

*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 M.Sc. Microbiology**

**(2019-20 Course)**

**(with effect from 2019-20 )**

**CIA:** Continuous Internal Evaluation

**Semester 1 (Part 1)**

Course Type	Course Code	Course / Paper Title	Hours / Week	Credit	CIA	End Sem Exam	Total
CCT-1	19ScMicP101	Microbial Taxonomy and Diversity	04	04	50	50	100
CCT-2	19ScMicP102	Instrumentation & Molecular biophysics	04	04	50	50	100
DSET-1	19ScMicP103	Biochemistry & Cell Biology (Elective)	04	04	50	50	100
DSET-2	19ScMicP104	Biochemistry and Communication Biology	04	04	50	50	100
CCP-4	19ScMicP105	Practical course I: Based on Microbial Taxonomy and Diversity	04	02	50	50	100
CCP-5	19ScMicP106	Practical course II: Cell Biology, Biochemistry & Biophysics	04	02	50	50	100
AECCT-1	19CpCysP101	Cyber Security-I	1	1	-	-	25
AECCT-2	19CpHrtP102	Human Rights-I	1	1	-	-	25
<b>Total Credits</b>			-	<b>22</b>			

**Semester 2 (Part 1)**

Course Type	Course Code	Course / Paper Title	Hours / Week	Credit	CIA	End Sem Exam	Total
CCT-6	19ScMicP201	Industrial wastewater treatment and management	04	04	50	50	100
CCT-7	19ScMicP202	Quantitative Biology	04	04	50	50	100
DSET-3	19ScMicP203	Metabolism (Elective course)	04	04	50	50	100
DSET-4	19ScMicP204	Microbial and Plant Physiology ( Elective course)	04	04	50	50	100
CCP-8	19ScMicP205	Practical course I: Industrial Wastewater Treatment & Biostatistics	04	02	50	50	100
CCP-9	19ScMicP206	Practical course II: Enzymology & Metabolism	04	02	50	50	100
AECCT-3	19CpCysP201	Cyber Security-II	1	1	-	-	25
AECCT-4	19CpHrtP202	Human Rights-II	1	1	-	-	25
<b>Total Credits</b>			-	<b>22</b>			

**Semester 3 (Part 2)**

Course Type	Course Code	Course / Paper Title	Hours / Week	Credit	CIA	End Sem Exam	Total
CCT-10	19ScMicP301	Immunology	04	04	50	50	100
CCT-11	19ScMicP302	Molecular Biology and Biotechnology I	04	04	50	50	100
DSET-5	19ScMicP303	Virology ( Elective )	04	04	50	50	100
DSET-6	19ScMicP304	Virology and Molecular Biology ( Elective )	04	04	50	50	100
CCP-12	19ScMicP305	Immunology, virology and pharmaceuticals – practical paper I	04	02	50	50	100
CCP-13	19ScMicP306	Molecular biology and Microbial technology Practical Paper II	04	02	50	50	100
AECCT-5	19CpCysP301	Cyber Security-III	1	1	-	-	25
AECCT-6	19CpSkdP302	Skill Development-I	2	2	-	-	50
<b>Total Credits</b>			-	<b>23</b>			

**Semester 4 (Part 2)**

<b>Course Type</b>	<b>Course Code</b>	<b>Course / Paper Title</b>	<b>Hours / Week</b>	<b>Credit</b>	<b>CIA</b>	<b>End Sem Exam</b>	<b>Total</b>
CCT-14	19ScMicP401	Pharmaceutical and Medical Microbiology	04	04	50	50	100
CCT-15	19ScMicP402	Molecular Biology and Biotechnology II	04	04	50	50	100
DSET-7	19ScMicP403	Microbial Technology	04	04	50	50	100
DSET-8	19ScMicP404	Microbial technology and Pharmaceutical biology	04	04	50	50	100
CCP-16	19ScMicP405	Dissertation I	04	02	-	100	100
CCP-18	19ScMicP406	Dissertation II	04	02	-	100	100
AECCT-7	19CpCysP401	Cyber Security-IV	1	1	-	-	25
AECCT-8	19CpSkdP402	Skill Development-II	2	2	-	-	50
		<b>Total Credits</b>	-	<b>23</b>			