

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 31st 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 st August to 30 th November,
Exam.	: 1 st to 15 th Dec.
<u>II, IV, and VI semesters</u>	: 1 st January to 30 th April,
Exam.	: 1 st to 15 th 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			
		1.	GENETICS	15	5		
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		
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	10	
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						Subject Total
		Sessional				ESE	
		CT	TA	Attendance	Total		
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						Subject Total
		Sessional				ESE	
		CT	TA	Attendance	Total		
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.	INSTRUMENTATION AND BIO-ANALYTICAL TECHNIQUES	15	5		
2.	INDUSTRIAL BIOTECHNOLOGY	15	5	10	30	70	100
3.	ENVIRONMENTAL BIOTECHNOLOGY	15	5	10	30	70	100
4.	ANIMAL BIOTECHNOLOGY	15	5	10	30	70	100
5.	PROFESSIONAL COMMUNICATION	15	5	10	30	70	100

Total: 500**PRACTICAL PAPER**

S. No.	Subject Name	Sessional				ESE	Subject Total
		CT	TA	Attendance	Total		
		1.	PRACTICAL XI (Based on 1,2)	15	5		
2.	PRACTICAL XII(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

Ist, IIIrd, and Vth semester Session : 1st August to 30th November,

Exam. : 1st to 15th Dec.

IInd, IVth, and VIth semesters Session : 1st January to 30th April,

Exam. : 1st to 15th 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)

Ist YEAR

First Year

		Internal			ESE	Total
		CT	Attendance	TA		
I Semester						
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 (Qualifying)				50	
					Total	900
II Semester						
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 (Foundation)	15	10	05	70	100
					Total	1000
					Total (I Semester + II Semester)	1900

Second Year

		Internal			ESE	Total
		CT	Attendance	TA		
III Semester						
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	
					Total	900
IV Semester						
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	
					Total	900
Total (III Semester + IV Semester)						1800

Third Year

		Internal			ESE	Total
		CT	Attendance	TA		
V Semester						
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	
					Total	900
VI Semester						
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
					Total	1000
					Total (V Semester + VI Semester)	1900
					Previous Total (I Year + II Year)	3700
					Grand Total (I Year + II Year + III Year)	5600

***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(Qualifying)						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	
	Total						900	

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 (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	
	Total						1000	

Second Year: Third Semester

S. No.	Subject Name	Evaluation Scheme					ESE	Subject Total
		Sessional				Total		
		CT	TA		Assignment			
	Attendance							
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 (Qualifying)					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	
	Total					.	900	

Second Year: Fourth Semester

S. No.	Subject Name	Evaluation Scheme					ESE	Subject Total
		Sessional				Total		
		CT	TA		Assignment			
	Attendance							
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 (Qualifying)					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	
	Total						900	

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	
	Total						900	

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	
	Total						1000	

*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		
I Semester						
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 (Qualifying)				50	
					Total	900
II Semester						
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 (Foundation)	15	10	05	70	100
					Total	1000
Total (I Semester + II Semester)						1900

Second Year

		Internal			ESE	Total
		CT	Attendance	TA		
III Semester						
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	
					Total	900
IV Semester						
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	
					Total	900
Total (III Semester + IV Semester)						1800

Third Year

		Internal			ESE	Total
		CT	Attendance	TA		
V Semester						
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	
					Total	900
VI Semester						
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
					Total	1000
					Total (V Semester + VI Semester)	1900
					Previous Total (I Year + II Year)	3700
					Grand Total (I Year + II Year + III Year)	5600

***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

Ist, IIIrd, and Vth semester : 1st August to 30th November,

Exam. : 1st to 15th Dec.

IInd, IVth, and VIth semesters : 1st January to 30th April,

Exam. : 1st to 15th 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.	Total						700

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
	Total						800
	Total (Sem I+II)						1500

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	
	Total						700

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	
	Total						700
	Total (Sem III+IV)						1400

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
	Total						700

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
	Total						700
	Total (V+IV)						1400
	Grand Total (Sem. I+II+III+IV+V+VI)						4300

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
	Total						700

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
	Total						800

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	
	Total						700

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	
	Total						700

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					
8.	Mammalian physiology II	15	10	5	30	70	100	
9.	Evolutionary Biology	15	10	5	30	70	100	
10	Immunology, Genomics	15	10	5	30	70	100	
11	Molecular Biology	15	10	5	30	70	100	
12	Practical-I	15	10	5	30	70	100	
13	Practical-II	15	10	5	30	70	100	
	Total						600	

III Year, VI Semester

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

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

First Year

S. No.	Name of Papers	Internal			ESE	Total
		CT	Attendance	TA		
I Semester						
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 (Qualifying)				50	
					Total	600
II Semester						
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 (Foundation)	15	10	05	70	100
					Total	700
					Total (I Semester + II Semester)	1300

Second Year

S. No.	Name of Papers	Internal			ESE	Total
		CT	Attendance	TA		
III Semester						
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 (Foundation)	15	10	05	70	100
					Total	700
IV Semester						
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 (Foundation)	15	10	05	70	100
					Total	700
					Total (III Semester + IV Semester)	1400

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

Third Year

S. No.	Name of Papers	Internal			ESE	Total
		CT	Attendance	TA		
V Semester						
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
Total						500
VI Semester						
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
Total						500
Total (V Semester + VI Semester)						1000
Previous Total (I Year + II Year)						2700
Grand Total (I Year + II Year + III Year)						3700

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

First Year

S. No.	Name of Papers	Internal			ESE	Total
		CT	Attendance	TA		
I Semester						
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 (Qualifying)				50	
					Total	600
II Semester						
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 (Foundation)	15	10	05	70	100
					Total	700
					Total (I Semester + II Semester)	1300

Second Year

S. No.	Name of Papers	Internal			ESE	Total
		CT	Attendance	TA		
III Semester						
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 (Foundation)	15	10	05	70	100
					Total	700
IV Semester						
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 (Foundation)	15	10	05	70	100
					Total	700
					Total (III Semester + IV Semester)	1400

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

Third Year

S. No.	Name of Papers	Internal			ESE	Total
		CT	Attendance	TA		
V Semester						
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
					Total	800
VI Semester						
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
					Total	800
					Total (V Semester + VI Semester)	1600
					Previous Total (I Year + II Year)	2700
					Grand Total (I Year + II Year + III Year)	4300

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

First Year

S. No.	Name of Papers	Internal			ESE	Total
		CT	Attendance	TA		
I Semester						
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 (Qualifying)				50	
					Total	600
II Semester						
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 (Foundation)	15	10	05	70	100
					Total	700
					Total (I Semester + II Semester)	1300

Second Year

S. No.	Name of Papers	Internal			ESE	Total
		CT	Attendance	TA		
III Semester						
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 (Foundation)	15	10	05	70	100
					Total	700
IV Semester						
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 (Foundation)	15	10	05	70	100
					Total	700
					Total (III Semester + IV Semester)	1400

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

Third Year

S. No.	Name of Papers	Internal			ESE	Total
		CT	Attendance	TA		
V Semester						
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
Total						500
VI Semester						
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
Total						500
Total (V Semester + VI Semester)						1000
Previous Total (I Year + II Year)						2700
Grand Total (I Year + II Year + III Year)						3700

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 st , 3 rd & 5 th Semester: Session	–	1 st Aug. to 15 th Dec.
	Exam	– 16 th Dec. to 31 st Dec.
2 nd , 4 th & 6 th Semester: Session	–	1 st Jan. to 31 st May
	Exam	– 1 st June to 15 th 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 st , 3 rd and 5 th Semester:	Session	–	1 st August to 15 th Dec.
	Examination	–	16 th Dec. to 31 st Dec.
2 nd and 4 th Semester:	Session	–	1 st Jan. to 31 st May
	Examination	–	1 st June to 15 th June
Sixth Semester :	Training		
7. The course structure shall be as given below :

Semester	Paper	Max. Marks
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
	<u>ELECTIVE</u>	
(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 :
1st Semester: Session – 1st August to 15th Dec.
Examination – 16th Dec. to 31st Dec.
2nd Semester: Session – 1st Jan. to 31st May
Examination – 1st June to 15th June

The course structure shall be as given below:

Semester	Paper	Max. Marks
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>Ist and IIIrd semester</u>	Session	: 1 st August to 30 th November,
	Exam.	: 1 st to 15 th Dec.
<u>IInd and IVth semesters</u>	Session	: 1 st January to 30 th April,
	Exam.	: 1 st to 15 th 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)

Ist YEAR

First Year

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

Second Year

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

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

I YEAR

First Year

		Internal			ESE	Total
		CT	Attendance	TA		
I Semester						
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
					Total	600
II Semester						
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
					Total	600
					Total (I Semester + II Semester)	1200

Second Year

		Internal			ESE	Total	
		CT	Attendance	TA			
III Semester							
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	Elective-I (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	
					Total	600	
IV Semester							
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	Elective-II (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	
					Total	600	
					Total (III Semester + IV Semester)	1200	
					Previous Total	1200	
					G. Total (I Year + II Year)	2400	

**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.	FUNDAMENTALS OF BIOCHEMISTRY & BIOPHYSICS	20	10	30	70	100
2.	GENETIC RESOURCES AND IPR	20	10	30	70	100
3.	PLANT BIOTECHNOLOGY	20	10	30	70	100
4.	GENETIC ENGINEERING	20	10	30	70	100

PRACTICAL PAPER

S. No.	Subject Name	Evaluation Scheme				Subject Total
		Sessional			ESE	
		CT	TA	Total		
1.	PRACTICAL II (based on MBT 201, MBT 202, MBT 203 AND MBT 204)	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.	MICROBIAL, INDUSTRIAL AND ENVIRONMENTAL BIOTECHNOLOGY	20	10	30	70	100
2.	ANIMAL BIOTECHNOLOGY	20	10	30	70	100
3.	IMMUNOLOGY	20	10	30	70	100
4.	GENOMICS & PROTEOMICS	20	10	30	70	100

PRACTICAL PAPER

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

SECOND YEAR

FOURTH SEMESTER

S. No.	Subject Name	Evaluation Scheme		
		Sessional		
		Dissertation	Viva-Voice and Presentation	Total
1.	PROJECT	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
	Total						500

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
	Total						500

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)**

Ist YEAR

Ist 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
	TOTAL MARKS	120	60	180	420	600

*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.

Ist YEAR

IInd 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
	TOTAL MARKS	120	60	180	420	600

IInd YEAR**IIIrd 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
	TOTAL MARKS	120	60	180	420	600

Elective: Any one from the following:-

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

IInd YEAR**IVth 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
	TOTAL MARKS	120	60	180	420	600

Electives: Any three from the following:-

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