



MSc BIOTECHNOLOGY

2025 - 2026

Biotechnology | Microbiology | Bioinformatics
National College (Autonomous), Trichy

Syllabus for M.Sc., Biotechnology

(From the Academic Year 2025-26 onwards, under DBT-PGT Scheme)



**PG & Research Department of Biotechnology,
Microbiology & Bioinformatics**

**National College
(Autonomous)
Tiruchirappalli – 620 001.**

**PROGRAM STRUCTURE OF M.Sc. BIOTECHNOLOGY
UNDER DBT PG-TEACHING SCHEME**

(Applicable to Candidates admitted from the Academic Year 2025-26 onwards)

Sl. No.	Course Code	Hrs /W k	Credit	Course Type	Course Title	Course Kind	Hrs of Exam		Int. (25)	Ext. (75)
							T	P		
Semester I										
1	P25BT1	4	3	Theory	Biochemistry	Core Course I	3	-	25	75
2	P25BT2	4	3	Theory	Cell and Molecular Biology	Core Course II	3	-	25	75
3	P25BT3	4	3	Theory	Plant and Animal Biotechnology	Core Course III	3	-	25	75
4	P25BT4	2	2	Theory	Microbiology	Core Course IV	3	-	25	75
5	P25BT5	2	2	Theory	Genetics	Core Course V	3	-	25	75
6	P25BT6	2	2	Theory	Basics of Mathematics and Statistics	Core Course VI	3	-	25	75
7	P25BT7	2	2	Theory	Basics of Chemistry and Physics	Core Course VII	3	-	25	75
8	P25BT8P	3	3	Practical	Lab I: Biochemistry and Analytical Techniques	Core Course VIII	-	6	25	75
9	P25BT9P	3	3	Practical	Lab II: Microbiology	Core Course IX	-	6	25	75
10	P25BT10P	4	2	Practical	Lab III: Plant and Animal Biotechnology	Core Course X	-	6	25	75
		30	25						250	750

Sl. No.	Course Code	Hrs/ Wrk	Credit	Course Type	Course Title	Course Kind	Hrs of Exam		Int. (25)	Ext. (75)
							T	P		
Semester II										
11	P25BT11	4	3	Theory	Genetic Engineering	Core Course XI	3	-	25	75
12	P25BT12	4	3	Theory	Immunology	Core Course XII	3	-	25	75
13	P25BT13	4	3	Theory	Bioinformatics	Core Course XIII	3	-	25	75
14	P25BT14	3	2	Theory	Genomics and Proteomics	Core Course XIV	3	-	25	75
15	P25BT15	3	2	Theory	Molecular Diagnosis	Core Course XV	3	-	25	75
16	P25BT16	2	2	Theory	Research Methodology and Scientific Communication Skills	Core Course XVI	3	-	25	75
17	P25BT17E1	3	3	Theory	Drug Discovery and Development	Elective Course I	3	-	25	75
	Nanobiotechnology									
	Microbial Technology									
18	P25BTS18	1	1	Seminar	Seminar-I	Core Course XVII	-	6	75	25
19	P25BT19P	3	3	Practical	Lab IV: Molecular Biology and Genetic Engineering	Core Course XVIII	-	6	25	75
20	P25BT20P	3	3	Practical	Lab V: Immunology	Core Course XIX	-	6	25	75
		30	25						250	750

Sl. No.	Course Code	Hrs/ Wrk	Credit	Course Type	Course Title	Course Kind	Hrs of Exam		Int. (25)	Ext. (75)
							T	P		
Semester III										
21	P25BT21	5	4	Theory	Bioprocess Engineering and Technology	Core Course XX	3	-	25	75
22	P25BT22	3	2	Theory	Emerging Technologies	Core Course XXI	3	-	25	75
23	P25T23	3	2	Theory	Critical Analysis of Classical Papers	Core Course XXII	3	-	25	75
24	P25BT24	2	2	Theory	Bioentrepreneurship	Core Course XXIII	3	-	25	75
25	P25BT25	2	2	Theory	Intellectual Property Rights, Biosafety and Bioethics	Core Course XXIV	3	-	25	75
26	P25BT26	2	2	Seminar	Project Proposal Preparation and Presentation	Core Course XXV	-	6	25	75
27	P25BTS27	3	3	Seminar	Seminar-II	Core Course XXVI	-	6	25	75
28	P25BT28P	2	1	Practical	Lab VI: Bioprocess Engineering and Technology	Core Course XXVII	-	6	25	75
29	P25BT29P	3	2	Practical	Lab VII: Bioinformatics	Core Course XXVIII	-	6	25	75
30	P25BTP30	5	4	Project Work	Dissertation-I	Core Course XXIX	-	6	75	25
		30	24						300	700

Sl. No.	Course Code	Hrs/ Wrk	Credit	Course Type	Course Title	Course Kind	Hrs of Exam		Int. (25)	Ext. (75)
							T	P		
Semester IV										
31	P25BTP31	25	20	Project Work	Dissertation-II	Core Course XXX	-	6	75	25
32	P25BT32E	5	2	Theory	Environmental Biotechnology	Elective Course II	3	-	25	75
		30	22						100	100
			96						900	2300