

# NATIONAL INSTITUTE OF TECHNOLOGY SIKKIM

RAVANGLA CAMPUS

BIOTECHNOLOGY CURRICULUM 2016 - 20

3<sup>RD</sup> TO 8<sup>TH</sup> SEMESTER CORE COURSES

<b>Semester II</b>						
<b>No.</b>	<b>Code</b>	<b>Course</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
1	BT1001	Introduction to Life Sciences	2	0	0	2
<b>Total credit</b>			2	0	0	2

<b>Semester III</b>						
<b>No.</b>	<b>Code</b>	<b>Course</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
1	MA2001	Mathematics - III	3	1	0	3
2	BT2001	Advance Chemistry for Biotechnology	3	0	0	3
3	BT2002	Microbiology	3	0	0	3
4	BT2003	Biochemistry	3	1	0	3
5	BT2004	Thermodynamics in Biology	3	0	0	3
6	BT2005	Fluid Mechanics	3	0	0	3
7	BT2091	Microbiology Laboratory	0	0	3	2
8	BT2092	Biochemistry Laboratory	0	0	3	2
<b>Total credit</b>			18	2	6	22

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<b>Semester IV</b>						
<b>No.</b>	<b>Code</b>	<b>Course</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
1	MA2002	Mathematics - IV	3	1	0	3
2	BT2007	Process Calculation	3	0	0	3
3	BT2008	Bioprocess Principles	3	0	0	3
4	BT2009	Cell Biology	3	0	0	3
5	BT2010	Molecular Biology	3	0	0	3
6	BT2011	Biostatistics	3	0	0	3
7	BT2012	Principle of Heat Transfer	3	0	0	3
8	BT2093	Bioprocess Laboratory	0	0	3	2
9	BT2094	Molecular Biology Laboratory	0	0	3	2
<b>Total credit</b>			21	1	6	25

<b>Semester V</b>						
<b>No.</b>	<b>Code</b>	<b>Course</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
1	BT3013	Immunotechnology	3	0	0	3
2	BT3014	Bioreactor Design and Analysis	3	0	0	3
3	BT3015	Downstream Processing	3	0	0	3
4	BT3016	Instrumental Method and Analysis for Biotechnology	3	0	0	3
5	BT3017	Genetic Engineering	3	0	0	3
6	BT3018	Environmental Studies (Audit)	3	0	0	0
7	BT3095	Immunotechnology Laboratory	0	0	3	2
8	BT3096	Downstream Processing Laboratory	0	0	3	2
<b>Total credit</b>			18	0	6	19

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<b>Semester VI</b>						
<b>No.</b>	<b>Code</b>	<b>Course</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
1	BT3019	Bioinformatics	3	0	0	3
2	BT3020	Systems Biology	3	0	0	3
3	BT3021	Enzyme Kinetics & Technology	3	0	0	3
4	BT3022	Environmental Biotechnology	3	0	0	3
5	BT3023U	Elective - I	3	0	0	3
6	BT3097	Enzyme Technology Laboratory	0	0	3	2
7	BT3098	Bioinformatics Laboratory	0	0	3	2
<b>Total credit</b>			15	0	6	19

<b>Semester VII</b>						
<b>No.</b>	<b>Code</b>	<b>Course</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
1	ME4104	Principle of Management & Entrepreneurship	3	0	0	3
2	BT4024	Ethics and Regulatory Issue in Biotechnology	2	0	0	2
3	BT4025	Structural Biology	3	0	0	3
4	BT4026V	Elective - II	3	0	0	3
5	BT4027W	Elective - III	3	0	0	3
6	BT4099	Project Phase - I	0	0	6	3
<b>Total credit</b>			14	0	6	17

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<b>Semester VIII</b>						
<b>No.</b>	<b>Code</b>	<b>Course</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
1	MS4003	Principle of Economics	3	0	0	3
2	BT4028X	Elective - IV	3	0	0	3
3	BT4029Y	Elective - V	3	0	0	3
4	BT4030Z	Elective - VI	3	0	0	3
5	BT4091	Project Phase - II	0	0	10	5
6	BT4092	Seminar	0	0	2	1
<b>Total credit</b>			12	0	12	18