

SCHEME OF EXAMINATION & SYLLABUS

for

**Master of Technology (Biotechnology)
2019 onwards**



**UNIVERSITY SCHOOL OF BIOTECHNOLOGY
GGS INDRAPRASTHA UNIVERSITY
Sector 16C, Dwarka, New Delhi - 110 078**

**Approved in the Academic Council Sub-committee meeting on 03-07-2019.*

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Master of Technology (Biotechnology)
Scheme and Syllabus, 2019

Semester 1

Serial no.	Course type	Course code	Course name	L	T	P	Credits	T/P	M/D	C/E	(U/NU) ES
1	Core 1	BT- 501	Genomics	3	0	0	3	T	D	C	U
2	Core 2	BT-503	Proteomics	3	0	0	3	T	D	C	U
3	Program Specific Elective 1	(Select any one)		3	0	0	3	T	D	E	U
		BT- 505	Pharmaceutical Biotechnology								
		BT-507	Pharmacoinformatics					T	D	E	U
		BT-509	Nutraceuticals & Functional Foods					T	D	E	U
4	Program Specific Elective 2	(Select any one)		3	0	0	3	T	D	E	U
		BT-511	Biochemical Engineering								
		BT-513	Agriculture Biotechnology					T	D	E	U
		BT-515	Food Process Engineering and Quality Control					T	D	E	U
5	Lab 1	BT-551	Advanced Biotechnology Lab-1	0	0	4	2	P	D	C	U
6	Lab 2	BT-553	Advanced Biotechnology Lab-2	0	0	4	2	P	D	C	U
7	RM & IPR	BT-517	Research Methodology and IPR	2	0	0	2	T	D	C	U
8	Audit Course 1		As per the list below	2	0	0	0	T	D	E	NU
9	Open Elective 1		As per the list below	4	0	0	4	T	D	E	U
Total				20	0	8	22				

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Audit course 1 [Select any one]:

S. No.	Course Code	Course Name
1	BT-527	English for Research Paper Writing
2	BT-529	Disaster Management
3	BT-533	Value Education
4	BT-535	Vedic Science & Traditional Knowledge

Open Elective 1 [Select any one]:

S. No.	Course Code	Course Name
1	MS-101	Management Process and Organisational Behaviour (USMS)
2	GEN-101	Research Methods and Legal Writing (USLLS)
3	IPR-107	Nature, Emergence and Development of IPR (USLLS)
4	BT-519	Industrial Biotechnology (USBT)
5	BT-521	Industrial Safety (USBT)
6	EM -609	Energy Resource and Technology (USEM)

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Semester 2

Serial no.	Course type	Course code	Course name	L	T	P	Credits	T/P	M/D	C/E	(U/NU) ES
1	Core 3	BT- 502	Epigenomics	3	0	0	3	T	D	C	U
2	Core 4	BT-504	Biotechnology in Healthcare	3	0	0	3	T	D	C	U
3	Program Specific Elective 3	(Select any one)		3	0	0	3	T	D	E	U
		BT-506	Clinical Immunology & Immunotechnology								
		BT-508	Advanced Animal Biotechnology					T	D	E	U
		BT-510	Biophysics and Structural Biology					T	D	E	U
4	Program Specific Elective 4	(Select any one)		3	0	0	3	T	D	E	U
		BT-512	Virology								
		BT-514	Advanced Plant Biotechnology					T	D	E	U
		BT-516	Molecular and Cellular Biology of Cancer					T	D	E	U
5	Lab 3	BT-552	Advanced Biotechnology Lab-3	0	0	4	2	P	D	C	U
6	Lab 4	BT-554	Advanced Biotechnology Lab-4	0	0	4	2	P	D	C	U
7	Mini Project	BT-556	Mini Project	0	0	4	2	P	M	C	U
8	Audit Course 2		As per the list below	2	0	0	0	T	D	C	NU
9	Open Elective 2		As per the list below	4	0	0	4	T	D	E	U
Total				18	0	12	22				

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Audit course 2[Select any one]:

S. No.	Course Code	Course Name
1	BT-536	Constitution of India
2	BT-538	Pedagogy Studies
4	BT-542	Personality Development through Life Enlightenment Skills

Open Elective 2 [Select any one]:

S. No.	Course Code	Course Name
1	IPR-102	Law of Patents (USLLS)
2	MS-102	Management of Technology, Innovation and Change (USMS)
3	IPR-106	Law of Designs, Layout Designs and Geographical Indications (USLLS)
4	EM-602	Air Pollution , Meteorology and Control (USEM)
5	BT-526	Biotic and Abiotic Stress Biology
6	BT-528	Biosafety, Bioethics and IPR (USBT)
7	BT-530	Advanced Downstream Processing (USBT)
8	BT-532	Bioprocess Modelling & Control (USBT)
9	BT-534	Statistical Methods in Engineering & Technology (USBT)

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Semester 3

Serial no.	Course type	Course code	Course name	L	T	P	Credits	T/P	M/D	C/E	(U/NU) ES
1	Program Specific Elective 5	(Select any one)		3	0	0	3	T	D	E	U
		BT-601	Biomanufacturing Principles and Practices								
		BT-603	Systems and Synthetic Biology								
		BT-605	Bioproduct Development and Bioentrepreneurship								
2	Open Elective 3		As per the list below	4	0	0	4	T	D	E	U
3	Dissertation Phase I	BT-651	Dissertation Phase I	0	0	20	10	P	M	C	U
Total				7	0	20	17				

Open Elective 3 [Select any one]:

S. No.	Course Code	Course Name
1	BT-607	Bioinformatics (USBT)
2	BT-609	Waste to Energy(USBT)
3	BT-611	Biodiversity and Biotechnology (USBT)
4	EM-701	EIA & Risk Analysis (USEM)

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Semester 4

Serial no.	Course type	Course code	Course name	L	T	P	Credits	T/P	M/D	C/E	(U/NU)ES
1	Dissertation Phase 2	BT-652	Dissertation Phase 2	0	0	32	16	P	M	C	U
Total				0	0	32	16				

Note:

- 1) The programme of study shall be governed by ordinance 11 of the University.
- 2) Total credits for M.Tech. = 77 credits
Minimum credits required = 70 credits