



**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**

**B. TECH. BIOTECHNOLOGY**

**2018-19**

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

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

**COURSE STRUCTURE FOR B. TECH. BIOTECHNOLOGY**

<b>SEMESTER I</b>						
<b>Course Code</b>	<b>Course Name</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Hr</b>	<b>Cr</b>
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
<b>Total</b>		<b>14</b>	<b>2</b>	<b>12</b>	<b>28</b>	<b>22</b>
<b>SEMESTER II</b>						
<b>Course Code</b>	<b>Course Name</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Hr</b>	<b>Cr</b>
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	-
<b>Total</b>		<b>13</b>	<b>1</b>	<b>14</b>	<b>28</b>	<b>20</b>
<i>*Audit course, attendance is compulsory</i>						
<b>SEMESTER III</b>						
<b>Course Code</b>	<b>Course Name</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Hr</b>	<b>Cr</b>
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
<b>Total</b>		<b>13</b>	<b>0</b>	<b>14</b>	<b>27</b>	<b>20</b>

<b>SEMESTER IV</b>						
<b>Course Code</b>	<b>Course Name</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Hr</b>	<b>Cr</b>
BT 401	Molecular Biology	3	0	4	7	5
BT 402	Stem cells & 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
<b>Total</b>		<b>14</b>	<b>0</b>	<b>14</b>	<b>28</b>	<b>21</b>
<b>SEMESTER V</b>						
<b>Course Code</b>	<b>Course Name</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Hr</b>	<b>Cr</b>
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
<b>Total</b>		<b>15</b>	<b>1</b>	<b>14</b>	<b>30</b>	<b>23</b>
<b>Elective I (Biopharmaceuticals/ Clinical Research/ Human Diseases and Pathobiology)</b>						
<b>SEMESTER VI</b>						
<b>Course Code</b>	<b>Course Name</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Hr</b>	<b>Cr</b>
BT 601	Food Biotechnology	3	0	2	5	4
BT 602	Marine Biotechnology	2	0	2	4	3
BT 603	Basic Pharmacology & Toxicology	2	0	0	2	2
BT 604	Genomics, Transcriptomics and Proteomics	3	1	4	8	6
BT 605/606	Elective II	3	0	2	5	4
<b>Total</b>		<b>13</b>	<b>1</b>	<b>10</b>	<b>24</b>	<b>19</b>
<b>Elective II (Perl &amp; Bioperl / Structural Biology)</b>						
<b>SEMESTER VII</b>						
<b>Course Code</b>	<b>Course Name</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Hr</b>	<b>Cr</b>
BI 701	Molecular Modeling and Drug designing	2	0	4	6	4
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
BT 702	Seminars in Biotechnology	3	0	0	3	3
BT 703/704/705	ElectiveIII	3	0	2	5	4
<b>Total</b>		<b>14</b>	<b>0</b>	<b>8</b>	<b>22</b>	<b>18</b>
<b>Elective III (Metabolic Engineering/ Agriculture Biotechnology/Cancer Biology)</b>						
<b>Semester VIII</b>						
	<b>Research Project (5 months)</b>	<b>20 Credits</b>				
<b>TOTAL CREDITS</b>		<b>163</b>				