



Dr. D. Y. PATIL VIDYAPEETH, PUNE
(Deemed to be University)

PIMPRI, PUNE – 411 018

DR. D. Y. PATIL BIOTECHNOLOGY & BIOINFORMATICS INSTITUTE

TATHAWADE, PUNE

SYLLABUS FOR

M. TECH. (INTEGRATED) BIOTECHNOLOGY

2018-19

(As approved by the 44th Meeting of the BOM held on 28th March 2018)

DR. D.Y. PATIL VIDYAPEETH, PUNE
DR. D. Y. PATIL BIOTECHNOLOGY & BIOINFORMATICS INSTITUTE,
TATHAWADE, PUNE

COURSE STRUCTURE FOR M. TECH. (INTEGRATED) BIOTECHNOLOGY

SEMESTER I						
Course Code	Course Name	L	T	P	Hr	Cr
BS 101	Physics	3	0	2	5	4
BS 102	Chemistry	3	0	4	7	5
BT 101	Electronics & Instrumentation Engineering	2	0	2	4	3
BI 101	Computers & C Programming	2	0	4	6	4
HU 101	Communication Skills	1	2	0	3	3
BS 103	Maths I – Mathematics	3	0	0	3	3
Total		14	2	12	28	22
SEMESTER II						
Course Code	Course Name	L	T	P	Hr	Cr
BT 201	Biochemistry	3	0	4	7	5
BT 202	Cell Biology	3	0	2	5	4
BS 201	Maths II -Statistics	2	0	2	4	3
BT 203	Engineering Mechanics	2	0	2	4	3
BS 202	Environmental Sciences	2	0	2	4	3
BT 204	Engineering Graphics	1	0	2	3	2
HU 201	Disaster Management*	0	1	0	1	-
Total		13	1	14	28	20
*Audit course, attendance is COMPULSORY						
SEMESTER III						
Course Code	Course Name	L	T	P	Hr	Cr
BT 301	Analytical Techniques	3	0	4	7	5
BT 302	Microbiology & Virology	3	0	4	7	5
BT 303	Genetics	3	0	2	5	4
BI 301	Concepts in Bioinformatics	2	0	4	6	4

BT 304	Biosafety, Bioethics & IPR	2	0	0	2	2
Total		13	0	14	27	20
SEMESTER IV						
Course Code	Course Name	L	T	P	Hr	Cr
BT 401	Molecular Biology	3	0	4	7	5
BT 406	Animal Tissue culture	2	0	2	4	3
BT 403	Plant Biotechnology	3	0	4	7	5
BT 404	Immunology	3	0	2	5	4
BT 405	Developmental Biology	3	0	2	5	4
Total		14	0	14	28	21
SEMESTER V						
Course Code	Course Name	L	T	P	Hr	Cr
BT 501	Environmental Biotechnology	2	0	2	4	3
BT 502	Recombinant DNA Technology	3	0	4	7	5
BT 503	Biochemical Engineering & Bioprocess Technology	3	1	4	8	6
BT 504	Enzymology & Enzyme Technology	2	0	2	4	3
HU 501	Personality & Skill Development	2	0	0	2	2
BT 505/506/507	Elective-I	3	0	2	5	4
		15	1	14	30	23
Total						
Elective I (Biopharmaceuticals/ Clinical Research/ Human diseases & Pathobiology)						
SEMESTER VI						
Course Code	Course Name	L	T	P	Hr	Cr
BT 601	Food Biotechnology	3	0	2	5	4
BT 602	Marine Biotechnology	2	0	2	4	3
BT 603	Basic Pharmacology & Toxicology	2	1	0	3	3
BI 601	Molecular Modeling & Chemoinformatics	3	0	2	5	4
BT 605/606	Elective II	3	0	2	5	4
Total		13	1	8	22	18
Elective II (Perl & Bioperl / Structural Biology)						

SEMESTER VII						
Course Code	Course Name	L	T	P	Hr	Cr
BT 705	Molecular Cell Signaling	2	0	0	2	2
BT 701	Nanobiotechnology and Biosensors	2	0	2	4	3
HU 701	Principles of Management & Entrepreneurial Development	2	0	0	2	2
HU 702	Quality Control Management in Biotechnology	2	0	0	2	2
BI 701	Design and analysis of Algorithms	2	0	2	4	3
BT 702	Seminars in Biotechnology	2	0	0	2	2
BT 703/704	Elective-III	3	0	2	5	4
Total		15	0	6	21	18
Elective III (Metabolic Engineering/ Agriculture Biotechnology/Cancer Biology)						
Semester VIII						
Course Code	Course Name	L	T	P	Hr	Cr
BI 801	Simulation and Modeling	2	0	2	4	3
BT 801	Omics Technology	3	0	4	7	5
BT 802	Biomedical Engineering	2	1	0	3	3
BT 803	Stem Cell Technology	3	0	0	3	3
BT 804/ 805	Elective – IV	3	0	2	5	4
Total		13	1	8	22	18
Elective III (Tissue Engineering/ Molecular Diagnostics)						
Semester IX & X						
Research Project (10 months)		40 Credits				
TOTAL CREDITS		201				