

**Total: 400****PRACTICAL PAPER**

S. No.	Subject Name						ESE	Subject Total
		Sessional				Total		
		CT	TA	Attendance				
1.	PRACTICAL IX (Based on 1,2)	15	5	10	30	70	100	
2.	PRACTICAL X (Based on 3,4)	15	5	10	30	70	100	

**Total:200****Total (V Semester) 600**



**THIRD YEAR****SIXTH SEMESTER****THEORY PAPER**

S. No.	Subject Name	Sessional				ESE	Subject Total
		CT	TA	Attendance	Total		
		1.	<b>INSTRUMENTATION AND BIO-ANALYTICAL TECHNIQUES</b>	15	5		
2.	<b>INDUSTRIAL BIOTECHNOLOGY</b>	15	5	10	30	70	100
3.	<b>ENVIRONMENTAL BIOTECHNOLOGY</b>	15	5	10	30	70	100
4.	<b>ANIMAL BIOTECHNOLOGY</b>	15	5	10	30	70	100
5.	<b>PROFESSIONAL COMMUNICATION</b>	15	5	10	30	70	100

**Total: 500****PRACTICAL PAPER**

S. No.	Subject Name	Sessional				ESE	Subject Total
		CT	TA	Attendance	Total		
		1.	<b>PRACTICAL XI</b> (Based on 1,2)	15	5		
2.	<b>PRACTICAL XII</b> (Based on 3and 4)	15	5	10	30	70	100

**Total 200****Total (VI Semester) 700****Total (V and VI Semester):1300****GRAND TOTAL: 3900**

#### **Chapter-4**

#### **Attendance**

8. The students are expected to attend all the classes and should not have less than 75% attendance in theory as well as in practical classes where held, to become eligible to appear for the university examination. Shortfall in attendance can, however be condoned in deserving cases to the extent of 10% by the Principal. If the short fall is more than 10% but not more than 15% the Principal may recommend deserving cases to the vice chancellor for condonation the order of the Vice- Chancellor in this regard shall be final.

#### **Chapter-5**

#### **Examination**

9. The examination in each semester shall be conducted in two parts:
- A. Internal assessment** will be of **30 marks** as under:-
- Midterm written test / practical including in-between snap tests if any, shall carry **20 marks** independently in each subject.
  - A maximum of **10 marks** in each subject shall be awarded for attending classes (theory / practical) as per the following norms:

85% or more attendance	-	10 Marks
80% or more but less than 85% attendance	-	9 Marks
75% or more but less than 80% attendance	-	8 Marks
70% or more but less than 75% attendance	-	7 Marks
65% or more but less than 70% attendance	-	5 Marks
60% or more but less than 65% attendance	-	3 Marks
51% or more but less than 60% attendance	-	2 Marks
50% attendance	-	1 Mark
Less than 50% attendance	-	0 Mark

#### **Chapter-6**

#### **Paper setting, Evaluation & Results**

10. The work of setting the End semester examination papers, conduct of the End semester and Annual examinations, Evaluation and declaration of results shall be as per the laid down Examination policies / latest University Notifications.

#### **Chapter – 7**

#### **Power to Modify**

11. In the event of any emergent situation, if any deviation is considered necessary, the Vice Chancellor is authorised to modify the Ordinance. Subject to subsequent ratification by the Executive Council.

**ORDINANCE NO.- V (53A)**  
**BACHELOR OF SCIENCE**  
**(B.SC.) COURSE**

# **Ordinance No.- V (68 A)**

## **Ordinance relating to Bachelor of Science (B.Sc.) Course**

### **Chapter-1**

#### **General**

1. This ordinance may be called 'Ordinance Relating to Bachelor of Science course.
2. It shall come into force with immediate effect.
3. This ordinance shall apply to all programmes leading to B.Sc. course.
4. This supersedes the Ordinance Related to B.Sc. Course ordinance no. V (68) notified earlier.

### **Chapter-2**

#### **Eligibility for Admission**

5. (i) An applicant who has passed Intermediate Examination of U.P. Board or an equivalent examination from any other recognized board/University with Physics and Chemistry as compulsory subjects along with Mathematics/Computer Science/Biology as an optional subject will be eligible for admission in the first year of the B.Sc. course.
6. The admission shall be based on the merit of entrance examination and marks of Qualifying examination (Intermediate or equivalent) the candidate should have obtained 45 % marks (40% for SC/ST ) or more in the aforementioned three subjects and not less than 40 % marks (35% for SC/ST) in individual subject.

### **Chapter-3**

#### **Teaching course**

7. The B.Sc. course shall be of three years duration, divided into six semesters.
8. The B.Sc. course is available in following streams:
  - a. B.Sc. (Physics, Chemistry, Mathematics)
  - b. B.Sc. (Chemistry, Botany, Zoology)
  - c. B.Sc. (Physics, Statistics, Mathematics)
9. The study and evaluation schemes of the B.Sc.(PCM), B.Sc.(CBZ) and B.Sc.(PSM) courses are enclosed as an **Annexure-I, II and III**, respectively.

10. The Academic calendar shall be as follows

I<sup>st</sup>, III<sup>rd</sup>, and V<sup>th</sup> semester Session : 1<sup>st</sup> August to 30<sup>th</sup> November,

**Exam.** : 1<sup>st</sup> to 15<sup>th</sup> Dec.

II<sup>nd</sup>, IV<sup>th</sup>, and VI<sup>th</sup> semesters Session : 1<sup>st</sup> January to 30<sup>th</sup> April,

**Exam.** : 1<sup>st</sup> to 15<sup>th</sup> May

#### **Chapter-4**

##### **Attendance**

11. The students are expected to attend all the classes and should not have less than 75% attendance in theory as well as in practical classes where held, to become eligible to appear for the university examination. Shortfall in attendance can, however be condoned in deserving cases to the extent of 10% by the Principal. If the short fall is more than 10% but not more than 15% the Principal may recommend deserving cases to the vice chancellor for condonation the order of the Hon'ble Vice- Chancellor in this regard shall be final.

#### **Chapter-5**

##### **Examination**

12. The performance of a student in a year shall be evaluated through continuous class assignment and annual examination. The continuous assessment shall be based on class tests, assignments Viva – Voce and attendance. The marks for continuous assessment (Sessional marks) shall be awarded at the end of the semester. The annual examination shall comprise written papers, practicals, project work, reports or a combination there of.

13. The distribution of marks for sessional, annual theory papers, practical and seminar, projects, industrial training shall be as indicated in Study and Evaluation Scheme.

14. The marks obtained in a subject shall consist of marks awarded in the annual theory paper, practical examination and sessional marks.

15. The examination in each semester shall be conducted in two parts:

**B. Internal assessment** will be of **30 marks** as under:-

c. Midterm written test / practical including in-between snap tests if any, shall carry **20 marks** independently in each subject.

d. A maximum of **10 marks** in each subject shall be awarded for attending classes (theory / practical) as per the following norms:

85% or more attendance	-	10 Marks
80% or more but less than 85% attendance	-	9 Marks
75% or more but less than 80% attendance	-	8 Marks
70% or more but less than 75% attendance	-	7 Marks
65% or more but less than 70% attendance	-	5 Marks
60% or more but less than 65% attendance	-	3 Marks
51% or more but less than 60% attendance	-	2 Marks
50% attendance	-	1 Mark
Less than 50% attendance	-	0 Mark

**B:- University Examination** carrying 70% of total marks.

16. The entire course has to be completed within a maximum of six yrs. from the date of original admission in the course.

#### **Chapter-6**

#### **Paper setting, Evaluation & Results**

17. The work of setting the End semester examination papers, conduct of the End semester and Annual examinations, Evaluation and declaration of results shall be as per the laid down Examination policies / latest University Notifications.

#### **Chapter – 7**

#### **Power to Modify**

18. In the event of any emergent situation, if any deviation is considered necessary, the Vice Chancellor is authorised to modify the Ordinance. Subject to subsequent ratification by the Executive Council.

**Annexure - 1**  
**Study and Evaluation Scheme**  
**B.Sc. (Physics, Chemistry, Mathematics)**

**I<sup>st</sup> YEAR**

**First Year**

		Internal			ESE	Total
		CT	Attendance	TA		
<b>I Semester</b>						
1	Physics I (A)	15	10	05	70	100
2	Physics I (B)	15	10	05	70	100
3	Chemistry I (A)	15	10	05	70	100
4	Chemistry I (B)	15	10	05	70	100
5	Maths I (A)	30	10	10	100	150
6	Maths I (B)	30	10	10	100	150
7	Physics Practical I	15	10	05	70	100
8	Chemistry Practical I	15	10	05	70	100
9	Environmental Science ( <b>Qualifying</b> )				50	
					<b>Total</b>	<b>900</b>
<b>II Semester</b>						
1	Physics II (A)	15	10	05	70	100
2	Physics II (B)	15	10	05	70	100
3	Chemistry II (A)	15	10	05	70	100
4	Chemistry II (B)	15	10	05	70	100
5	Maths II (A)	30	10	10	100	150
6	Maths II (B)	30	10	10	100	150
7	Physics Practical II	15	10	05	70	100
8	Chemistry Practical II	15	10	05	70	100
9	English ( <b>Foundation</b> )	15	10	05	70	100
					<b>Total</b>	<b>1000</b>
<b>Total (I Semester + II Semester)</b>						<b>1900</b>

## Second Year

		Internal			ESE	Total
		CT	Attendance	TA		
<b>III Semester</b>						
1	Physics III (A)	15	10	05	70	100
2	Physics III (B)	15	10	05	70	100
3	Chemistry III (A)	15	10	05	70	100
4	Chemistry III (B)	15	10	05	70	100
5	Maths III (A)	30	10	10	100	150
6	Maths III (B)	30	10	10	100	150
7	Physics Practical III	15	10	05	70	100
8	Chemistry Practical III	15	10	05	70	100
9	BHARTIYA SANSKRITI & RASTRIYA GAURAV (Qualifying)				50	
					<b>Total</b>	<b>900</b>
<b>IV Semester</b>						
1	Physics IV (A)	15	10	05	70	100
2	Physics IV (B)	15	10	05	70	100
3	Chemistry IV (A)	15	10	05	70	100
4	Chemistry IV (B)	15	10	05	70	100
5	Maths IV (A)	30	10	10	100	150
6	Maths IV (B)	30	10	10	100	150
7	Physics Practical IV	15	10	05	70	100
8	Chemistry Practical IV	15	10	05	70	100
9	Religion & Culture (Qualifying)				50	
					<b>Total</b>	<b>900</b>
<b>Total (III Semester + IV Semester)</b>						<b>1800</b>



### Third Year

		Internal			ESE	Total
		CT	Attendance	TA		
<b>V Semester</b>						
1	Physics V (A)	15	10	05	70	100
2	Physics V (B)	15	10	05	70	100
3	Chemistry V (A)	15	10	05	70	100
4	Chemistry V (B)	15	10	05	70	100
5	Maths V (A)	30	10	10	100	150
6	Maths V (B)	30	10	10	100	150
7	Physics Practical V	15	10	05	70	100
8	Chemistry Practical V	15	10	05	70	100
9	Comp. Fundamentals (Qualifying)				50	
					<b>Total</b>	<b>900</b>
<b>VI Semester</b>						
1	Physics VI (A)	15	10	05	70	100
2	Physics VI (B)	15	10	05	70	100
3	Chemistry VI (A)	15	10	05	70	100
4	Chemistry VI (B)	15	10	05	70	100
5	Maths VI (A)	30	10	10	100	150
6	Maths VI (B)	30	10	10	100	150
7	Physics Practical VI	15	10	05	70	100
8	Chemistry Practical VI	15	10	05	70	100
9	Professional Communication (Foundation)	15	10	05	70	100
					<b>Total</b>	<b>1000</b>
					<b>Total (V Semester + VI Semester)</b>	<b>1900</b>
					<b>Previous Total (I Year + II Year)</b>	<b>3700</b>
					<b>Grand Total (I Year + II Year + III Year)</b>	<b>5600</b>

**\*Qualifying paper may be cleared in any semester.**

**Study and Evaluation Scheme**  
**B.Sc. (Chemistry, Botany, Zoology)**

**First Year: First Semester**

S. No.	Subject Name	Evaluation Scheme					ESE	Subject Total
		Sessional				Total		
		CT	TA		Total			
Attendance	Assignment							
1.	Chemistry I	15	10	5	30	70	100	
2.	Chemistry II	15	10	5	30	70	100	
3.	Life and Diversity from Protozoa to Helminthes	15	10	5	30	70	100	
4.	Cell Biology	15	10	5	30	70	100	
5.	Diversity of Algae, Lichens and Bryophyta	15	10	5	30	70	100	
6.	Diversity of Pteridophyta, Gymnosperm and Palaeobotany	15	10	5	30	70	100	
7.	Environmental Science( <b>Qualifying</b> )						50	
8.	Practical Chemistry	15	10	5	30	70	100	
9.	Practical Zoology	15	10	5	30	70	100	
10.	Practical Botany	15	10	5	30	70	100	
	<b>Total</b>						<b>900</b>	

**First Year: Second Semester**

S. No.	Subject Name	Evaluation Scheme					ESE	Subject Total
		Sessional				Total		
		CT	TA		Total			
Attendance	Assignment							
1.	Chemistry I	15	10	5	30	70	100	
2.	Chemistry II	15	10	5	30	70	100	
3.	Life and Diversity from Annelida to Echinodermata	15	10	5	30	70	100	
4.	Genetics	15	10	5	30	70	100	
5.	Taxonomy of Angiosperms and Economic Botany	15	10	5	30	70	100	
6.	Plant Anatomy and Embryology	15	10	5	30	70	100	
7.	English ( <b>Foundation</b> )	15	10	5	30	70	100	
8.	Practical Chemistry	15	10	5	30	70	100	
9.	Practical Zoology	15	10	5	30	70	100	
10.	Practical Botany	15	10	5	30	70	100	
	<b>Total</b>						<b>1000</b>	

**Second Year: Third Semester**

S. No.	Subject Name	Evaluation Scheme					ESE	Subject Total
		Sessional				Total		
		CT	TA		Total			
	Attendance	Assignment						
1.	Chemistry I	15	10	5	30	70	100	
2.	Chemistry II	15	10	5	30	70	100	
3.	Chordata I	15	10	5	30	70	100	
4.	Mammalian physiology -I	15	10	5	30	70	100	
5.	Microbiology and Plant Pathology	15	10	5	30	70	100	
6.	Cytology and Molecular Biology	15	10	5	30	70	100	
7.	Bhartiya Sanskriti and Rashtriya Gaurav ( <b>Qualifying</b> )					50		
8.	Practical Chemistry	15	10	5	30	70	100	
9.	Practical Zoology	15	10	5	30	70	100	
10.	Practical Botany	15	10	5	30	70	100	
	<b>Total</b>					.	<b>900</b>	

**Second Year: Fourth Semester**

S. No.	Subject Name	Evaluation Scheme					ESE	Subject Total
		Sessional				Total		
		CT	TA		Total			
	Attendance	Assignment						
1.	Chemistry I	15	10	5	30	70	100	
2.	Chemistry II	15	10	5	30	70	100	
3.	Chordata II	15	10	5	30	70	100	
4.	Mammalian physiology II	15	10	5	30	70	100	
5.	Plant Ecology and Plant Biodiversity	15	10	5	30	70	100	
6.	Genetics and Plant Breeding	15	10	5	30	70	100	
7.	Religion & Culture ( <b>Qualifying</b> )					50		
8.	Practical Chemistry	15	10	5	30	70	100	
9.	Practical Zoology	15	10	5	30	70	100	
10.	Practical Botany	15	10	5	30	70	100	
	<b>Total</b>						<b>900</b>	

### Third Year: Fifth Semester

S. No.	Subject Name	Evaluation Scheme					ESE	Subject Total
		Sessional				Total		
		CT	TA		Assignment			
		Attendance	Assignment					
1.	Chemistry I	15	10	5	30	70	100	
2.	Chemistry II	15	10	5	30	70	100	
3.	Evolution and Developmental Biology	15	10	5	30	70	100	
4.	Biostatistics, Bioinformatics and Biochemistry	15	10	5	30	70	100	
5.	Plant Physiology	15	10	5	30	70	100	
6.	Biochemistry	15	10	5	30	70	100	
7.	Computer (Qualifying)		10	5		50		
8.	Practical Chemistry	15	10	5	30	70	100	
9.	Practical Zoology	15	10	5	30	70	100	
10.	Practical Botany	15	10	5	30	70	100	
	<b>Total</b>						<b>900</b>	

### Third Year: Sixth Semester

S. No.	Subject Name	Evaluation Scheme					ESE	Subject Total
		Sessional				Total		
		CT	TA		Assignment			
		Attendance	Assignment					
1.	Chemistry I	15	10	5	30	70	100	
2.	Chemistry II	15	10	5	30	70	100	
3.	Ecology, Animal Behavior, Economic Zoology	15	10	5	30	70	100	
4.	Microbiology, Immunology, Animal Biotechnology	15	10	5	30	70	100	
5.	Plant Biotechnology	15	10	5	30	70	100	
6.	Biostatistics and Bioinformatics	15	10	5	30	70	100	
7.	Professional communication(Foundation)	15	10	5	30	70	100	
8.	Practical Chemistry	15	10	5	30	70	100	
9.	Practical Zoology	15	10	5	30	70	100	
10.	Practical Botany	15	10	5	30	70	100	
	<b>Total</b>						<b>1000</b>	

\*Qualifying paper may be cleared in any semester.

**Study and Evaluation Scheme**  
**B.Sc. (Physics, Statistics, Mathematics)**

**First Year**

		Internal			ESE	Total
		CT	Attendance	TA		
<b>I Semester</b>						
1	Physics I (A)	15	10	05	70	100
2	Physics I (B)	15	10	05	70	100
3	Statistics I (A)	15	10	05	70	100
4	Statistics I (B)	15	10	05	70	100
5	Maths I (A)	30	10	10	100	150
6	Maths I (B)	30	10	10	100	150
7	Physics Practical I	15	10	05	70	100
8	Statistics Practical I	15	10	05	70	100
9	Environmental Science ( <b>Qualifying</b> )				50	
					<b>Total</b>	<b>900</b>
<b>II Semester</b>						
1	Physics II (A)	15	10	05	70	100
2	Physics II (B)	15	10	05	70	100
3	Statistics II (A)	15	10	05	70	100
4	Statistics II (B)	15	10	05	70	100
5	Maths II (A)	30	10	10	100	150
6	Maths II (B)	30	10	10	100	150
7	Physics Practical II	15	10	05	70	100
8	Statistics Practical II	15	10	05	70	100
9	English ( <b>Foundation</b> )	15	10	05	70	100
					<b>Total</b>	<b>1000</b>
<b>Total (I Semester + II Semester)</b>						<b>1900</b>

**Second Year**

		Internal			ESE	Total
		CT	Attendance	TA		
<b>III Semester</b>						
1	Physics III (A)	15	10	05	70	100
2	Physics III (B)	15	10	05	70	100
3	Statistics III (A)	15	10	05	70	100
4	Statistics III (B)	15	10	05	70	100
5	Maths III (A)	30	10	10	100	150
6	Maths III (B)	30	10	10	100	150
7	Physics Practical III	15	10	05	70	100
8	Statistics Practical III	15	10	05	70	100
9	BHARTIYA SANSKRITI & RASTRIYA GAURAV (Qualifying)				50	
					<b>Total</b>	<b>900</b>
<b>IV Semester</b>						
1	Physics IV (A)	15	10	05	70	100
2	Physics IV (B)	15	10	05	70	100
3	Statistics IV (A)	15	10	05	70	100
4	Statistics IV (B)	15	10	05	70	100
5	Maths IV (A)	30	10	10	100	150
6	Maths IV (B)	30	10	10	100	150
7	Physics Practical IV	15	10	05	70	100
8	Statistics Practical IV	15	10	05	70	100
9	Religion & Culture (Qualifying)				50	
					<b>Total</b>	<b>900</b>
<b>Total (III Semester + IV Semester)</b>						<b>1800</b>

### Third Year

		Internal			ESE	Total
		CT	Attendance	TA		
<b>V Semester</b>						
1	Physics V (A)	15	10	05	70	100
2	Physics V (B)	15	10	05	70	100
3	Statistics V (A)	15	10	05	70	100
4	Statistics V (B)	15	10	05	70	100
5	Maths V (A)	30	10	10	100	150
6	Maths V (B)	30	10	10	100	150
7	Physics Practical V	15	10	05	70	100
8	Statistics Practical V	15	10	05	70	100
9	Comp. Fundamentals (Qualifying)				50	
					<b>Total</b>	<b>900</b>
<b>VI Semester</b>						
1	Physics VI (A)	15	10	05	70	100
2	Physics VI (B)	15	10	05	70	100
3	Statistics VI (A)	15	10	05	70	100
4	Statistics VI (B)	15	10	05	70	100
5	Maths VI (A)	30	10	10	100	150
6	Maths VI (B)	30	10	10	100	150
7	Physics Practical VI	15	10	05	70	100
8	Statistics Practical VI	15	10	05	70	100
9	Prof. Communication (Foundation)	15	10	05	70	100
					<b>Total</b>	<b>1000</b>
					<b>Total (V Semester + VI Semester)</b>	<b>1900</b>
					<b>Previous Total (I Year + II Year)</b>	<b>3700</b>
					<b>Grand Total (I Year + II Year + III Year)</b>	<b>5600</b>

**\*Qualifying paper may be cleared in any semester.**

**ORDINANCE NO.- V (69A)**

**BACHELOR OF SCIENCE  
(HONS.) [B.SC. (HONS.)] COURSE**



# **Ordinance No.- V (69 A)**

## **Ordinance relating to Bachelor of Science (Hons.) [B.Sc. (Hons.)] course**

### **Chapter-1**

#### **General**

17. This ordinance may be called 'Ordinance Relating to Bachelor of Science (Hons.) course.
18. It shall come into force with immediate effect.
19. This ordinance shall apply to all programmes leading to B.Sc. (Hons.) course

### **Chapter-2**

#### **Eligibility for Admission**

20. An applicant who has passed Intermediate Examination of U.P. Board or an equivalent examination from any other recognized board/University with Physics and Chemistry as compulsory subjects along with Mathematics/Computer Science/Biology as an optional subject will be eligible for admission in the first year of the B.Sc. course.
21. The admission shall be based on the merit of entrance examination and marks of Qualifying examination (Intermediate or equivalent) the candidate should have obtained 45 % marks (40% for SC/ST ) or more in the aforementioned three subjects and not less than 40 % marks (35% for SC/ST) in individual subject.

### **Chapter-3**

#### **Teaching course**

22. The B.Sc. (Hons.) course shall be of three years duration, divided into six semesters.
23. The B.Sc. (Hons.) course is available in following streams:

- d. B.Sc. (Hons.). (Physics)
- e. B.Sc. (Hons.). (Chemistry)
- f. B.Sc. (Hons.). (Mathematics)
- g. B.Sc. (Hons.). (Botany)
- h. B.Sc. (Hons.). (Zoology)

24. The study and evaluation schemes of the B.Sc. (Hons.) courses are enclosed as an **Annexure-I, II, III, IV and V** respectively.
25. The Academic calendar shall be as follows

I<sup>st</sup>, III<sup>rd</sup>, and V<sup>th</sup> semester : 1<sup>st</sup> August to 30<sup>th</sup> November,

**Exam.** : 1<sup>st</sup> to 15<sup>th</sup> Dec.

II<sup>nd</sup>, IV<sup>th</sup>, and VI<sup>th</sup> semesters : 1<sup>st</sup> January to 30<sup>th</sup> April,

**Exam.** : 1<sup>st</sup> to 15<sup>th</sup> May

## Chapter-4

### Attendance

26. The students are expected to attend all the classes and should not have less than 75% attendance in theory as well as in practical classes where held, to become eligible to appear for the university examination. Shortfall in attendance can, however be condoned in deserving cases to the extent of 10% by the Principal. If the short fall is more than 10% but not more than 15% the Principal may recommend deserving cases to the vice chancellor for condonation the order of the Hon'ble Vice- Chancellor in this regard shall be final.

## Chapter-5

### Examination

27. The performance of a student in a year shall be evaluated through continuous class assignment and annual examination. The continuous assessment shall be based on class tests, assignments Viva – Voce and attendance. The marks for continuous assessment (Sessional marks ) shall be awarded at the end of the semester. The annual examination shall comprise written papers, practicals, project work, reports or a combination there of.
28. The distribution of marks for sessional, annual theory papers, practical and seminar, projects, industrial training shall be as indicated in Study and Evaluation Scheme.
29. The marks obtained in a subject shall consist of marks awarded in the annual theory paper, practical examination and sessional marks.
30. **A:- Internal assessment (IA)** carrying 30 % of total marks. Internal marks of theory subjects, practicals and projects shall be awarded as per the breakup of sessional marks given below.

#### **(a) Theory Subject**

- (i) Class tests which will comprise two mid-term test of equal weightage 70 % of IA marks
- (ii) Teachers Assessment based on attendance, assignments etc. 30 % of IA marks

#### **(b) Practical**

- (i) Two midterm Viva-Voce test of equal weightage 70 % of IA marks.
- (ii) Teachers Assessment based on attendance, lab records etc. 30 % of IA marks

- (c) Make up test may be held for those students who fail to appear in any of the midterm tests for genuine unavoidable reasons, provided prior permission was taken from the Principal/Dean.

- (d) A maximum of 5 marks shall be awarded [Clause 15 A{a(ii)} & 15 A{b(ii)}] for attending classes regularly as per the following norms:

95 % or more attendance	-	5-
Marks		
90 % or more but less than 95% attendance	-	4-
Marks		

85 % or more but less than 90% attendance Marks	-	3-
80 % or more but less than 85% attendance Marks	-	2-
75 % or more but less than 80% attendance Marks	-	1-

**B:- University Examination** carrying 70% of total marks.

31. The entire course has to be completed within a maximum of six yrs. from the date of original admission in the course.

### **Chapter-6**

#### **Paper setting, Evaluation & Results**

16. The work of setting the End semester examination papers, conduct of the End semester and Annual examinations, Evaluation and declaration of results shall be as per the laid down Examination policies / latest University Notifications.

### **Chapter – 7**

#### **Power to Modify**

17. In the event of any emergent situation, if any deviation is considered necessary, the Vice Chancellor is authorised to modify the Ordinance. Subject to subsequent ratification by the Executive Council.

# SWAMI VIVEKANAND SUBHARTI UNIVERSITY

## BSC (HON'S) BOTANY: Evaluation Scheme and Syllabus

### I Year, I Semester

S. No.	Subject Name	Sessional Examination				ESE	Subject Total
		CT	TA	Attendance	Total		
1.	Phycology, Lichens and Bryology	15	05	10	30	70	100
2.	Genetics and Plant Breeding	15	05	10	30	70	100
3.	Chemistry I	15	05	10	30	70	100
4.	Animal Systematic and Taxonomy	15	05	10	30	70	100
5.	Practical Botany	15	05	10	30	70	100
6.	Practical Zoology	15	05	10	30	70	100
7.	Practical Chemistry	15	05	10	30	70	100
8.	Environmental Science(Qualifying)					50	
9.	<b>Total</b>						<b>700</b>

### I Year, II Semester

S. No.	Subject Name	Sessional Examination				ESE	Subject Total
		CT	TA	Attendance	Total		
1.	Pteridophyta, Gymnosperms and Palaeobotany	15	05	10	30	70	100
2.	Microbiology	15	05	10	30	70	100
3.	Chemistry II	15	05	10	30	70	100
4.	Diversity of Nonchordates	15	05	10	30	70	100
5.	Practical Botany	15	05	10	30	70	100
6.	Practical Zoology	15	05	10	30	70	100
7.	Practical Chemistry	15	05	10	30	70	100
8.	English (Foundation Course)	15	05	10	30	70	100
	<b>Total</b>						<b>800</b>
	<b>Total (Sem I+II)</b>						<b>1500</b>

## BSC (HON'S) BOTANY: Evaluation Scheme and Syllabus

### II Year, III Semester

S. No.	Subject Name	Sessional Examination				ESE	Subject Total
		CT	TA	Attendance	Total		
1.	Taxonomy of Angiosperms	15	05	10	30	70	100
2.	Plant Ecology	15	05	10	30	70	100
3.	Chemistry III	15	05	10	30	70	100
4.	Diversity of protochordates and lower chordates	15	05	10	30	70	100
5.	Practical Botany	15	05	10	30	70	100
6.	Practical Zoology	15	05	10	30	70	100
7.	Practical Chemistry	15	05	10	30	70	100
8.	Bhartiya Sanskriti & Rashtriya Gaurav (Qualifying)					50	
	<b>Total</b>						<b>700</b>

### II Year, IV Semester

S. No.	Subject Name	Sessional Examination				ESE	Subject Total
		CT	TA	Attendance	Total		
1.	Plant Resource Utilization	15	05	10	30	70	100
2.	Plant Anatomy and Embryology	15	05	10	30	70	100
3.	Chemistry IV	15	05	10	30	70	100
4.	Diversity of higher Chordates	15	05	10	30	70	100
5.	Practical Botany	15	05	10	30	70	100
6.	Practical Zoology	15	05	10	30	70	100
7.	Practical Chemistry	15	05	10	30	70	100
8.	Computer Fundamental (Qualifying)					50	
	<b>Total</b>						<b>700</b>
	<b>Total (Sem III+IV)</b>						<b>1400</b>

## BSC (HON'S) BOTANY: Evaluation Scheme and Syllabus

### III Year, V Semester

S. No.	Subject Name	Sessional Examination				ESE	Subject Total
		CT	TA	Attendance	Total		
1.	Cell Biology	15	05	10	30	70	100
2.	Plant biotechnology	15	05	10	30	70	100
3.	Plant Physiology	15	05	10	30	70	100
4.	Plant Tissue Culture	15	05	10	30	70	100
5.	Environmental Microbiology	15	05	10	30	70	100
6.	Practical Botany- I	15	05	10	30	70	100
7.	Practical Botany- II	15	05	10	30	70	100
	<b>Total</b>						<b>700</b>

### III Year, VI Semester

S. No.	Subject Name	Sessional Examination				ESE	Subject Total
		CT	TA	Attendance	Total		
1.	Molecular Biology	15	05	10	30	70	100
2.	Plant Pathology	15	05	10	30	70	100
3.	Biostatistics and Bioinformatics	15	05	10	30	70	100
4.	Biochemistry	15	05	10	30	70	100
5.	Food Microbiology	15	05	10	30	70	100
6.	Practical Botany IV	15	05	10	30	70	100
7.	Practical Botany V	15	05	10	30	70	100
	<b>Total</b>						<b>700</b>
	<b>Total (V+IV)</b>						<b>1400</b>
	<b>Grand Total (Sem. I+II+III+IV+V+VI)</b>						<b>4300</b>

**Evaluation Scheme**  
**Bachelor of Science (Hon's) Zoology**

**I Year, I Semester**

S. No.	Subject Name	Evaluation Scheme					Subject Total
		Sessional				ESE	
		CT	TA		Total		
Attendance	Assignment						
10.	Animal Systematics and Taxonomy	15	10	5	30	70	100
11.	Cell biology	15	10	5	30	70	100
12.	Chemistry I	15	10	5	30	70	100
13.	Phycology, Lichens and Bryology	15	10	5	30	70	100
14.	Practical Zoology	15	10	5	30	70	100
15.	Practical Botany	15	10	5	30	70	100
16.	Practical Chemistry	15	10	5	30	70	100
17.	Environmental Science (Qualifying)						50
	<b>Total</b>						<b>700</b>

**I Year, II Semester**

S. No.	Subject Name	Evaluation Scheme					Subject Total
		Sessional				ESE	
		CT	TA		Total		
Attendance	Assignment						
9.	Diversity of Non chordates	15	10	5	30	70	100
10.	Genetics Genomics and Bioinformatics	15	10	5	30	70	100
11.	Chemistry II	15	10	5	30	70	100
12.	Pteridophyta, Gymnosperms & Paleobotany	15	10	5	30	70	100
13.	Practical Zoology	15	10	5	30	70	100
14.	Practical Botany	15	10	5	30	70	100
15.	Practical Chemistry	15	10	5	30	70	100
16.	English (Foundation)	15	10	5	30	70	100
	<b>Total</b>						<b>800</b>

**Evaluation Scheme**  
**Bachelor of Science (Hon's) Zoology**

**II Year, III Semester**

S. No.	Subject Name	Evaluation Scheme					Subject Total
		Sessional				ESE	
		CT	TA		Total		
Attendance	Assignment						
9.	Diversity of Proto chordates and lower chordates	15	10	5	30	70	100
10.	Biochemistry	15	10	5	30	70	100
11.	Chemistry III	15	10	5	30	70	100
12.	Taxonomy of Angiosperms	15	10	5	30	70	100
13.	Practical Zoology	15	10	5	30	70	100
14.	Practical Botany	15	10	5	30	70	100
15.	Practical Chemistry	15	10	5	30	70	100
16.	Religion and Culture (Qualifying)					50	
	<b>Total</b>						<b>700</b>

**II Year, IV Semester**

S. No.	Subject Name	Evaluation Scheme					Subject Total
		Sessional				ESE	
		CT	TA		Total		
Attendance	Assignment						
9.	Diversity of Higher Chordates	15	10	5	30	70	100
10.	Mammalian physiology I	15	10	5	30	70	100
11.	Chemistry IV	15	10	5	30	70	100
12.	Plant resources Utilization	15	10	5	30	70	100
13.	Practical Zoology	15	10	5	30	70	100
14.	Practical Botany	15	10	5	30	70	100
15.	Practical Chemistry	15	10	5	30	70	100
16.	Computer Fundamentals (Qualifying)					50	
	<b>Total</b>						<b>700</b>



**Evaluation Scheme**  
**Bachelor of Science (Hon's) Zoology**

**III Year, V Semester**

S. No.	Subject Name	Evaluation Scheme					ESE	Subject Total
		Sessional				TA		
		CT	TA		TA			
		Attendance	Attendance					
<b>8.</b>	Mammalian physiology II	15	10	5	30	70	100	
<b>9.</b>	Evolutionary Biology	15	10	5	30	70	100	
<b>10.</b>	Immunology, Genomics	15	10	5	30	70	100	
<b>11.</b>	Molecular Biology	15	10	5	30	70	100	
<b>12.</b>	Practical-I	15	10	5	30	70	100	
<b>13.</b>	Practical-II	15	10	5	30	70	100	
	<b>Total</b>						<b>600</b>	

**III Year, VI Semester**

S. No.	Subject Name	Evaluation Scheme					ESE	Subject Total
		Sessional				Total		
		CT	TA		Total			
		Attendance	Assignment					
<b>8.</b>	Animal Biotechnology	15	10	5	30	70	100	
<b>9.</b>	Applied Zoology	15	10	5	30	70	100	
<b>10.</b>	Biotechniques & Biostatistics	15	10	5	30	70	100	
<b>11.</b>	Environmental Biology	15	10	5	30	70	100	
<b>12.</b>	Practical –I	15	10	5	30	70	100	
<b>13.</b>	Practical -II	15	10	5	30	70	100	
	<b>Total</b>						<b>600</b>	

**Study and Evaluation Scheme  
B.Sc. (Hons.) in Chemistry**

**First Year**

S. No.	Name of Papers	Internal			ESE	Total
		CT	Attendance	TA		
<b>I Semester</b>						
1	Physics I	15	10	05	70	100
2	Chemistry I	15	10	05	70	100
3	Mathematics I(A)	15	10	05	70	100
4	Mathematics I(B)	15	10	05	70	100
5	Physics Practical I	15	10	05	70	100
6	Chemistry Practical I	15	10	05	70	100
7	Environmental Science ( <b>Qualifying</b> )				50	
					<b>Total</b>	<b>600</b>
<b>II Semester</b>						
1	Physics II	15	10	05	70	100
2	Chemistry II	15	10	05	70	100
3	Mathematics II(A)	15	10	05	70	100
4	Mathematics II(B)	15	10	05	70	100
5	Physics Practical II	15	10	05	70	100
6	Chemistry Practical II	15	10	05	70	100
7	English ( <b>Foundation</b> )	15	10	05	70	100
					<b>Total</b>	<b>700</b>
					<b>Total (I Semester + II Semester)</b>	<b>1300</b>

**Second Year**

S. No.	Name of Papers	Internal			ESE	Total
		CT	Attendance	TA		
<b>III Semester</b>						
1	Physics III	15	10	05	70	100
2	Chemistry III	15	10	05	70	100
3	Mathematics III(A)	15	10	05	70	100
4	Mathematics III(B)	15	10	05	70	100
5	Physics Practical III	15	10	05	70	100
6	Chemistry Practical III	15	10	05	70	100
7	Statistics I ( <b>Foundation</b> )	15	10	05	70	100
					<b>Total</b>	<b>700</b>
<b>IV Semester</b>						
1	Physics IV	15	10	05	70	100
2	Chemistry IV	15	10	05	70	100
3	Mathematics IV(A)	15	10	05	70	100
4	Mathematics IV(B)	15	10	05	70	100
5	Physics Practical IV	15	10	05	70	100
6	Chemistry Practical IV	15	10	05	70	100
7	Computer Fundamentals ( <b>Foundation</b> )	15	10	05	70	100
					<b>Total</b>	<b>700</b>
					<b>Total (III Semester + IV Semester)</b>	<b>1400</b>

**Study and Evaluation Scheme  
B.Sc. (Hons.) in Chemistry**

**Third Year**

S. No.	Name of Papers	Internal			ESE	Total
		CT	Attendance	TA		
<b>V Semester</b>						
1	Chemistry V(A)	15	10	05	70	100
2	Chemistry V(B)	15	10	05	70	100
3	Chemistry V(C)	15	10	05	70	100
4	Chemistry V(D)	15	10	05	70	100
5	Chemistry Practical V	15	10	05	70	100
<b>Total</b>						<b>500</b>
<b>VI Semester</b>						
1	Chemistry VI(A)	15	10	05	70	100
2	Chemistry VI(B)	15	10	05	70	100
3	Chemistry VI(C)	15	10	05	70	100
4	Chemistry VI(D)	15	10	05	70	100
5	Chemistry Practical VI	15	10	05	70	100
<b>Total</b>						<b>500</b>
<b>Total (V Semester + VI Semester)</b>						<b>1000</b>
<b>Previous Total (I Year + II Year)</b>						<b>2700</b>
<b>Grand Total (I Year + II Year + III Year)</b>						<b>3700</b>

**Study and Evaluation Scheme  
B.Sc. (Hons.) in Mathematics**

**First Year**

S. No.	Name of Papers	Internal			ESE	Total
		CT	Attendance	TA		
<b>I Semester</b>						
1	Physics I	15	10	05	70	100
2	Chemistry I	15	10	05	70	100
3	Mathematics I(A)	15	10	05	70	100
4	Mathematics I(B)	15	10	05	70	100
5	Physics Practical I	15	10	05	70	100
6	Chemistry Practical I	15	10	05	70	100
7	Environmental Science ( <b>Qualifying</b> )				50	
					<b>Total</b>	<b>600</b>
<b>II Semester</b>						
1	Physics II	15	10	05	70	100
2	Chemistry II	15	10	05	70	100
3	Mathematics II(A)	15	10	05	70	100
4	Mathematics II(B)	15	10	05	70	100
5	Physics Practical II	15	10	05	70	100
6	Chemistry Practical II	15	10	05	70	100
7	English ( <b>Foundation</b> )	15	10	05	70	100
					<b>Total</b>	<b>700</b>
					<b>Total (I Semester + II Semester)</b>	<b>1300</b>

**Second Year**

S. No.	Name of Papers	Internal			ESE	Total
		CT	Attendance	TA		
<b>III Semester</b>						
1	Physics III	15	10	05	70	100
2	Chemistry III	15	10	05	70	100
3	Mathematics III(A)	15	10	05	70	100
4	Mathematics III(B)	15	10	05	70	100
5	Physics Practical III	15	10	05	70	100
6	Chemistry Practical III	15	10	05	70	100
7	Statistics I ( <b>Foundation</b> )	15	10	05	70	100
					<b>Total</b>	<b>700</b>
<b>IV Semester</b>						
1	Physics IV	15	10	05	70	100
2	Chemistry IV	15	10	05	70	100
3	Mathematics IV(A)	15	10	05	70	100
4	Mathematics IV(B)	15	10	05	70	100
5	Physics Practical IV	15	10	05	70	100
6	Chemistry Practical IV	15	10	05	70	100
7	Computer Fundamentals ( <b>Foundation</b> )	15	10	05	70	100
					<b>Total</b>	<b>700</b>
					<b>Total (III Semester + IV Semester)</b>	<b>1400</b>

**Study and Evaluation Scheme  
B.Sc. (Hons.) in Mathematics**

**Third Year**

S. No.	Name of Papers	Internal			ESE	Total
		CT	Attendance	TA		
<b>V Semester</b>						
1	Analysis I	15	10	05	70	100
2	Abstract Algebra	15	10	05	70	100
3	Programming in C	15	10	05	70	100
4	Differential Geometry	15	10	05	70	100
5	Discrete Mathematics	15	10	05	70	100
6	Combinatorial Mathematics	15	10	05	70	100
7	Statistics II	15	10	05	70	100
8	Computational Mathematics Lab-I	15	10	05	70	100
					<b>Total</b>	<b>800</b>
<b>VI Semester</b>						
1	Analysis II	15	10	05	70	100
2	Linear Algebra	15	10	05	70	100
3	Numerical Analysis	15	10	05	70	100
4	Mechanics	15	10	05	70	100
5	Operation Research	15	10	05	70	100
6	Number Theory	15	10	05	70	100
7	Data Structures	15	10	05	70	100
8	Computational Mathematics Lab-II	15	10	05	70	100
					<b>Total</b>	<b>800</b>
					<b>Total (V Semester + VI Semester)</b>	<b>1600</b>
					<b>Previous Total (I Year + II Year)</b>	<b>2700</b>
					<b>Grand Total (I Year + II Year + III Year)</b>	<b>4300</b>

**Study and Evaluation Scheme  
B.Sc. (Hons.) in Physics**

**First Year**

S. No.	Name of Papers	Internal			ESE	Total
		CT	Attendance	TA		
<b>I Semester</b>						
1	Physics I	15	10	05	70	100
2	Chemistry I	15	10	05	70	100
3	Mathematics I(A)	15	10	05	70	100
4	Mathematics I(B)	15	10	05	70	100
5	Physics Practical I	15	10	05	70	100
6	Chemistry Practical I	15	10	05	70	100
7	Environmental Science ( <b>Qualifying</b> )				50	
					<b>Total</b>	<b>600</b>
<b>II Semester</b>						
1	Physics II	15	10	05	70	100
2	Chemistry II	15	10	05	70	100
3	Mathematics II(A)	15	10	05	70	100
4	Mathematics II(B)	15	10	05	70	100
5	Physics Practical II	15	10	05	70	100
6	Chemistry Practical II	15	10	05	70	100
7	English ( <b>Foundation</b> )	15	10	05	70	100
					<b>Total</b>	<b>700</b>
					<b>Total (I Semester + II Semester)</b>	<b>1300</b>

**Second Year**

S. No.	Name of Papers	Internal			ESE	Total
		CT	Attendance	TA		
<b>III Semester</b>						
1	Physics III	15	10	05	70	100
2	Chemistry III	15	10	05	70	100
3	Mathematics III(A)	15	10	05	70	100
4	Mathematics III(B)	15	10	05	70	100
5	Physics Practical III	15	10	05	70	100
6	Chemistry Practical III	15	10	05	70	100
7	Statistics I ( <b>Foundation</b> )	15	10	05	70	100
					<b>Total</b>	<b>700</b>
<b>IV Semester</b>						
1	Physics IV	15	10	05	70	100
2	Chemistry IV	15	10	05	70	100
3	Mathematics IV(A)	15	10	05	70	100
4	Mathematics IV(B)	15	10	05	70	100
5	Physics Practical IV	15	10	05	70	100
6	Chemistry Practical IV	15	10	05	70	100
7	Computer Fundamentals ( <b>Foundation</b> )	15	10	05	70	100
					<b>Total</b>	<b>700</b>
					<b>Total (III Semester + IV Semester)</b>	<b>1400</b>

**Study and Evaluation Scheme**  
**B.Sc. (Hons.) in Physics**

**Third Year**

S. No.	Name of Papers	Internal			ESE	Total
		CT	Attendance	TA		
<b>V Semester</b>						
1	Physics V(A)	15	10	05	70	100
2	Physics V(B)	15	10	05	70	100
3	Physics V(C)	15	10	05	70	100
4	Physics V(D)	15	10	05	70	100
5	Physics Lab V	15	10	05	70	100
<b>Total</b>						<b>500</b>
<b>VI Semester</b>						
1	Physics VI(A)	15	10	05	70	100
2	Physics VI(B)	15	10	05	70	100
3	Physics VI(C)	15	10	05	70	100
4	Physics VI(D)	15	10	05	70	100
5	Physics Lab VI	15	10	05	70	100
<b>Total</b>						<b>500</b>
<b>Total (V Semester + VI Semester)</b>						<b>1000</b>
<b>Previous Total (I Year + II Year)</b>						<b>2700</b>
<b>Grand Total (I Year + II Year + III Year)</b>						<b>3700</b>

**ORDINANCE NO.- V (3A)**  
**BACHELOR OF COMPUTER**  
**APPLICATIONS (BCA) COURSE**



# Ordinance No. V (3A)

## Ordinances Relating to Bachelor of Computer Applications (BCA) Course

### **Chapter – 1**

#### **General**

1. This ordinance may be called the Ordinance Relating to “Bachelor of Computer Applications (B.C.A.) Course”
2. It shall come into force with immediate effect.
3. This supersedes the previous Ordinance relating to Bachelor of Computer Applications (B.C.A.) Course [V-(3A)].

### **Chapter – 2**

#### **Eligibility for Admission**

4. (i) For admission to B.C.A. course, an applicant should have passed the Intermediate Examination or an equivalent examination from a recognized Board / University with minimum 45% marks in aggregate.  
(ii) There shall be relaxation of 5% marks for SC/ST categories candidates.

### **Chapter – 3**

#### **Teaching Course**

5. The course will be of three years duration, spread over six semesters.

6. The academic calendar shall be as follows:

1 <sup>st</sup> , 3 <sup>rd</sup> & 5 <sup>th</sup> Semester: Session	–	1 <sup>st</sup> Aug. to 15 <sup>th</sup> Dec.
Exam	–	16 <sup>th</sup> Dec. to 31 <sup>st</sup> Dec.
2 <sup>nd</sup> , 4 <sup>th</sup> & 6 <sup>th</sup> Semester: Session	–	1 <sup>st</sup> Jan. to 31 <sup>st</sup> May
Exam	–	1 <sup>st</sup> June to 15 <sup>th</sup> June

7. The course structure shall be as given below:

#### **First Semester**

Mathematics-I	100
Computer Fundamental & Office Automation	100
Programming principles and algorithms	100
Professional communication	100
Practical	100

#### **Second Semester**

Mathematics-II	100
Computer Oriented Finance & management Principles	100
‘C’ Programming	100
Data Base Management System	100
Practical	100

**Third Semester**

Data Structure & Programming with 'c'	100
Operating System	100
Programming in VISUAL BASIC	100
Discrete Mathematics	100
Practical	100

**Fourth Semester**

Computer Communication Networks	100
Computer Graphics & Multimedia Application	100
Object Oriented Programming & C++	100
Software Engineering	100
Practical	100

**Fifth Semester**

Information Systems: Analysis, Design & Implementation	100
Client server & advance computer applications	100
Digital electronics & computer organization	100
Java Programming and Dynamic Webpage Design	100
Practical	100

**Sixth Semester**

ERP system	100
.NET Framework and C#	100
Practical	100
Viva – Voce (Project Report Based)	200

8. There will be a compulsory qualifying paper “Environmental Studies” of 100 Marks in first semester. It is mandatory for each student to clear this paper but the marks obtained in this paper will not be added in the grand total.

**Chapter – 4**  
**Attendance**

9. The students are expected to attend all the classes and should not have less than 75 % attendance in theory as well as in practical classes, wherever held, to become eligible to appear for the university examination. Short fall in attendance can, however be condoned in deserving cases to the extent of 10% by the Principal. If the short fall is more than 10% but not more than 15%, the Principal may recommend deserving cases to the Vice Chancellor for condonation. The order of the Vice Chancellor in this regard shall be final.

## Chapter – 5

### Examination

10. The examination in each semester shall be conducted in two parts:

**C. Internal assessment** will be of **30 marks** as under:-

- e. Midterm written test / practical including in-between snap tests if any, shall carry **20 marks** independently in each subject.
- f. A maximum of **10 marks** in each subject shall be awarded for attending classes (theory / practical) as per the following norms:

85% or more attendance	-	10 Marks
80% or more but less than 85% attendance	-	9 Marks
75% or more but less than 80% attendance	-	8 Marks
70% or more but less than 75% attendance	-	7 Marks
65% or more but less than 70% attendance	-	5 Marks
60% or more but less than 65% attendance	-	3 Marks
51% or more but less than 60% attendance	-	2 Marks
50% attendance	-	1 Mark
Less than 50% attendance	-	0 Mark

**B. University Examination** carrying 70 marks.

11. The entire course has to be completed within a maximum of five years from the date of original admission in the course.

## Chapter–6

### Paper setting, Evaluation & Results

12. The work of setting the End semester examination papers, conduct of the End semester and Annual examinations, Evaluation and declaration of results shall be as per the laid down Examination policies / latest University Notifications.

## Chapter – 7

### Power to Modify

13. In the event of any emergent situation, if any deviation is considered necessary, the Vice Chancellor is authorised to modify the Ordinance. Subject to subsequent ratification by the Executive Council.

**ORDINANCE NO.- V (17A)**

**MASTER OF COMPUTER  
APPLICATIONS (MCA)**

**ORDINANCE NO. V (17A)**

**ORDINANCE RELATING TO Master of Computer Applications (MCA)**

**Chapter – 1**

**(General)**

1. This ordinance may be called the Ordinance Relating to “Master of Computer Applications (MCA) Course”
2. It shall come into force with immediate effect.
3. This supersedes the previous Ordinance relating to Master of Computer Applications (M.C.A.) Course [V-(17A)]

**Chapter – 2**

**(Eligibility for Admission)**

4. (i) For admission to M.C.A. course, an applicant should have passed the Graduation with minimum 50% marks in aggregate from a recognized board / University and should have any kind of Mathematics as one of the subjects at Graduation / 10+2 Level.  
(ii) There shall be relaxation of 5% marks for SC/ST categories candidates.

**Chapter – 3**

**(Teaching Course)**

5. The course will be of three years duration, spread over six semesters.
6. The academic calendar shall be as follows :

1 <sup>st</sup> , 3 <sup>rd</sup> and 5 <sup>th</sup> Semester:	Session	–	1 <sup>st</sup> August to 15 <sup>th</sup> Dec.
	Examination	–	16 <sup>th</sup> Dec. to 31 <sup>st</sup> Dec.
2 <sup>nd</sup> and 4 <sup>th</sup> Semester:	Session	–	1 <sup>st</sup> Jan. to 31 <sup>st</sup> May
	Examination	–	1 <sup>st</sup> June to 15 <sup>th</sup> June
Sixth Semester :	Training		
7. The course structure shall be as given below :

<b>Semester</b>	<b>Paper</b>	<b>Max. Marks</b>
First	Professional Communication	100
	Accounting & Financial Management	100
	Computer Concepts and Programming in ‘C’	100
	Discrete Mathematics	100
	Computer Organization	100
	Computer Based Numerical & Statistical Techniques	100
	Programming Lab	100
	Organization Lab	100
	Numerical Techniques Lab	100
Second	Data & File Structure Using ‘C’	100
	Principles of Management	100

	UNIX & Shell Programming	100
	System Analysis & Design	100
	Computer Architecture & Microprocessor	100
	Combinatorics & Graph Theory	100
	Data Structure Lab	100
	UNIX / LINUX Lab	100
	Microprocessor Lab	100
Third	Computer Networks	100
	Design & Analysis of Algorithm	100
	Operating System	100
	Database Management System	100
	Object Oriented Systems & C++	100
	Operation Research	100
	DBMS Lab	100
	OOPS & C++ Lab	100
	Design & Analysis of Algorithms (DAA) Lab	100
Fourth	Management Information System	100
	Foundation of E-Commerce	100
	Internet & Java Programming	100
	Computer Graphics & Animation	100
	Soft Computing Techniques	100
	ELECTIVE SUBJECT	100
	MIS Lab	100
	Java Programming Lab	100
	Computer Graphics Lab	100
Fifth	Web Technology	100
	ELECTIVE SUBJECT	100
	.Net Framework & C#	100
	Software Engineering	100
	ELECTIVE SUBJECT	100
	Advance Operating System	100
	Web Technology Lab	100
	.Net Framework & C# Lab	100
	Software Engineering Lab	100
Sixth	Practical Training	500
	<b><u>ELECTIVE</u></b>	
(i)	FOURTH SEMESTER (Choose any one from the following):-	
	Compiler Design	100
	Cryptography & Network Security	100
	Data Compression	100
	Client Server Computing	100
	Data Mining & Warehousing	100
(ii)	FIFTH SEMESTER (Choose any one from the following):-	
	Multimedia System	100
	Distributed Database system	100
	ERP Systems	100
	Advanced Concepts in Database Systems	100
(iii)	FIFTH SEMESTER (Choose any one from the following):-	
	Advanced Computer Networks	100
	Real Time System	100
	Mobile Computing	100
	Neural Network	100

8. **Practical Training:**

During the sixth semester, every student of MCA will undergo on-the-job practical training in any manufacturing, service or financial organization. During the course of training, the organization (where the student is undergoing training) will assign a project to the student. The student, after the completion of training will submit a report that will form part of sixth semester examination. The report (based on training and the project studied) prepared by the student will be known as Practical Training Project Report. The report will carry total of 500 marks.

**Chapter – 4**

**(Attendance)**

9. The students are expected to attend all the classes and should not have less than 75 % attendance in theory as well as in practical classes, wherever held, to become eligible to appear for the university examination. Short fall in attendance can, however be condoned in deserving cases to the extent of 10% by the Principal. If the short fall is more than 10% but not more than 15%, the Principal may recommend deserving cases to the Vice Chancellor for condonation. The order of the Vice Chancellor in this regard shall be final.

**Chapter – 5**

**(Examination)**

10. The examination in each semester shall be conducted in two parts:

**A. Internal assessment will be of 30 marks as under:-**

- g. Midterm written test / practical including in-between snap tests if any, shall carry **20 marks** independently in each subject.
- h. A maximum of **10 marks** in each subject shall be awarded for attending classes (theory / practical) as per the following norms:

85% or more attendance	-	10 Marks
80% or more but less than 85% attendance	-	9 Marks
75% or more but less than 80% attendance	-	8 Marks
70% or more but less than 75% attendance	-	7 Marks
65% or more but less than 70% attendance	-	5 Marks
60% or more but less than 65% attendance	-	3 Marks
51% or more but less than 60% attendance	-	2 Marks
50% attendance	-	1 Mark
Less than 50% attendance	-	0 Mark

**B. University Examination carrying 70 marks**

11. The entire course has to be completed within a maximum of six yrs. from the date of original admission in the course

## **Chapter-6**

### **Paper setting, Evaluation & Results**

12. The work of setting the End semester examination papers, conduct of the End semester and Annual examinations, Evaluation and declaration of results shall be as per the laid down Examination policies / latest University Notifications.

## **Chapter – 7**

### **Power to Modify**

13. In the event of any emergent situation, if any deviation is considered necessary, the Vice Chancellor is authorised to modify the ordinance. Subject to subsequent ratification by the Executive Council.



**ORDINANCE NO. V (19A)**

**POST GRADUATE DIPLOMA IN COMPUTER  
APPLICATIONS (PGDCA)**

**ORDINANCE NO. V (19A)**

**Ordinance relating to Post Graduate Diploma in Computer Applications (PGDCA)**

**Chapter – 1**

**(General)**

8. This ordinance may be called the Ordinance Relating to “Post Graduate Diploma in Computer Applications (PGDCA) Course”
9. It shall come into force with immediate effect.
10. This supersedes the previous Ordinance relating to Post Graduate Diploma in Computer Applications (PGDCA) Course [V-(19A)].

**Chapter – 2**

**(Eligibility for Admission)**

11. (i) For admission to PGDCA course, an applicant should have passed the Graduation from a recognized board / university with minimum 50% marks in aggregate.  
(ii) There shall be relaxation of 5% marks for SC/ST categories candidates.

**Chapter – 3**

**(Teaching Course)**

12. The course will be of one year duration, divided into two semesters.
13. The academic calendar shall be as follows :  
1<sup>st</sup> Semester: Session – 1<sup>st</sup> August to 15<sup>th</sup> Dec.  
Examination – 16<sup>th</sup> Dec. to 31<sup>st</sup> Dec.  
2<sup>nd</sup> Semester: Session – 1<sup>st</sup> Jan. to 31<sup>st</sup> May  
Examination – 1<sup>st</sup> June to 15<sup>th</sup> June

The course structure shall be as given below:

<b>Semester</b>	<b>Paper</b>	<b>Max. Marks</b>
First	Computer Fundamentals & Programming in C	100
	Operating System	100
	Internet & E - commerce	100
	Data Base Management System	100
	PC Packages	100
	Practical	100
Second	System Analysis & Design	100
	GUI Programming in Visual Basic	100
	Data Structures through C	100
	Practical	100
	Viva – Voce (Project Report Based)	100

## Chapter – 4

### (Attendance)

14. The students are expected to attend all the classes and should not have less than 75 % attendance in theory as well as in practical classes, wherever held, to become eligible to appear for the university examination. Short fall in attendance can, however be condoned in deserving cases to the extent of 10% by the Principal. If the short fall is more than 10% but not more than 15%, the Principal may recommend deserving cases to the Vice Chancellor for condonation. The order of the Vice Chancellor in this regard shall be final.

## Chapter – 5

### (Examination)

15. The examination in each semester shall be conducted in two parts:

**D. Internal assessment** will be of **30 marks** as under:-

- i. Midterm written test / practical including in-between snap tests if any, shall carry **20 marks** independently in each subject.
- j. A maximum of **10 marks** in each subject shall be awarded for attending classes (theory / practical) as per the following norms:

85% or more attendance	-	10 Marks
80% or more but less than 85% attendance	-	9 Marks
75% or more but less than 80% attendance	-	8 Marks
70% or more but less than 75% attendance	-	7 Marks
65% or more but less than 70% attendance	-	5 Marks
60% or more but less than 65% attendance	-	3 Marks
51% or more but less than 60% attendance	-	2 Marks
50% attendance	-	1 Mark
Less than 50% attendance	-	0 Mark

**B. University Examination** carrying 70 marks

16. The entire course has to be completed within a maximum of three years from the date of original admission in the course.

## Chapter–6

### Paper setting, Evaluation & Results

10. The work of setting the End semester examination papers, conduct of the End semester and Annual examinations, Evaluation and declaration of results shall be as per the laid down Examination policies / latest University Notifications.

## **Chapter – 7**

### **Power to Modify**

11. In the event of any emergent situation, if any deviation is considered necessary, the Vice Chancellor is authorised to modify the Ordinance. Subject to subsequent ratification by the Executive Council.

**ORDINANCE NO.- V (72A)**  
**MASTER OF SCIENCE (M.SC.) COURSES**

## **Ordinance No.- V (72A)**

### **Ordinance relating to Master of Science (M.Sc.) courses**

#### **Chapter-1**

##### **General**

32. This ordinance may be called 'Ordinance Relating to Master of Science (M.Sc.) courses.
33. It shall come into force with immediate effect.
34. This ordinance shall apply to all programmes leading to M.Sc. courses.

#### **Chapter-2**

##### **Eligibility for Admission**

35. An applicant who has passed Graduation Examination from any recognized University/Institute with relevant subject will be eligible for admission in the first year of the M.Sc. courses.
36. The admission shall be based on the merit of Entrance examination and marks of Qualifying examination (Graduation or equivalent). An applicant must hold the degree from a recognized University with minimum 45 % marks (40% for SC/ST).

#### **Chapter-3**

##### **Teaching course**

37. The M.Sc. courses shall be of two years duration, divided into four semesters.
38. The M.Sc. course is available in following streams:
  - i. M.Sc. (Physics)
  - j. M.Sc. (Chemistry)
  - k. M.Sc. (Mathematics)
  - l. M.Sc. (Botany)
  - m. M.Sc. (Zoology)
  - n. M.Sc. (Biotechnology)
39. The study and evaluation schemes of the M.Sc. Physics, Chemistry, Mathematics, Botany, Zoology and Biotechnology courses are enclosed as an Annexure-I, II, III, IV, V and VI respectively.

40. The Academic calendar shall be as follows

<u>I<sup>st</sup> and III<sup>rd</sup> semester</u>	Session	: 1 <sup>st</sup> August to 30 <sup>th</sup> November,
	<b>Exam.</b>	: 1 <sup>st</sup> to 15 <sup>th</sup> Dec.
<u>II<sup>nd</sup> and IV<sup>th</sup> semesters</u>	Session	: 1 <sup>st</sup> January to 30 <sup>th</sup> April,
	<b>Exam.</b>	: 1 <sup>st</sup> to 15 <sup>th</sup> May

#### **Chapter-4**

##### **Attendance**

41. The students are expected to attend all the classes and should not have less than 75% attendance in theory as well as in practical classes where held, to become eligible to appear for the university examination. Shortfall in attendance can, however be condoned in deserving cases to the extent of 10% by the Principal. If the short fall is more than 10%

but not more than 15% the Principal may recommend deserving cases to the vice chancellor for condonation the order of the Hon'ble Vice- Chancellor in this regard shall be final.

## **Chapter-5** **Examination**

42. The distribution of marks for sessional, End semester theory papers, practical and seminar, projects, industrial training shall be as indicated in Study and Evaluation Scheme.

43. The examination in each semester shall be conducted in two parts:-

**A:- Internal assessment (IA)** carrying 30 % of total marks. Internal marks of theory subjects, practicals and projects shall be awarded as per the breakup of sessional marks given below.

### **(b) Theory Subject**

(iii) Midterm written test including in-between snap tests if any marks 70 % of IA

(iv) Teachers Assessment based on attendance, assignments etc. marks 30 % of IA

### **(c) Practical**

(iii) Midterm Viva-voce test including in-between snap tests if any marks. 70 % of IA

(iv) Teachers Assessment based on attendance, lab records etc. marks 30 % of IA

(e) Make up test may be held for those students who fail to appear in any of the midterm tests for genuine unavoidable reasons, provided prior permission was taken from the Principal/Dean.

(f) A maximum of 10 marks shall be awarded [Clause 15 A{a(ii)} & 15 A{b(ii)}] for attending classes (theory / practical) as per the following norms:

85% or more attendance	-	10 Marks
80% or more but less than 85% attendance	-	9 Marks
75% or more but less than 80% attendance	-	8 Marks
70% or more but less than 75% attendance	-	7 Marks
65% or more but less than 70% attendance	-	5 Marks
60% or more but less than 65% attendance	-	3 Marks
51% or more but less than 60% attendance	-	2 Marks
50% attendance	-	1 Mark
Less than 50% attendance	-	0 Mark

**B:- University Examination** carrying 70% of total marks.

44. The entire course has to be completed within a maximum of four (04) yrs. from the date of original admission in the course.

## **Chapter-6** **Paper setting, Evaluation & Results**

14. The work of setting the End semester examination papers, conduct of the End semester and Annual examinations, Evaluation and declaration of results shall be as per the laid down Examination policies / latest University Notifications.

**Chapter – 7**  
**Power to Modify**

15. In the event of any emergent situation, if any deviation is considered necessary, the Vice Chancellor is authorised to modify the Ordinance. Subject to subsequent ratification by the Executive Council.



# Annexure - 1

## Study and Evaluation Scheme M.Sc. (Physics)

### I<sup>st</sup> YEAR

#### First Year

		Internal			ESE	Total
		CT	Attendance	TA		
<b>I Semester</b>						
1	<b>MATHEMATICAL PHYSICS</b>	15	10	05	70	100
2	<b>CLASSICAL MECHANICS</b>	15	10	05	70	100
3	<b>QUANTUM MECHANICS I</b>	15	10	05	70	100
4	<b>ELECTRONIC DEVICES</b>	15	10	05	70	100
5	<b>PHYSICS PRACTICAL</b>	60			140	200
					<b>Total</b>	<b>600</b>
<b>II Semester</b>						
1	<b>QUANTUM MECHANICS II</b>	15	10	05	70	100
2	<b>STATISTICAL MECHANICS</b>	15	10	05	70	100
3	<b>ATOMIC &amp; MOLECULAR PHYSICS</b>	15	10	05	70	100
4	<b>ELECTRODYNAMICS &amp; PLASMA PHYSICS</b>	15	10	05	70	100
5	<b>PHYSICS PRACTICAL</b>	60			140	200
					<b>Total</b>	<b>600</b>
<b>Total (I Semester + II Semester)</b>						<b>1200</b>

**Second Year**

		Internal			ESE	Total
		CT	Attendance	TA		
<b>III Semester</b>						
1	<b>CONDENSED MATTER PHYSICS</b>	15	10	05	70	100
2	<b>SPECIAL PAPER I ELECTRONICS</b>	15	10	05	70	100
3	<b>SPECIAL PAPER II ELECTRONICS</b>	15	10	05	70	100
4	<b>NUCLEAR AND PARTICLE PHYSICS</b>	15	10	05	70	100
5	<b>PHYSICS PRACTICAL</b>	60			140	200
					<b>Total</b>	<b>600</b>
<b>IV Semester</b>						
1	<b>PHYSICS OF NANOMATERIALS</b>	15	10	05	70	100
2	<b>SPECIAL PAPER III ELECTRONICS</b>	15	10	05	70	100
3	<b>SPECIAL PAPER IV ELECTRONICS</b>	15	10	05	70	100
4	<b>COMPUTATIONAL METHODS &amp; PROGRAMMING</b>	15	10	05	70	100
5	<b>PHYSICS PRACTICAL</b>	60			140	200
					<b>Total</b>	<b>600</b>
<b>Total (III Semester + IV Semester)</b>						<b>1200</b>
<b>Previous Total</b>						<b>1200</b>
<b>G. Total (I Year + II Year)</b>						<b>2400</b>

**Study and Evaluation Scheme  
M.Sc. (Mathematics)**

**I YEAR**

**First Year**

		Internal			ESE	Total
		CT	Attendance	TA		
<b>I Semester</b>						
1	Algebra	15	10	05	70	100
2	Real Analysis	15	10	05	70	100
3	Differential Equations	15	10	05	70	100
4	Mathematical Methods	15	10	05	70	100
5	Viva Voice/Lab I	60			140	200
					<b>Total</b>	<b>600</b>
<b>II Semester</b>						
1	Metric Spaces	15	10	05	70	100
2	Complex Analysis	15	10	05	70	100
3	Mathematical Statistics	15	10	05	70	100
4	Operations Research	15	10	05	70	100
5	Viva Voice	60			140	200
					<b>Total</b>	<b>600</b>
					<b>Total (I Semester + II Semester)</b>	<b>1200</b>

## Second Year

		Internal			ESE	Total	
		CT	Attendance	TA			
<b>III Semester</b>							
1	Topology	15	10	05	70	100	
2	Measure and Integration	15	10	05	70	100	
3	Numerical Analysis	15	10	05	70	100	
4	<b>Elective-I</b> ( Any one out of the three papers)		15	10	05	70	100
	1	Programming in C And Data Structure					
	2	Advanced Discrete Mathematics					
	3	Differential Geometry					
5	Viva Voice	60			140	200	
					<b>Total</b>	<b>600</b>	
<b>IV Semester</b>							
1	Functional Analysis	15	10	05	70	100	
2	Number theory	15	10	05	70	100	
3	Fuzzy Sets and its Application	15	10	05	70	100	
4	<b>Elective-II</b> (Any one out of the three papers)		15	10	05	70	100
	1	Mathematical Cryptography					
	2	Mathematical Programming					
	3	Fluid Dynamics					
5	Viva Voice	60			140	200	
					<b>Total</b>	<b>600</b>	
<b>Total (III Semester + IV Semester)</b>						<b>1200</b>	
<b>Previous Total</b>						<b>1200</b>	
<b>G. Total (I Year + II Year)</b>						<b>2400</b>	

**Master of Science in Biotechnology  
(M.Sc. Biotechnology)**

**FIRST YEAR**

**FIRST SEMESTER**

**THEORY PAPER**

S. No.	Subject Name	Evaluation Scheme				Subject Total
		Sessional			ESE	
		CT	TA	Total		
1.	PRINCIPLES OF GENETICS	20	10	30	70	100
2.	CELL AND MOLECULAR BIOLOGY	20	10	30	70	100
3.	BIOSTATISTICS AND BIOINFORMATICS	20	10	30	70	100
4.	TOOLS AND TECHNIQUES OF BIOTECHNOLOGY	20	10	30	70	100

**PRACTICAL PAPER**

S. No.	Subject Name	Evaluation Scheme				Subject Total
		Sessional			ESE	
		CT	TA	Total		
1.	PRACTICAL I (based on MBT 101, MBT 102, MBT 103 AND MBT 104)	20	10	30	70	100

**FIRST YEAR****SECOND SEMESTER****THEORY PAPER**

S. No.	Subject Name	Evaluation Scheme				Subject Total
		Sessional			ESE	
		CT	TA	Total		
1.	<b>FUNDAMENTALS OF BIOCHEMISTRY &amp; BIOPHYSICS</b>	20	10	30	70	100
2.	<b>GENETIC RESOURCES AND IPR</b>	20	10	30	70	100
3.	<b>PLANT BIOTECHNOLOGY</b>	20	10	30	70	100
4.	<b>GENETIC ENGINEERING</b>	20	10	30	70	100

**PRACTICAL PAPER**

S. No.	Subject Name	Evaluation Scheme				Subject Total
		Sessional			ESE	
		CT	TA	Total		
1.	<b>PRACTICAL II (based on MBT 201, MBT 202, MBT 203 AND MBT 204)</b>	20	10	30	70	100

**SECOND YEAR**

**THIRD SEMESTER**

**THEORY PAPER**

S. No.	Subject Name	Evaluation Scheme				Subject Total
		Sessional			ESE	
		CT	TA	Total		
1.	<b>MICROBIAL, INDUSTRIAL AND ENVIRONMENTAL BIOTECHNOLOGY</b>	20	10	30	70	100
2.	<b>ANIMAL BIOTECHNOLOGY</b>	20	10	30	70	100
3.	<b>IMMUNOLOGY</b>	20	10	30	70	100
4.	<b>GENOMICS &amp; PROTEOMICS</b>	20	10	30	70	100

**PRACTICAL PAPER**

S. No.	Subject Name	Evaluation Scheme				Subject Total
		Sessional			ESE	
		CT	TA	Total		
1.	<b>PRACTICAL III (based on MBT 301, MBT 302, MBT 303 AND MBT 304)</b>	20	10	30	70	100

**SECOND YEAR**

**FOURTH SEMESTER**

S. No.	Subject Name	Evaluation Scheme		
		Sessional		
		Dissertation	Viva-Voice and Presentation	Total
1.	<b>PROJECT</b>	400	100	500





## II Year, III Semester

S. No.	Subject Code	Evaluation Scheme					Subject Total
		Sessional				ESE	
		CT	TA		Total		
Attendance	Assignment						
1	Chordata	15	10	5	30	70	100
2	Development Biology	15	10	5	30	70	100
3	Environment Biology	15	10	5	30	70	100
4	Animal Behaviour	15	10	5	30	70	100
5	Practicals	15	10	5	30	70	100
	<b>Total</b>						<b>500</b>

## II Year, IV Semester

S. No.	Subject Name	Evaluation Scheme					Subject Total
		Sessional				ESE	
		CT	TA		Total		
Attendance	Assignment						
1	Biology of Parasite -I	15	10	5	30	70	100
2	Biology of Parasite -II	15	10	5	30	70	100
3	Physiology, Biochemistry and Immunology of Parasites	15	10	5	30	70	100
5.	Dissertation						200
	<b>Total</b>						<b>500</b>

### Note:

1. The topic of dissertation will be allotted to the student in the III semester by the HOD.
2. The dissertation shall carry 200 marks including viva-voce of 50 marks.
3. The dissertation shall be examined by two examiners (one Internal from the department and one external). The examiners will be appointed by the Vice-Chancellor on the recommendation of DEAN, Faculty of Science.
4. The dissertation shall be submitted within the month of March or when notify by the HOD.

**Study and Evaluation Scheme  
M.Sc. (CHEMISTRY)**

**I<sup>st</sup> YEAR**

**I<sup>st</sup> SEMESTER**

S. No.	Subject Name	Evaluation Scheme				Subject Total
		Sessional			ESE	
		CT	TA	Total		
1.	INORGANIC CHEMISTRY I	20	10	30	70	100
2.	ORGANIC CHEMISTRY I	20	10	30	70	100
3.	PHYSICAL CHEMISTRY I	20	10	30	70	100
4.	BIOLOGY FOR CHEMIST*	10	05	15	35	50
5.	COMPUTER FOR CHEMIST	20	10	30	70	100
6.	Lab I	40	20	60	140	200
	<b>TOTAL MARKS</b>	<b>120</b>	<b>60</b>	<b>180</b>	<b>420</b>	<b>600</b>

\*In First First semester, there will be a compulsory qualifying paper “BIOLOGY FOR CHEMIST” 50 marks. It is mandatory for each student to clear this paper in any one semester during completion of courses but the marks obtained in this paper will not be added in the total.

**I<sup>st</sup> YEAR**

**II<sup>nd</sup> SEMESTER**

S. No.	Subject Name	Evaluation Scheme				Subject Total
		Sessional			ESE	
		CT	TA	Total		
1.	INORGANIC CHEMISTRY II	20	10	30	70	100
2.	ORGANIC CHEMISTRY II	20	10	30	70	100
3.	PHYSICAL CHEMISTRY II	20	10	30	70	100
4.	GROUP THEORY & SPECTROSCOPY	20	10	30	70	100
5.	Lab II	40	20	60	140	200
	<b>TOTAL MARKS</b>	<b>120</b>	<b>60</b>	<b>180</b>	<b>420</b>	<b>600</b>

**II<sup>nd</sup> YEAR****III<sup>rd</sup> SEMESTER**

S. No.	Subject Name	Evaluation Scheme				Subject Total
		Sessional			ESE	
		CT	TA	Total		
1.	PHOTOCHEMISTRY	20	10	30	70	100
2.	SPECTROSCOPY	20	10	30	70	100
3.	ANALYTICAL CHEMISTRY	20	10	30	70	100
4.	ELECTIVE I	20	10	30	70	100
5.	Lab III	40	20	60	140	200
	<b>TOTAL MARKS</b>	<b>120</b>	<b>60</b>	<b>180</b>	<b>420</b>	<b>600</b>

**Elective:** Any one from the following:-

1. Bioinorganic Chemistry
2. Bioorganic Chemistry
3. Biophysical Chemistry

**II<sup>nd</sup> YEAR****IV<sup>th</sup> SEMESTER**

S. No.	Subject Name	Evaluation Scheme				Subject Total
		Sessional			ESE	
		CT	TA	Total		
1.	ENVIRONMENTAL CHEMISTRY	20	10	30	70	100
2.	ELECTIVE II	20	10	30	70	100
3.	ELECTIVE III	20	10	30	70	100
4.	ELECTIVE IV	20	10	30	70	100
5.	Lab IV	40	20	60	140	200
	<b>TOTAL MARKS</b>	<b>120</b>	<b>60</b>	<b>180</b>	<b>420</b>	<b>600</b>

**Electives:** Any three from the following:-

1. Organic Synthesis
2. Polymers
3. Chemistry of Natural Products
4. Medicinal Chemistry
5. Heterocyclic compounds