



JSS MAHAVIDYAPEETHA
JSS SCIENCE & TECHNOLOGY UNIVERSITY, MYSURU
SRI JAYACHAMARAJENDRA COLLEGE OF ENGINEERING, MYSURU

SCHEME III TO VIII SEMESTER: 2017-2018

DEPARTMENT OF BIOTECHNOLOGY
Scheme of Teaching and Examination for B.E (Biotechnology)

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SEMESTERS	CREDITS
I	25
II	25
III	26
IV	30
V	26
VI	26
VII	24
VIII	18
Total	200

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SEMESTER:III

Sl. No	Subject code	Course title	Teaching department	CREDITS				Contact hours	Marks			Exam duration in hrs
				L	T	P	TOTAL		CIE	SEE	Total	
1	MA310	Engineering mathematics	Maths	4	-	-	4	4	50	50	100	3
2	BT310	Biochemistry	BT	4	-	-	4	4	50	50	100	3
3	BT320	Cell biology & Genetics	BT	4	-	-	4	4	50	50	100	3
4	BT330	Microbiology	BT	4	-	-	4	4	50	50	100	3
5	BT340	Momentum Transfer and Mechanical Operations	BT	4	-	-	4	4	50	50	100	3
6	BT35L	Biochemistry Lab.	BT	-	-	2	2	3	50	-	50	3
7	BT36L	Cell Biology & Genetics Lab.	BT	-	-	2	2	3	50	-	50	-
8	BT37L	Microbiology Lab.	BT	-	-	2	2	3	50	-	50	-
		CIP										
		Total credits		20	-	6	26	29	Total marks		650	

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SEMESTER: IV

Sl. No	Subject code	Course title	Teaching department	CREDITS				Contact hours	Marks			Exam duration in hrs
				L	T	P	TOTAL		CIE	SEE	Total	
1	BT410	Advanced Programming (Linux & Perl)	BT/CS	4	-	-	4	4	50	50	100	3
2	BT420	Biological Thermodynamics and Metabolism	BT	4	-	-	4	4	50	50	100	3
3	BT430	Bioprocess Engineering & Stoichiometry	BT	4	-	-	4	4	50	50	100	3
4	BT440	Enzyme Technology	BT	4	-	-	4	4	50	50	100	3
5	BT450	Heat and Mass Transfer Operations	BT	4	-	-	4	4	50	50	100	3
6	BT460	Molecular Biology	BT	4	-	-	4	4	50	50	100	3
7	BT47L	Enzyme Technology lab	BT	-	-	2	2	3	50	-	50	-
8	BT48L	Molecular Biology lab	BT	-	-	2	2	3	50	-	50	-
9	BT49L	Unit operations Lab	BT	-	-	2	2	3	50	-	50	-
Total credits				24	-	6	30	33	Total marks		750	

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SEMESTER: V

Sl. No	Subject code	Course title	Teaching department	CREDITS				Contact hours	Marks			Exam duration in hrs
				L	T	P	TOTAL		CIE	SEE	Total	
1	BT510	Animal and Plant cell culture and Tissue Engineering	BT	4	-	-	4	4	50	50	100	3
2	BT520	Bioseparations and analytical Techniques	BT	4	-	-	4	4	50	50	100	3
3	BT530	Genetic Engineering	BT	4	-	-	4	4	50	50	100	3
4	BT540	Immunotechnology	BT	4	-	-	4	4	50	50	100	3
5	BT550	Pharmaceutical Biotechnology	BT	4	-	-	4	4	50	50	100	3
6	BT56L	Bioseparations and analytical Techniques lab	BT	-	-	2	2	3	50	-	50	-
7	BT57L	Plant Biotechnology Lab	BT	-	-	2	2	3	50	-	50	-
8	BT58	Foreign language (French/German/Japanese)		2	-		2	2				
		Total credits		22	-	4	26	28	Total marks		600	

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SEMESTER: VI

Sl. No	Subject code	Course title	Teaching department	CREDITS				Contact hours	Marks			Exam duration in hrs
				L	T	P	TOTAL		CIE	SEE	Total	
1	BT610	Bioethics and Biosafety	BT	3	-	-	3	3	50	50	100	3
2	BT620	Bioreaction Engineering and Bioreactor Design	BT	4	-	-	4	4	50	50	100	3
3	BT630	Genomics and Proteomics	BT	4	-	-	4	4	50	50	100	3
4	BT640	Microbial Biotechnology	BT	4	-	-	4	4	50	50	100	3
5	BT65X	Elective – 1	BT	4	-	-	4	4	50	50	100	3
6	BT66L	Bioreactor Design and Biokinetics Lab	BT	-	-	2	2	3	50	-	50	3
7	BT67L	Immunotechnology Lab.	BT	-	-	2	2	3	50	-	50	-
8	BT68L	Microbial Biotechnology Lab	BT	-	-	2	2	3	50	-	50	-
7	BT690	Technical seminar	BT	1	-	-	1	1	50	-	50	-
		Total credits		20	-	6	26	29	Total marks		700	

Elective-1:

Sl. No	Subject code	Course title
1	BT651	Economics and Plant design
2	BT652	Food Processing Technology
3	BT653	Forensic Science
4	BT654	Metabolic Engineering

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SEMESTER: VII

Sl. No	Subject code	Course title	Teaching department	CREDITS				Contact hours	Marks			Exam duration in hrs
				L	T	P	TOTAL		CIE	SEE	Total	
1	BT710	Bioinformatics	BT	4	-	-	4	4	50	50	100	3
2	BT720	Bioprocess Modeling and Statistics	BT	4	1	-	5	6	50	50	100	3
3	BT730	Bioprocess Instrumentation and Process control	BT	4	-	-	4	4	50	50	100	3
4	BT74X	Elective – 2	BT	4	-	-	4	4	50	50	100	3
5	BT75L	Bioinformatics Lab.	BT	-	-	2	2	3	50	50	50	-
6	BT76L	Bioprocess control Lab.	BT	-	-	2	2	3	50	-	50	-
7	BT77	Technical Visit & Report Preparation	BT	1	-	-	1	1	50	-	50	-
8	BT78	Mini project	BT	-	-	2	2	2	50	-	50	-
Total credits				17	-	6	24	27	Total marks		600	

Biotech Management, Marketing and IPR

Elective-2:

	Subject code	Course Title
1	BT741	Dairy Biotechnology
2	BT742	Industrial safety, health and environment management
3	BT743	Nano Biotechnology
4	BT744	Transport Phenomena

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SEMESTER: VIII

Sl. No	Subject code	Course title	Teaching department	CREDITS				Contact hours	Marks			Exam duration in hrs
				L	T	P	TOTAL		CIE	SEE	Total	
1	BT810	Biotech Management, Marketing and IPR	BT	4	-	-	4	4	50	50	100	3
2	BT820 X	Elective – 3	BT	4	-	-	4	4	50	50	100	3
3	BT830	Project Work	BT	-	-	10	10		100	100	250	3
Total credits				8		10	18		Total marks		450	

Elective-3:

Sl. No	Subject code	Course title
1	BT821	Biomaterials
2	BT822	Biosensor and Bioinstrumentation
3	BT823	Environmental Biotechnology
4	BT824	Clinical Research Management