Karmaveer Bhaurao Patil University, Satara

Faculty of Science and Technology

B. Sc. (Biochemistry)

Programme and Credit Structure as per NEP 2020

{Ref. Government of Maharashtra letter no. □□□□□.□□□□/□□□.□.□□/□□□□-□□□ □□ □□ □□□□□□: □□ □□□□□ □□□□}

The degree shall be titled as 'Bachelor of Science (Microbiology) under the faculty of Science and Technology

B. Sc. Sem. I & II from Academic Year 2024-25

B. Sc. Sem. III & IV from Academic Year 2025-26

Programme Outcomes for B. Sc. (Biochemistry)

PO. No.	**Programme Outcomes** **After completing B. Sc. Programme the students will be able to…….**
PO-1	develop a scientific attitude among the students and to make the students open minded, critical, and curious.
PO-2	impart the knowledge of subject is the basic objective of this course.
PO-3	develop skills in practical work, experiments, and laboratory techniques.
PO-4	understand scientific terms, concepts, facts, phenomenon, and their relationships.
PO-5	enable the students to acquire knowledge of related subjects to understand nature and the environment for the benefit of human beings.
PO-6	enable the students to acquire knowledge and apply it for betterment of society.
PSO. NO	**Programme Specific Outcomes** **After completing B. Sc.(Biochemistry) Programme the students will be able to…….**
PSO-1	Describe the characteristics of different types of biomolecules and methods of their classification, methods of visualizing, isolation. Understand the physiological significance role, biocatalyst action, formation and stability of biomolecules
PSO-2	Explain about energy generation mechanisms in cell. Illustrate various food requirements of body and nutrition. Elaborate BMR and calorimetric significance of food, vitamins and their physiological role, requirement.
PSO-3	develop the ability to apply the knowledge acquired in the classroom and laboratories to specific problems in theoretical and experiments
PSO-4	know about chemical and structural details of DNA and RNA. understand the lipid and membrane biochemistry.
PSO-5	understand various biochemical processes, Pursue higher studies in different branches of life sciences
PSO-6	learn techniques and experimentalsystems required in biochemical research, know techniques used to enzymes study.

Semester, Credit Framework, NSQF Level and Exit Points

Sr. No.	**Semester**	**Year**	**Year**	**Credits**	**Level**	**Exit Points &Award**
1	Sem. I & II	2024-25	1Year	44	4.5	UG Certificate in Biochemistry
2	Sem. III & IV	2025-26	2Year	88	5.0	UG Diploma in Biochemistry

Credit Distribution

Sr. No.	Course	3 Year Degree Programme			4 Year Honors Degree Programme			4 Year Honors with Research Degree Programme		
		Courses (3 Yr)	Credits (3 Yr)	%	Courses (4 Yr)	Credits (4 Yr)	%	Courses (4 Yr)	Credits (4 Yr)	%
1	Major	26	52	39.39	34	80	45.45	32	72	40.91
2	Elective	04	08	6.06	08	16	9.09	08	16	9.09
3	IKS	02	04	3.03	02	04	2.27	02	04	2.27
4	VSC	04	08	6.06	04	08	4.55	04	08	4.55
5	FP	01	02	1.52	01	02	1.14	01	02	1.14
6	OJT	01	04	3.03	02	08	4.55	01	04	2.27
7	RP	00	00	0.00	00	00	00	02	12	6.82
8	SEC	03	06	4.55	03	06	3.41	03	06	3.41
9	CEP	01	02	1.52	01	02	1.14	01	02	1.14
Total (Major) (A)		**42**	**86**	**65.15**	**55**	**126**	**71.59**	**54**	**126**	**71.59**
1	Minor & RM	12	24	18.18	13	28	15.91	13	28	15.91
Total (Minor) (B)		**12**	**24**	**18.18**	**12**	**28**	**15.91**	**13**	**28**	**15.91**
1	OE	04	08	6.06	04	08	4.55	04	08	4.55
2	AEC	04	08	6.06	04	08	4.55	04	08	4.55
3	VEC	02	04	3.03	02	04	2.27	02	04	2.27
4	CC	01	02	1.52	01	02	1.14	01	02	1.14
Total (C)		**11**	**22**	**16.67**	**11**	**22**	**12.50**	**11**	**22**	**12.50**
Grand Total (A+B+C)		**65**	**132**	**100**	**79**	**176**	**100**	**78**	**176**	**100**

Duration:

- The program shall be a full-time program.
- The duration of program shall be three years for Bachelor of Science and four years for Bachelor of Science with Honors or Bachelor of Science with Research.
- Every year students will have exist option with:
- (1^{st} Year: Certificate, 2^{nd} Year: Diploma)
- These students are allowed to re-enter the degree program within three years and complete the degree program within the stipulated maximum period of Seven Years.

Eligibility: 12^{th} Pass with Science, or equivalent.

Medium of Instruction: The medium of instructions shall be in English.

Scheme of Examination & Standard of Passing (CCE and ESE):(As per the decision of the concern Board of Studies)

- End Semester Exam (ESE): 30 Marks (Min 12 Marks for Passing)
- Continuous Comprehensive Evaluation (CCE): 20 Marks (Min 08 Marks for Passing)
- Total Marks = 50 Marks
- Minimum 40% Marks Required for Passing and there is separate head of Passing for End Semester Examination (ESE) and Continuous Comprehensive Evaluation (CCE).
- A candidate who acquires 32 credits or more during semester – I & II shall be admitted to B. Sc. II (appear for semester – III & IV examination).

- However the candidate shall not be admitted to B.Sc. III (Semester - V) unless he/she passed in all the subjects at B.Sc. I (Semester - I & Semester - II) and acquire 32 credits or more during semester – III & IV.

- However the candidate shall not be admitted to B. Sc. IV (Semester - VII) unless he/she passed in all the subjects at B. Sc.II & III (Semester III, Semester IV, Semester - V & Semester - VI).

- However under the National Education Policy the rules extended by KBP University, time to time regarding ATKT will be applicable.

Eligibility of the Core Faculty:

As per rules and regulations of Karmaveer Bhaurao Patil University, Satara and Govt. of Maharashtra.

Eligibility for Professor of Practice or Professional Trainer:

Any other eligibility as per the guidelines and regulations passed by concern board of studies, academic council of the autonomous college and rules & regulations of Karmaveer Bhaurao Patil University, Satara and Government of Maharashtra and UGC norms.

Karmaveer Bhaurao Patil University, Satara

Faculty of Science and Technology

B. Sc. (Biochemistry) Part-I

Semester I				
Sr. No.	**Components**	**Course code**	**Course**	**Credits**
1	Course-I	BBCT 111	Molecules of life I (P-I)	02
		BBCT 112	Basics of Energetics and Nutrition (P-II)	02
		BBCP 113	Lab-I based on Course BBCT 111 & 112	02
2	Course-II	-	DSC I, DSC II, DSP I	06
3	Course-III	-	DSC I, DSC II, DSP I	06
4	OE	BBCTOE-1	Digital marketing P-I	02
5	IKS	BBCTIKS-1	Introduction to Indian Knowledge System	02
			Total	**22**
Semester II				
Sr. No.	**Components**	**Course code**	**Course**	**Credits**
1	Course-I	BBCT 121	Molecules of Life II (P-III)	02
		BBCT 122	Metabolism of biomolecules (P-IV)	02
		BBCP 123	Lab-II based on Course BBCT 121 & 122	02
2	Course-II	-	DSC I, DSC II, DSP I	06
3	Course-III	-	DSC II, DSC II, DSP I	06
4	OE	BBCTOE-1	Digital marketing P-II	02
5	VEC	BBCTVEC-1	Democracy, Election and Indian Constitution	02
			Total	**22**
EXIT OPTION: Award of UG Certificate in Major **with 44 credits** & an additional 4 credits core NSQF Course/Internship OR Continue with Major & Minor.				

B. Sc. (Biochemistry) Part-II

Semester III				
Sr. No.	**Components**	**Course Code**	**Course**	**Credits**
1	Major	BBCT 231	Biochemical Techniques (P-V)	02
	Major	BBCT 232	Biochemical & clinical aspects of diseases (P-VI)	02
	Major Lab-III	BBCP 233	Practical Course III based on (P-V and P-VI)	02
2	Minor	-	DSC V, DSC VI, DSP III	06
3	OE	BBCTOE3	Digital Marketing (P-III)	02
4	VSC	BBCPVSC 1	Instrumentation in Microbiology-I	02
5	SEC	BBCPSEC 1	Basic Microbial Techniques -I	02
6	AEC	BBCTAEC 1	English P-I	02
7	IKS	BBCTIKS 2	Indian Agriculture IKS P-II	02
			Total	**22**

Semester IV				
Sr. No.	**Components**	**Course Code**	**Course**	**Credits**
1	Major	BBCT 241	Molecular biology (P-VII)	02
	Major	BBCT 242	Genetic Engineering (P-VIII)	02
	Major Lab IV	BBCP 243	Practical Course V and VI based on P-VII and P-VIII	02
2	Minor	-	DSC V, DSC VI, DSP III	06
3	OE	BBCTOE 4	Digital Marketing P-IV	02
4	VSC	BBCPVSC 2	Instrumentation in Microbiology-II	02
5	SEC	BBCPSEC 2	Basic Microbial Techniques -II	02
6	AEC	BBCTAEC 2	English P-II	02
7	VEC	BBCTVEC 2	Environmental Studies	02
			Total	**22**
	EXIT OPTION: Award of UG Diploma in Major and Minor with 88 Credits & an additional 4 credits core NSQF Course/ Internship OR Continue with Major & Minor			

Chairman
BoS in Microbiology

Secretary
Academic Council

Chairman
Academic Council