

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2016-2017
M.Tech. in -BIOTECHNOLOGY

I Semester

CREDIT BASED

Subject Code	Name of the Subject	Teaching hours/week		Duration of Exam in Hours	Marks for		Total Marks	CREDITS
		Lecture	Practical / Field Work / Assignment		I.A.	Exam		
16BBT11/1 6BBC11/16 IBT11	Numerical Methods and Biostatistics	4	-	3	20	80	100	4
16BBT12/1 6BBC12	Concepts in Biotechnology	4	--	3	20	80	100	4
16BBT13/1 6BBC13	Principles of Biochemical Engineering	4	--	3	20	80	100	4
16BBT14	Biomolecules and Molecular Biology	4	--	3	20	80	100	4
16BBT15X	ELECTIVE - 1	3	--	3	20	80	100	3
16BBTL16	Chemical Engineering and Molecular Biology Lab	--	3	3	20	80	100	2
16BBT17	SEMINAR	--	3	--	100	--	100	1
Total		19	6	18	220	480	700	22

ELECTIVE – 1	
16BBT15 1	Enzyme Technology
16BBT15 2	Analytical Techniques
16BBT15 3	Immunotechnology
16BBT15 4	Genetic Engineering Techniques

- Core subject:** This is the course which is compulsorily to be studied by a student as a core requirement to complete the requirement of a programme in a said discipline of study.

2. **Elective:** This is the course, which can be chosen from the pool of papers. It may be supportive to the discipline/providing extended scope/enabling an exposure to some other discipline/domain/nurturing students proficiency skills.

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II Semester

CREDIT BASED

Subject Code	Name of the Subject	Teaching hours/week		Duration of Exam in Hours	Marks for		Total Marks	CREDITS
		Lecture	Practical / Field Work / Assignment/ Tutorials		I.A.	Exam		
16BBT21	Industrial Biotechnology	4	--	3	20	80	100	4
16BBT22	Advanced Bioinformatics	4	--	3	20	80	100	4
16BBT23	Agricultural Biotechnology	4	--	3	20	80	100	4
16BBT24	Environmental Biotechnology	4	--	3	20	80	100	4
16BBT25X	ELECTIVE – 2	3	--	3	20	80	100	3
16BBTL26	Industrial Biotechnology Lab	--	3	3	20	80	100	2
16BBT27	SEMINAR	--	3	--	100	--	100	1
Total		19	6	18	220	480	700	22

ELECTIVE – 2	
16BBT25 1	Food Biotechnology
16BBT25 2	Clinical Biotechnology
16 BT253	Pharmaceutical Biotechnology

16BBT25 4	Systems Biology
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III Semester

CREDIT BASED

Course Code	Subject	No. of Hrs./Week		Duration of the Exam in Hours	Marks for		Total Marks	CREDITS
		Lecture	Practical / Field Work		I.A.	Exam		
16BBT31	Seminar/Presentation on Internship	-	-	-	25		25	20
16BBT32	Report on Internship.	-	-	-	25		25	
16BBT33	Evaluation and Viva on Internship				50	50	100	
16BBT34	Evaluation of Project Phase: I	-	-	-	50		50	1
	Total	-	-	-	150		200	21

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IV Semester

CREDIT BASED

Subject Code	Subject	No. of Hrs./Week		Duration of Exam in Hours	Marks for		Total Marks	CREDITS
		Lecture	Field Work / Assignment		I.A.	Exam		
16BBT41/1 6BBC41/16 BI41/16IBT 41	Research methodology Biosafety and IPR	4	--	3	20	80	100	4
16BBT42X	ELECTIVE – 3	3	--	3	20	80	100	3
16BBT43	Evaluation of Project Phase-II	-	-	-	50	-	50	3
16BBT44	Evaluation of Project Work and Viva-voce.	-	-	3	-	100+100	200	10
Total		7	-	09	90	360	450	20
Grand Total (I to IV Sem.) : 2050 Marks; 85 Credits								

ELECTIVE – 3	
16BBT421	Metabolic Engineering
16BBT422/16BBC422	QC, QA & Validation
16BBT423/16BBC423	Industrial Economics
16BBT424/16BBC424	Entrepreneur Development

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