

*Progressive Education Society's*  
**Modern College of Arts, Science and Commerce (Autonomous), Shivajinagar, Pune 5**

**(An Autonomous College Affiliated to Savitribai Phule Pune University)**

## **Framework of Syllabus**

**For**

**B. Sc. Blended (Bioscience)**

Choice Based Credit System (CBCS) Syllabus Under National Education Policy (NEP)  
**To be implemented from Academic Year 2024-2025**

## Level 4.5 (First Year) Semester I

Course Type	Course Code	Course Title	Credits		Teaching Scheme Hr/Week		Evaluation Scheme and Max Marks		
			TH	PR	TH	PR	CE	ESE	Total
Subject 1 T(2) + (T/P) (2) or T(4)	24ScBleU1101	Biology I (The Diversity of Life)	2		2		20	30	50
	24ScBleU1102	Lab Course on 24ScBleU1101		2		4	20	30	50
Subject 2 T(2) + (T/P)(2) Or T(4)	24ScBleU1201	Introductory and Organic Chemistry	2		2		20	30	50
	24ScBleU1202	Lab Course on 24ScBleU1201		2		4	20	30	50
Subject 3 T(2) + (T/P) (2) Or T(4)	24ScBleU1301	Introduction to Biochemistry	2		2		20	30	50
	24ScBleU1302	Lab Course on 24ScBleU1301		2		4	20	30	50
IKS T(2)	24CpCopU1901	Generic IKS	2		2		20	30	50
GE/OE (T/P) (2)	24ScBleU1401	Applications of Biology I	2		2		20	30	50
SEC (P)(2)	24ScBleU1601	English Communication and Critical Thinking	2		2		20	30	50
AEC T(2)	24CpCopU1701/ 24CpCopU1702	MIL-I(Hindi)/MIL-I(Marathi)	2		2		20	30	50
VEC T(2)	24CpCopU1801	Environmental Science	2		2		20	30	50
<b>Total</b>			<b>14</b>	<b>06</b>	<b>14</b>	<b>12</b>			<b>550</b>
Non CGPA credits	24ScBleU1291	Calculus	4		4		40	60	100
Non CGPA credits	24ScBleU1292	Introductory classical Physics + Physics Practical 1	2	2	2	4	40	60	100

## Level 4.5 (First Year) Semester II

Course Type	Course Code	Course Title	Credits		Teaching Scheme Hr/Week		Evaluation Scheme and Max Marks		
			TH	PR	TH	PR	CE	ESE	Total
Subject 1 T(2) +T/P(2) Or T(4)	24ScBleU2101	Biology II (Biology of Cells)	2		2		20	30	50
	24ScBleU2102	Lab Course on 24ScBLEU2101		2		4	20	30	50
Subject 2 T(2) + P(2)	24ScBleU2201	Inorganic and Physical Chemistry	2		2		20	30	50
	24ScBleU2202	Lab Course on 24ScBLEU2201		2		4	20	30	50
Subject 3 T(2) + P(2)	24ScBleU2301	Introduction to Microbiology	2		2		20	30	50
	24ScBleU2302	Lab course on 24ScBLEU2301		2		4	20	30	50
GE/OE (T/P) (2)	24ScBleU2401	Applications of Biology II	2		2		20	30	50
SEC T(2)	24ScBleU2601	Immunology	2		2		20	30	50
AEC T(2)	24CpCopU2703	English Communication Skills I	2		2		20	30	50
VEC T(2)	24CpCopU2801	Democracy, Election and Governance	2		2		20	30	50
CC (2)	24CpCopU2001/24CpCopU2011/ 24CpCopU2021/ 24CpCopU2031/ 24CpCopU2041/24CpCopU2051/ 24CpCopU2061/24CpCopU2071	Physical Education/ Cultural Activities/ NSS / NCC/ Fine Arts / Applied Arts / Visual Arts / Performing Arts	2		2		20	30	50
<b>Total</b>			<b>16</b>	<b>06</b>	<b>16</b>	<b>12</b>			<b>550</b>
Non CGPA credits	24ScBleU2291	Algebra	4		4		40	60	100
Non CGPA credits	24ScBleU2292	Modern Physics	2		2		20	30	50
Non CGPA credits	24ScBleU2293	Lab Course Based on 24ScBLEU2292		2		4	20	30	50

## Level 5.0 (Second Year) Semester III

Course Type	Course Code	Course Title	Credits		Teaching Scheme Hr/Week		Evaluation Scheme and Max Marks		
			TH	PR	TH	PR	CE	EE	Total
Major Core T(2+2or4), (T/P) (2)	24ScBleU3101	Functional Biology of Organisms	4		4		40	60	100
	24ScBleU3102	Lab Course on Based on 24ScBleU3101		2		4	20	30	50
VSC P(2)	24ScBleU3501	Introductory Scientific Computing and modelling for biology		2		4	20	30	50
IKS (T/P) (2)	24ScBleU3901	Application of IKS in Biology	2		2		20	30	50
FP (2)	24ScBleU3002	Field Project I		2		4	20	30	50
Minor (T/P) (2+2or 4)	24ScBleU3301	Reactions and Synthesis	2		2		20	30	50
	24ScBleU3302	Lab Course on 24ScBleU3301		2		4	20	30	50
GE/OE (T/P) (2)	24ScBleU3401	Biology and Human Welfare III		2		4	20	30	50
AEC T(2)	24CpCopU3703	English Communication Skills II	2		2		20	30	50
CC T(2)	24CpCopU3001	Online Course on Yoga	2		2		20	30	50
<b>Total</b>			<b>12</b>	<b>10</b>	<b>12</b>	<b>20</b>			<b>550</b>
Non CGPA credits	24ScBleU3401	Vector Calculus and Differential Equations	4		4		40	60	100
Non CGPA credits	24ScBleU3402	Quantum Mechanics and Thermodynamics	2		2		20	30	50
Non CGPA credits	24ScBleU3403	Lab Course Based on 24ScBleU3402		2		4	20	30	50

## Level 5.0 (Second Year) Semester IV

Course Type	Course Code	Course Title	Credits		Teaching Scheme Hr/Week		Evaluation Scheme and Max Marks		
			TH	PR	TH	PR	CE	EE	Total
Major Core T(2+2or4), (T/P)(2)	24ScBleU4101	Genetics, Evolution and Ecology	4		4		40	60	100
	24ScBleU4102	Lab Course Based on 24ScBleU4101		2		4	20	30	50
VSCP(2)	24ScBleU4501	Introductory Scientific Computing and Modelling For Biology		2		4	20	30	50
CEPP(2)	24CpCopU4003	Community Engagement Project		2		4	20	30	50
Minor (T/P)(2+2or 4)	24ScBleU4301	Structure and Properties	2		2		20	30	50
	24ScBleU4302	Lab Course Based on 24ScBleU4301		2		4	20	30	50
/OE(T/P) (2)	24ScBleU4401	Biology and Human Welfare IV	2		2		20	30	50
SEC T(2)	24ScBleU4601	Introduction to Cyber Security	2		2		20	30	50
AECT(2)	24CpCopU4701 / 24CpCopU4702	MIL-II(Hindi)/ MIL-II(Marathi)	2		2		20	30	50
CCT(2)	24CpCopU4001	Health and Wellness	2		2		20	30	50
<b>Total</b>			<b>14</b>	<b>08</b>	<b>14</b>	<b>16</b>			<b>550</b>
Non CGPA credits	24ScBleU3401	Probability and Statistics	4		4		40	60	100
Non CGPA credits	24ScBleU3402	Electricity, Magnetism , Special Relativity and Optics	2		2		20	30	50
	24ScBleU3402	Lab Course Based on 24ScBleU3402		2		4	20	30	50

## Level 5.5 (Third Year) Semester V

Course Type	Course Code	Course Title	Credits		Teaching Scheme Hr/Week		Evaluation Scheme and Max Marks		
			TH	PR	TH	PR	CE	EE	Total
Major Core T (2+2+2+2 or 4+2+2 or 4+4) P(2+2 or 4)	24ScBleU5101	Biochemistry	2		2		20	30	50
	24ScBleU5102	Molecular Biology	2		2		20	30	50
	24ScBleU5103	Genetic Engineering	2		2		20	30	50
	24ScBleU5104	Animal Sciences	2		2		20	30	50
	24ScBleU5105	Lab course on 24ScBleU5101 & 24ScBleU5104		2		4	20	30	50
	24ScBleU5106	Lab course on 24ScBleU5102 & 24ScBleU5103		2		4	20	30	50
Major Elective(T/P) (2+2 or 4)	24ScBleU5201	Plant Sciences	2		2		20	30	50
	24ScBleU5202	Lab course on 24ScBleU5201		2		4	20	30	50
	<b>OR</b>								
	24ScBleU5203	Ecology and Environment	2		2		20	30	50
	24ScBleU5204	Lab course on 24ScBleU5203		2		4	20	30	50
VSC P(2)	24ScBleU5501	Analysis of Biological Data		2		4	20	30	50
FP(2)	24ScBleU5001	Field Project I		2		4	20	30	50
Minor (T/P) (2)	24ScBleU5302	Methods in biology(T)	2		2		20	30	50
<b>Total</b>			<b>12</b>	<b>10</b>	<b>12</b>	<b>20</b>			<b>550</b>

## Level 5.5 (Third Year) Semester VI

Course Type	Course Code	Course Title	Credits		Teaching Scheme Hr/Week		Evaluation Scheme and Max Marks		
			TH	PR	TH	PR	CE	EE	Total
Major Core T (2+2+2+2 Or 4+2+2 or 4+4) P (2+2or 4)	24ScBleU6101	Evolutionary Developmental Biology	2		2		20	30	50
	24ScBleU6102	Systematics and Evolution	2		2		20	30	50
	24ScBleU6103	Microorganisms and Diseases	2		2		20	30	50
	24ScBleU6104	Computational Biology	2		2		20	30	50
	24ScBleU6105	Lab course based on 24ScBleU6101 &24ScBleU6102		2		4	20	30	50
	24ScBleU6106	Lab Course on 24ScBleU6103 &24ScBleU6104		2		4	20	30	50
Major Elective(T/P) (2+2 or 4)	24ScBleU6201	Scientific Writing	2		2		20	30	50
	24ScBleU6202	Lab course on 24ScBleU6201		2		4	20	30	50
	24ScBleU6203	Biodiversity	2		2		20	30	50
	24ScBleU6204	Lab course on 24ScBleU6203		2		4	20	30	50
VSCP(2)	24ScBleU6501	Applied Biology		2		4	20	30	50
OJT (2)	24ScBleU6004	On Job Training		4		8	40	60	100
<b>Total</b>			<b>10</b>	<b>12</b>	<b>10</b>	<b>24</b>			<b>550</b>