



SIR PADAMPAT SINGHANIA UNIVERSITY

Udaipur

SCHOOL OF ENGINEERING

Course Curriculum of 2-Year M.Tech. Degree Programme

in

Biotechnology

(Specialization in Industrial Biotechnology)

(Batch: 2020- 2022)

Credit Structure

M.Tech. Core		M.Tech. Elective	
Category	Credits	Category	Credits
Departmental Core Subjects	51	Departmental Electives	14
Basic Sciences Subjects	4		
Total	55	Total	14
		Grand Total	69

Distribution of Total Credits and Contact Hours in all Semesters

S. No.	Semester Number	Credits/Semester	Contact hours/semester
1	I	20	24
2	II	20	24
3	III	17	25
4	IV	12	21
Total		69	--

**Course Structure: M. Tech 2020-2022
(Specialization in Industrial Biotechnology)**

Semester – I

S.No.	Course Code	Course Title	L	T	P	Credit(s)
1	BT-5001	Advanced Cell and Molecular Biology	3	0	0	3
2	BT-5002	Enzyme technology and industrial applications	3	0	0	3
3	BT-5003	Instrumentation methods	3	0	0	3
4	BT-5005	Advanced Microbiology	3	0	0	3
5	BT-5XXX	Departmental Elective-I	3	0	0	3
6	BT-5006	Enzyme technology and industrial applications Lab	0	0	2	2
7	BT-5007	Microbial Techniques Lab	0	0	2	2
8	BT-5010	Technical Writing Methodology	0	1	0	1
Total Credits						20
Total Contact hours/week						24

Semester – II

S.No.	Course Code	Course Title	L	T	P	Credit(s)
1	BT-5011	Advanced Genetic Engineering	3	0	0	3
2	BT-5012	Fermentation Technology	3	0	0	3
3	BT-5014	Separation Techniques & Downstream Processing	3	0	0	3
4	MA-5003	Biostatistics & Design of Experiments	3	1	0	4
5	BT-5XXX	Departmental Elective-II	3	0	0	3
6	BT-5015	Genetic engineering Lab	0	0	2	2
7	BT-5016	Fermentation Technology lab	0	0	2	2
Total Credits						20
Total Contact hours/week						24

Semester – III

S. No.	Course Code	Course Title	L	T	P	Credit(s)
1	BT-5017	Bioinformatics and Computational Biology	3	0	1	4
2	BT-5XXX	Departmental Elective-III	3	0	2	5
3	BT-5XXX	Departmental Elective-IV	3	0	0	3
4	BT-5100	Dissertation-I	0	0	5	5
Total Credits						17
Total Contact hours/week						25

Semester – IV

S.No.	Course Code	Course Title	L	T	P	Credit(s)
1	BT-5200	Dissertation-II	0	0	9	9
2	BT-5300	Dissertation Viva Voce	-	-	-	3
Total Credits						12
Total Contact hours/week						21

List of Departmental Elective(s) - I

S. No.	Course Code	Course Title	L	T	P	Credit
1	BT-5021	Genomics & Proteomics	3	0	0	3
2	BT-5022	Bioreactor Engineering	3	0	0	3
3	BT-5023	Bioprocess Modelling & Simulation	3	0	0	3

List of Departmental Elective(s) - II

S. No.	Course Code	Course Title	L	T	P	Credit
1	BT-5026	Applied Immunology & Vaccine Technology	3	0	0	3
2	BT-5027	Bioprocess Equipment Design	3	0	0	3
3	BT-5028	Entrepreneurship, IPR & Biosafety	3	0	0	3

List of Departmental Elective(s) - III

S. No.	Course Code	Course Title	L	T	P	Credit
1	BT-5042	Food Processing Technology	3	0	2	5
2	BT-5043	Environmental Biotechnology	3	0	2	5
3	BT-5044	Biopharmaceutical & Pharmaceutical Technology	3	0	2	5
4	BT-5045	Drug Design & Development	3	0	2	5

List of Departmental Elective(s) - IV

S. No.	Course Code	Course Title	L	T	P	Credit
1	BT-5046	Nanobiotechnology	3	0	0	3
2	BT-5047	Stem Cells Applications	3	0	0	3
3	BT-5048	Tissue Engineering	3	0	0	3