

Progressive Education Society's
**Modern College of Arts, Science and
Commerce,**
Shivajinagar, Pune 5
(An Autonomous College Affiliated to Savitribai Phule Pune University)

Framework of Syllabus

For B.Sc. Biotechnology

(2019-20 Course)

(with effect from 2019-20)

Semester 1 (First Year)

Course Type	Course Code	Course / Paper Title	Hours / Week	Credit	CIA	End Sem Exam	Total
CCT-1	19ScBioU101	Fundamentals of Chemistry I	03	02	40	60	100
CCT-2	19ScBioU102	Introduction to Physics I	03	02	40	60	100
CCT-3	19ScBioU103	Basics of Plant Sciences I	03	02	40	60	100
CCT-4	19ScBioU104	Basics of Animal Sciences I	03	02	40	60	100
CCT-5	19ScBioU105	Mathematics and Statistics I	03	02	40	60	100
CCT-6	19ScBioU106	Biological Chemistry I	03	02	40	60	100
CCT-7	19ScBioU107	Biophysics	03	02	40	60	100
CCT-8	19ScBioU108	Microbiology I	03	02	40	60	100
CCP-1	19ScBioU109	Practical In Chemistry & Biochemistry	03	02	40	60	100
CCP-2	19ScBioU110	Practical In Physics & Biophysics	03	02	40	60	100
CCP-3	19ScBioU111	Practical In Biosciences	03	02	40	60	100
CCP-4	19ScBioU112	Practical In Microbiology and Statistics	03	02	40	60	100
SECT-1	19CpPedU101	Physical Education – I	1	0.5	20	30	50
Total Credits			-	13			

Semester 2 (First Year)

Course Type	Course Code	Course / Paper Title	Hours / Week	Credit	CIA	End Sem Exam	Total
CCT-9	19ScBioU201	Fundamentals of Chemistry II (2C)	03	02	40	60	100
CCT-10	19ScBioU202	Bio Physics and Instrumentation (2C)	03	02	40	60	100
CCT-11	19ScBioU203	Basics of Plant Sciences II(2C)	03	02	40	60	100
CCT-12	19ScBioU204	Basics of Animal Sciences II(2C)	03	02	40	60	100
CCT-13	19ScBioU205	Mathematics and Statistics II (2C)	03	02	40	60	100
CCT-14	19ScBioU206	Biological Chemistry I (2C)	03	02	40	60	100
CCT-15	19ScBioU207	Microbiology II (2C)	03	02	40	60	100
CCT-16	19ScBioU208	Computers and Applications (2C)	03	02	40	60	100
CCP-5	19ScBioU209	Practical In Chemistry & Biochemistry (2C)	03	02	40	60	100
CCP-6	19ScBioU210	Practical In Microbiology and Bioinstrumentation	03	02	40	60	100
CCP-7	19ScBioU211	Practical In Biosciences (2C)	03	02	40	60	100
CCP-8	19ScBioU212	Practical Computer application and Statistics (2C)	03	02	40	60	100
SECT-2	19CpPedU201	Physical Education – II	1	0.5	20	30	50
Total Credits			-	13			

Semester 3 (Second Year)

Course Type	Course Code	Course / Paper Title	Hours / Week	Credit	CIA	End Sem Exam	Total
CCT-19	19ScBioU301	Cell Biology I	04	2.5	40	60	100
CCT-20	19ScBioU302	Molecular Biology I	04	2.5	40	60	100
CCT-21	19ScBioU303	Animal Development & physiology	04	2.5	40	60	100
CCT-22	19ScBioU304	Plant Development & physiology	04	2.5	40	60	100
CCT-23	19ScBioU305	Metabolism	04	2.5	40	60	100
CCT-24	19ScBioU306	Environment & Ecology	04	2.5	40	60	100
CCP-9	19ScBioU307	Practical In Cell & Molecular Biology	04	02	40	60	100
CCP-10	19ScBioU308	Practical In Animal & plant Development	04	02	40	60	100
CCP-11	19ScBioU309	Practical in Environmental Science & Metabolism	04	02	40	60	100

AEC-1	19CpEnvU301	Environmental Science – I	2	1	20	30	50
AEC-2	19CpEngU302	English Communication –I	4	2.5	40	60	100
Total Credits			-	28			

Semester 4 (Second Year)

Course Type	Course Code	Course / Paper Title	Hours / Week	Credit	CIA	End Sem Exam	Total
CCT-25	19ScBioU401	Cell Biology II	04	2.5	40	60	100
CCT-26	19ScBioU402	Molecular Biology II	04	2.5	40	60	100
CCT-27	19ScBioU403	Immunology	04	2.5	40	60	100
CCT-28	19ScBioU404	Genetics	04	2.5	40	60	100
CCT-29	19ScBioU405	Protein Biology	04	2.5	40	60	100
CCT-30	19ScBioU406	Biodiversity & systematics	04	2.5	40	60	100
CCP-13	19ScBioU407	Practical In Cell & Molecular Biology II	04	02	40	60	100
CCP-14	19ScBioU408	Practical In Immunology & protein Biology	04	02	40	60	100
CCP-15	19ScBioU409	Practical In Biodiversity & Genetics	04	02	40	60	100
AEC-3	19CpEnvU401	Environmental Science – II	2	1	20	30	50
AEC-4	19CpEngU402	English Communication –II	4	2.5	40	60	100
Total Credits			-	28			

Semester 5 (Third Year)

Course Type	Course Code	Course / Paper Title	Hours / Week	Credit	CIA	End Sem Exam	Total
DSET-1	19ScBioU501	Microbial Biotechnology I	04	2.5	40	60	100
DSET-2	19ScBioU502	Biochemical & Biophysical Technique I	04	2.5	40	60	100
DSET-3	19ScBioU503	Recombinant DNA technology	04	2.5	40	60	100
DSET-4	19ScBioU504	Plant Tissue Culture	04	2.5	40	60	100
DSET-5	19ScBioU505	Animal Tissue Culture	04	2.5	40	60	100
DSET-6	19ScBioU506	Application in Biotechnology I	04	2.5	40	60	100
DSEP-1	19ScBioU507	Practical In Tissue Culture	04	02	40	60	100
DSEP-2	19ScBioU508	Practical In Biotechnology I (MBT+BBT)	04	02	40	60	100
SECP-3	19ScBioU509	Practical In RDT	04	02	40	60	100
Total Credits			-	21			

Semester 6 (Third Year)

Course Type	Course Code	Course / Paper Title	Hours / Week	Credit	CIA	End Sem Exam	Total
DSET-7	19ScBioU601	Microbial Biotechnology II	04	2.5	40	60	100
DSET-8	19ScBioU602	Biochemical & Biophysical Technique II	04	2.5	40	60	100
DSET-9	19ScBioU603	Bioethics & Biosafety	04	2.5	40	60	100
DSET-10	19ScBioU604	Bioinformatics (T+P)	04	2.5	40	60	100
DSET-11	19ScBioU605	Research Methodology	04	2.5	40	60	100
DSET-12	19ScBioU606	Application in Biotechnology II	04	2.5	40	60	100
DSET-4	19ScBioU607	Project	04	04	-	100	100
DSEP-5	19ScBioU608	Practical In Biotechnology I (MBT+BBT)	04	02	40	60	100
Total Credits			-	21			