



**Karmaveer Bhaurao Patil University, Satara**  
**Faculty of Science and Technology**  
**B. Sc. (Botany)**  
**Programme and Credit Structure as per NEP 2020**

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

The degree shall be titled as 'Bachelor of Science [Botany] 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**

**B. Sc. Sem. V & VI from Academic Year 2026-27**

**B. Sc. Sem. VII&VIII from Academic Year 2027-28**

**Programme Outcomes for B. Sc. (Botany)**

PO. No.	Programme Outcomes After completing B. Sc. Programme the students will.....
PO-1	Graduate with proficiency in the subject.
PO-2	Develop scientific attitude and become open minded, critical and curious so that they enter research field with a positive approach.
PO-3	Develop skill in practical work, experiments and laboratory materials.
PO-4	Become eligible to continue higher studies in their subject in India as well as abroad.
PO-5	Become eligible to appear for the examinations for jobs in government organizations.
PO-6	Become eligible to appear for jobs with minimum eligibility as science graduate.
PO-7	Be able to establish their own entrepreneurial ventures.
PO-8	Acquire increased ability of critical thinking, development of scientific attitude, handling of problems and generating solution, improve practical skills, enhance communication skill, social interaction, increase awareness in judicious use of plant resources by recognizing the ethical value system
PSO. NO	Programme Specific Outcomes: After completing B. Sc. (Botany) Programme the students will.....
PSO-1	Explain, describe, discuss and ask questions related to the different aspects of plant sciences.
PSO-2	Perform and design experiments related to plant sciences
PSO-3	Critically analyze the interactions between the living and non- living entities around them.
PSO-4	Apply the knowledge of plant sciences in finding sustainable solutions for the society as well as industry.
PSO-5	Apply the knowledge of plant sciences in becoming self- reliant either through entering into a job, establishing a model agricultural set up or initiating a plant based entrepreneurial venture
PSO-6	Design and undertake projects related to plant sciences
PSO-7	Attain skills needed in the plant based industries through internship.
PSO-8	Improve the research based skills by entering into a research internship as well as in house project.
PSO-9	Present their research findings in research conglomerations like conferences and in research journals in the form of publications.
PSO-10	Critically analyze their role as an environment sustainability goals oriented citizen

### 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 Accountancy
2	Sem. III & IV	2025-26	2Year	88	5.0	UG Diploma in Accountancy
3	Sem. V & VI	2026-27	3Year	132	5.5	B. Sc. in Botany (UG Three Year Degree)
4	Sem. VII & VIII	2027-28	4Year	176	6.0	B. Sc. in Botany [Honors/Research] (UG Four Year Degree)

### 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
<b>Total (Major) (A)</b>		<b>42</b>	<b>86</b>	<b>65.15</b>	<b>55</b>	<b>126</b>	<b>71.59</b>	<b>54</b>	<b>126</b>	<b>71.59</b>
1	Minor & RM	12	24	18.18	13	28	15.91	13	28	15.91
<b>Total (Minor) (B)</b>		<b>12</b>	<b>24</b>	<b>18.18</b>	<b>12</b>	<b>28</b>	<b>15.91</b>	<b>13</b>	<b>28</b>	<b>15.91</b>
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
<b>Total (C)</b>		<b>11</b>	<b>22</b>	<b>16.67</b>	<b>11</b>	<b>22</b>	<b>12.50</b>	<b>11</b>	<b>22</b>	<b>12.50</b>
<b>Grand Total (A+B+C)</b>		<b>65</b>	<b>132</b>	<b>100</b>	<b>79</b>	<b>176</b>	<b>100</b>	<b>78</b>	<b>176</b>	<b>100</b>

### 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<sup>st</sup> Year: Certificate, 2<sup>nd</sup> Year: Diploma, 3<sup>rd</sup> Year: Degree, 4<sup>th</sup> Year: Honors / Research)
- 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<sup>th</sup> 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):**

- 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).

- As per the decision of the concern Board of Studies.
- A candidate who acquire 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 and III (Semester -III,IV, V & Semester - VI).
- However under the National Education Policy the rules extended by KBP University, time to time regarding ATKKT 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. (Botany) Part-I**

<b>Semester I</b>				
<b>Sr. No.</b>	<b>Components</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Credits</b>
1	Course-I	BBT 111	Diversity of Cryptogams	02
		BBT 112	Economic Botany	02
		BBP 113	Lab-1 Practical based on Course-I & II	02
2	Course-II	-----	DSC I, DSC II, DSP I	06
3	Course-III	-----	DSC I, DSC II, DSP I	06
4	OE	BBTOE1	Business Management P-I	02
5	IKS	BBTIKS 1	Introduction to Indian Knowledge System	02
<b>Total</b>				<b>22</b>
<b>Semester II</b>				
<b>Sr. No.</b>	<b>Components</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Credits</b>
1	Course-I	BBT 221	Plant Diversity II (Pteridophytes, Gymnosperms, Angiosperms and Palaeobotany)	02
		BBT 222	Fundamental Botany (Morphology, Anatomy and Embryology)	02
		BBT 223	Lab-1 Practical based on Course-I & II	02
2	Course-II	-----	DSC III, DSC IV, DSP II	06
3	Course-III	-----	DSC III, DSC IV, DSP II	06
4	OE	BBTOE2	Business Management P-II	02
5	VEC	BBTVEC1	Democracy, Good Governance and Constitution of India	02
<b>Total</b>				<b>22</b>
<b>EXIT OPTION:</b> Award of UG Certificate in Major <b>with 44 credits</b> & an additional 4 credits core NSQF Course/Internship OR Continue with Major & Minor.				

**B. Sc. (Botany) Part-II**

<b>Semester III</b>				
<b>Sr. No.</b>	<b>Components</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Credits</b>
1	Major	BBT 231	Plant Anatomy (P-V)	02
2		BBT 232	Plant Biochemistry (P-VI)	02
3	Major Lab	BBP 233	Practical Based on Paper V and Paper VI	02
4	Minor	-----	DSC V, DSC VI, DSP III	06
5	OE	BBTOE3	Business Management P-III	02
6	VSC	BBPVSC 1	Advanced Botanical Skills Part-I (Microtechniques, Slide preparation & Staining Techniques)	02
7	SEC	BBPSEC 1	Plant Photography- from laboratory to field	02
8	AEC	BETAEC 1	English P-I	02
9	IKS	BBTIKS 2	Indian Agriculture IKS P-I	02
<b>Total</b>				<b>22</b>

<b>Semester IV</b>				
<b>Sr. No.</b>	<b>Components</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Credits</b>
1	Major	BBT 241	Plant Embryology (P-VII)	02
2		BBT 242	Plant Ecology & Environment (P- VIII)	02
3	Major Lab IV	BBP 243	Practical Based on Paper VII and Paper VIII	02
4	Minor	-----	DSC VII, DSC VIII, DSP IV	06
5	OE	BBTOE 4	Business Management P-IV	02
6	VSC	BBPVSC 2	Advanced Botanical Skills Part-II (Plant Collection, Identification & Preservation)	02
7	SEC	BBPSEC 2	Scientific writing	02
8	AEC	BBTAEC 2	English P-II	02
9	VEC	BBTVEC 2	Environmental Studies	02
			<b>Total</b>	<b>22</b>
<b>EXIT OPTION: Award of UG Diploma in Major and Minor with 88 Credits &amp; an additional 4 credits core NSQF Course/ Internship OR Continue with Major &amp; Minor</b>				

### **B. Sc. (Botany) Part-III**

<b>Semester V</b>				
<b>Sr. No.</b>	<b>Components</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Credits</b>
1	Major	BBT 351	Microbiology & Plant Pathology (P-IX)	02
2	Major	BBT 352	Cell Biology (P-X)	02
3	Major	BBT 353	Taxonomy of Angiosperm (P-XI)	02
4	Electives (Any one out of two)	BBT 354	Plant Physiology (P-XIIE1)	02
		BBT 354	Horticulture (P-XIIE2)	
5	Major Lab	BBP 355	Lab - V	02
6	Elective Lab	BBP 356	Lab - I	02
7	VSC	BBPVSC 3	Advanced Botanical Skills Part-III (Analytical Techniques)	02
8	AEC	BBTAEC 3	English P-III	02
9	OJT	BBTOJT 1	On Job Training in Botany I	04
10	CEP	BBTCEP 1	Community Engagement Programme in Botany	02
			<b>Total</b>	<b>22</b>
<b>Semester VI</b>				
<b>Sr.</b>	<b>Components</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Credits</b>
1	Major	BBT 361	Genetics & Plant Breeding (P-XIII)	02
2	Major	BBT 362	Plant Molecular Biology (P-XIV)	02
3	Major	BBT 363	Plant Biotechnology (P-XV)	02
4	Electives (Any one out of two)	BBT 364	Bioinformatics & Biostatistics (P-XVIE1)	02
		BBT 364	Horticulture-II (P-XVIE2)	
5	Major Lab	BBP 365	Lab - VI	02
6	Elective Lab	BBP 366	Lab - II	02
7	VSC	BBPVSC 4	Advanced Botanical Skills Part-IV (Microscopy and Centrifugation)	02
8	SEC	BBPSEC 3	AI in Botany	02
9	FP	BBTFP 1	Field Project in Botany	02
10	CC	BBTCC 1	Co-curricular Course in Botany	02
11	AEC	BBTAEC 4	English P-IV	02
			<b>Total</b>	<b>22</b>
<b>EXIT OPTION: Award of UG Degree in Major with 132 credits OR Continue with Major &amp;</b>				

**Minor.**

**B. Sc. (Botany) Part-IV Honors Degree**

<b>Semester VII</b>				
<b>Sr. No.</b>	<b>Components</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Credits</b>
1	Major	BBT 471	Tools and Techniques in Botany (P-XVII)	04
2	Major	BBT 472	Biology and Diversity of Cryptogams (Fungi, Algae and Bryophytes) (P-XVIII)	04
3	Major	BBT 473	Plant Ecology (P-XIX)	04
4	Electives (Any one out of two)	BBT 474	Biology and Diversity of Trachaeophytes (Pteridophytes and Gymnosperms) (P-XXE1)	04
		BBT 474	Genetic Engineering (P-XXE2)	
5	Major Lab	BBP 475	Lab – VII (Based on MBT 471, MBT 472 MBT 474)	02
6	Elective Lab	BBP 476	Lab – III (Based on MBT 474)	02
7	RM	BBT 477	Research Methodology	04
			<b>Total</b>	<b>22</b>
<b>Semester VIII</b>				
<b>Sr.</b>	<b>Components</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Credits</b>
1	Major	BBT 481	Cell and Molecular Biology (P-XXI)	04
2	Major	BBT 482	Taxonomy of Angiosperms (P-XXII)	04
3	Major	BBT 483	Plant Pathology (P-XXIII)	04
4	Electives (Any one of two)	BBT 484	Developmental and Reproductive Biology (P-XXIV1)	04
		BBT 484	Bioinformatics (P-XXIV2)	
5	Major Lab	BBP 485	Lab – VIII (Based on MBT 481, MBT 482, MBT 483)	02
6	Elective Lab	BBP 486	Lab – IV (Based on MBT 484)	02
7	OJT	BBTOJT 2	On Job Training in Botany II	04
			<b>Total</b>	<b>22</b>

**Award of Four year UG Honors Degree in Major and Minor with 176 credits.**

**B. Sc. (Botany) Part-IV Honors with Research Degree**

<b>Semester VII</b>				
<b>Sr. No.</b>	<b>Components</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Credits</b>
1	Major	BBT 471	Tools and Techniques in Botany (P-XVII)	04
2	Major	BBT 473	Biology and Diversity of Cryptogams (Fungi, Algae and Bryophytes) (P-XVIII)	04
3	Electives	BBT 474	Biology and Diversity of Trachaeophytes (Pteridophytes and Gymnosperms) (P-XIX1)	04
		BBT 474	Genetic Engineering (P-XIX2)	
4	Major Lab	BBP 594	Lab – VII	02
5	RM	-----	Research Methodology	04
6	RP	BBTRP 1	Research Project in Botany I	04
			<b>Total</b>	<b>22</b>
<b>Semester VIII</b>				
<b>Sr. No.</b>	<b>Components</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Credits</b>
1	Major	BBT 481	Cell and Molecular Biology (P-XX)	04

2	Major	BBT 482	Biology and Diversity of Cryptogams (Fungi, Algae and Bryophytes) (P-XXI)	04
3	Electives	BBT 603	Developmental and Reproductive Biology (P-XXIIE1)	
		BBT 603	Bioinformatics (P-XXIIE2)	04
4	Major Lab	BBP 604	Lab – VIII	02
5	RP	BBTRP 2	Research Project in Botany II	08
			<b>Total</b>	<b>22</b>

**Award of Four year UG Honors Degree in Major and Minor with 176 credits.**

Chairman  
BoS in Botany

Secretary  
Academic Council

Chairman  
Academic Council