

**School of Biotechnology**  
**Integrated B.Tech. + M.Tech./MBA (Biotechnology) Programme**  
**[10 Semesters]**  
**(Up to Batch 2018)**

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**Semester 5**

Code	Course	L	T	P	Credits
<b>THEORY</b>					
BT301	Animal and Plant Tissue Culture	3	1	0	4
BT303	Developmental Biology	3	0	0	3
BT305	Industrial Microbiology	3	1	0	4
BT307	Biophysical Chemistry	3	0	0	3
--	Generic Elective	3	0	0	3
<b>PRACTICALS</b>					
BT313	Animal Tissue Culture lab	0	0	3	2
BT315	Plant Tissue Culture lab	0	0	3	2
BT317	Industrial Microbiology lab	0	0	3	2
	General Proficiency	0	0	0	0
	<b>Total credits</b>	<b>15</b>	<b>2</b>	<b>9</b>	<b>23</b>

**Generic Elective (GE):**

1. BT309 Entrepreneurship Development
2. BT311 Introductory Medical Microbiology

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**Semester 6**

Code	Course	L	T	P	Credits
<b>THEORY</b>					
BT302	Molecular Biology	3	0	0	3
BT304	Food Biotechnology	3	0	0	3
BT306	Virology	3	1	0	4
BT308	Environmental Biotechnology	3	1	0	4
BT310	Developments in Therapeutics	3	0	0	3
<b>PRACTICAL</b>					
BT312	Molecular Biology Lab	0	0	3	2
BT314	Food Biotechnology Lab	0	0	3	2
BT316	Environmental Biotechnology Lab.	0	0	3	2
	General Proficiency	0	0	0	0
<b>Total credits</b>		<b>15</b>	<b>2</b>	<b>9</b>	<b>23</b>

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**Semester 7**

Code	Course	L	T	P	Credits
<b>THEORY</b>					
BT501	Recombinant DNA technology	3	1	0	4
BT503	Principles of Immunology & Immunotechnology	3	1	0	4
BT505	Nano biotechnology	3	0	0	3
--	Discipline Specific Elective 1*	3	0	0	3
--	Discipline Specific Elective 2*	3	0	0	3
<b>PRACTICAL</b>					
BT511	Recombinant DNA technology lab	0	0	3	2
BT513	Immunology & Immunotechnology lab	0	0	3	2
	General Proficiency	0	0	0	0
<b>Total credits</b>		<b>15</b>	<b>2</b>	<b>6</b>	<b>21</b>

\*Students opting for MBA will have to choose courses offered by the School of Management

**Discipline Specific Elective (DSE) 1:**

1. FP301 Food Analysis and Quality Control
2. One Course offered by the School of Management

**Discipline Specific Elective (DSE) 2:**

1. BT507 Stem Cell Biology
2. BT509 Molecular Toxicology
3. One Course offered by the School of Management

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**Semester 8**

Code	Course	L	T	P	Credits
<b>THEORY</b>					
BT502	Genomics and Proteomics	4	0	0	4
BT504	Computational biology	3	0	0	3
BT506	Bioprocess Engineering & Technology	3	1	0	4
BT508	Vaccine Design & Development	3	1	0	4
--	Generic Elective	3	0	0	3
<b>PRACTICAL</b>					
BT514	Genomics and Proteomics lab	0	0	3	2
BT516	Computational Biology lab	0	0	3	2
BT518	Bioprocess Engineering & Technology lab	0	0	3	2
	General Proficiency	0	0	0	0
<b>Total credits</b>		<b>16</b>	<b>2</b>	<b>9</b>	<b>24</b>

**Generic Elective (GE):**

1. BT510 Regulation Ethics and Patenting in Biotechnology
2. FP507 Food Quality & Standards
3. ES504 Environmental Economics, Policies, Conservation & Legislations
4. BT512 Molecular Medicine

**After 8<sup>th</sup> semester:**

Code	Course	L	T	P	Credits
BT550	Summer Project	0	0	0	5
<b>Total credits</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>

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**Semester 9**

Code	Course	L	T	P	Credits
BT601	Research Methodology & Data Validation	3	0	0	3
<b>(Select any <i>three</i> papers)</b>					
BT603	Advanced Animal Biotechnology	3	0	0	3
BT605	Advanced Plant Biotechnology	3	0	0	3
BT607	Advanced Microbial Biotechnology	3	0	0	3
BT609	Industrial Environmental Biotechnology	3	0	0	3
<b>LABS (select any <i>Three</i> labs corresponding to the Theory course)</b>					
BT611	Animal Biotechnology lab	0	0	3	2
BT613	Plant Biotechnology lab	0	0	3	2
BT615	Microbial Biotechnology lab	0	0	3	2
BT617	Environmental Biotechnology lab	0	0	3	2
<b>PROJECTS</b>					
BT619	Dissertation I	0	0	0	5
	General Proficiency	0	0	0	0
<b>Total credits</b>		<b>12</b>	<b>0</b>	<b>9</b>	<b>23</b>

**Semester 10**

Code	Course	L	T	P	Credits
BT602	Dissertation-II	0	0	0	25
	General Proficiency	0	0	0	0
<b>Total credits</b>					<b>25</b>

\*General Proficiency (non-credit course) will be offered in each semester.

**Total Credits = 235**