

First Semester

S. NO.	CODE	SUBJECT	TEACHING SCHEME			CREDITS	CONTACT HR/WK
			L	T	P		
1.	DHM1001	Applied Mathematics-I	3	1	0	4	4
2.	BCHS0101	Engineering Chemistry	3	1	0	4	4
3.	BELH0001	English Language skill for communication-I	2	0	0	2	2
4.	BEEG0001	Electrical Engineering	3	1	0	4	4
5	BCSG0001	Python programming	4	1	0	5	5
PRACTICALS							
6	BCHS0801	Engg. Chemistry Lab	0	0	2	1	2
7	BELH0801	English Language Lab - I	0	0	2	1	2
8	BEEG0800	Electrical Engg. Lab -I	0	0	2	1	2
9	BCSG0800	Python programming Lab	0	0	2	1	2
10	BMEG0801	Engg. Drawing Lab	0	0	2	1	2
TOTAL			15	4	10	24	29

Second Semester

S. NO.	CODE	SUBJECT	TEACHING SCHEME			CREDITS	CONTACT HR/WK
			L	T	P		
1.	DHM2001	Applied Mathematics – II	3	1	0	4	4
2.	BPHS0001	Engg Physics	3	1	0	4	4
3.	BELH0002	English Language skill for communication-II	2	0	0	2	2
4.	BECG001	Electronic Engineering	3	1	0	4	4
6	BCEG0001	Basic Mechanical Engineering	3	1	0	4	4
5	BBTC0001	Introduction to Biology	3	1	0	4	4
PRACTICALS							
6	BPHS0801	Engg Physics Lab	0	0	2	1	2
7	BELH0802	English Language Lab - II	0	0	2	1	2
8	BECG0800	Electronic Engg Lab - I	0	0	2	1	2
9	BBTC0801	Biology lab	0	0	3	2	3
10	BMEG0800	Engineering Workshop Practices Lab	0	0	2	1	2
TOTAL			17	5	11	28	33

Program Core

S. NO.	CODE	SUBJECT	TEACHING SCHEME			CREDITS	CONTACT HR/WK
			L	T	P		
1.	BBTC0002	Cell Biology	3	0	0	3	3
2.	BBTC0003	Biomolecules	3	0	0	3	3
3.	BBTC0004	Biochemistry	3	0	0	3	3
4.	BBTC0005	Bioanalytical techniques	3	0	0	3	3
5.	BBTC0006	Microbiology	3	0	0	3	3
6.	BBTC0007	Genetics & Molecular Biology	3	0	0	3	3
7.	BBTC0008	Recombinant DNA Technology	3	0	0	3	3
8.	BBTC0009	Computational Molecular Biology	3	0	0	3	3
9.	BBTC0010	Immunology	3	0	0	3	3
10.	BBTC0011	Biochemical & Bioprocess Engineering	3	0	0	3	3
11.	BBTC0012	Genomics & Proteomics	3	0	0	3	3
12.	BBTC0013	Animal, Human, and Plant Biotechnology	3	0	0	3	3
13.	BBTC0014	Bioethics & IPR	3	0	0	3	3
14.	BBTC0015	Food Biotechnology	3	0	0	3	3
PRACTICALS							
15.	BBT0802	Biochemistry Lab	0	0	2	1	2
16.	BBT0803	Bioanalytical techniques Lab	0	0	2	1	2
17.	BBT0804	Microbiology & Immunology Lab	0	0	2	1	2
18.	BBT0805	Genetics & Molecular Biology Lab	0	0	2	1	2
19.	BBT0806	Computational Molecular Biology Lab	0	0	2	1	2
20.	BBT0807	RDT Lab	0	0	2	1	2
TOTAL			42	0	12	48	54

Program Electives*

S. NO.	CODE	SUBJECT	TEACHING SCHEME			CRED ITS	CONTACT HR/WK
			L	T	P		
BOUQUET: GENETIC ENGINEERING							
THEORY							
1.	BBTE0006	Advanced Recombinant DNA Technology	3	0	0	3	3
2.	BBTE0007	Microbial Biotechnology	3	0	0	3	3
3.	BBTE0008	Protein Engineering	3	0	0	3	3
4.	BBTE0009	Advanced Molecular Techniques	3	0	0	3	3
5.	BBTE0010	Virology/Molecular Medicine	3	0	0	3	3
6.	BBTE0011	Molecular Diagnostics & Therapeutics	3	0	0	3	3
PRACTICALS							
7.	BBT0813	Advanced Recombinant DNA Technology Lab	0	0	2	1	2
8.	BBT0814	Microbial Biotechnology Lab	0	0	2	1	2
9.	BBT0815	Molecular Diagnostics & Therapeutics Lab	0	0	2	1	2

* A minimum of two program electives from each bouquet be taken by students

S. NO.	CODE	SUBJECT	TEACHING SCHEME			CRED ITS	CONTACT HR/WK
			L	T	P		
BOUQUET: INDUSTRIAL BIOTECHNOLOGY							
THEORY							
1.	BBTE0012	Industrial Enzymology	3	0	0	3	3
2.	BBTE0013	Food Biotechnology	3	0	0	3	3
3.	BBTE0014	Industrial waste management	3	0	0	3	3
4.	BBTE0015	Fermenter and Bioreactor designing	3	0	0	3	3
5.	BBTE0016	Downstream Processing	3	0	0	3	3
6.	BBTE0017	Biopharmaceuticals and vaccinology	3	0	0	3	3
PRACTICALS							
7.	BBT0816	Fermenter, Bioreactor designing and Downstream Processing Lab	0	0	2	1	2
8.	BBT0817	Food and Industrial Enzymology Lab	0	0	2	1	2
9.	BBT0818	Biopharmaceutical and Industrial waste management Lab	0	0	2	1	2

* A minimum of two program electives from each bouquet be taken by students

Program Electives

S. NO.	CODE	SUBJECT	TEACHING SCHEME			CRED ITS	CONTACT HR/WK
			L	T	P		
BOUQUET: BIOINFORMATICS							
THEORY							
1.	BBTE0001	Computer Aided Drug Designing	3	0	0	3	3
2.	BBTE0002	Algorithms for Biology	3	0	0	3	3
3.	BBTE0003	System & Synthetic Biology	3	0	0	3	3
4.	BBTE0004	Biological Data Mining	3	0	0	3	3
5.	BBTE0005	Bio python	3	0	0	3	3
6.	BBTE0006	Proteomics & Transcriptomics	3	0	0	3	3
PRACTICALS							
7.	BBT0810	Computer Aided Drug Designing Lab	0	0	2	1	2
8.	BBT0811	System & Synthetic Biology Lab	0	0	2	1	2
9.	BBT0812	Bio python Lab	0	0	2	1	2

* A minimum of two program electives from each bouquet be taken by students

Program Electives

S. NO.	CODE	SUBJECT	TEACHING SCHEME			CRED ITS	CONTACT HR/WK
			L	T	P		
BOUQUET: COMPUTER & INFORMATION TECHNOLOGY							
THEORY							
1.	BCSC0003	Database Management System	3	0	0	3	3
2.	BCSC0006	Data Structures & Algorithms	3	0	0	3	3
3.	BCSE0104	Artificial Intelligence	3	0	0	3	3
4.	BCSE0105	Introduction to Machine Learning	3	0	0	3	3
5.	BCSE0155	Big Data Analytics	3	0	0	3	3
6.	BCSE0157	Natural Language Processing	3	0	0	3	3
PRACTICALS							
7.	BCSC0802	Database Management System Lab	0	0	2	1	2
8.	BCSC0805	Data Structures & Algorithms Lab	0	0	2	1	2
9.	BCSE0182	Big Data Analytics Project	0	0	2	1	2
10.	BCSE0133	Machine Learning Project	0	0	2	1	2

* A minimum of two program electives from each bouquet be taken by students

Project

S. NO.	CODE	SUBJECT	TEACHING SCHEME			CREDITS	CONTACT HR/WK
			L	T	P		
1.	BBTJ001	Mini Project - I	0	0	0	2	0
2.	BBTJ002	Mini Project - II	0	0	0	2	0
3.	BBTJ003	Project – Part I	0	0	0	3	0
4.	BBTJ004	Project – Part II	0	0	0	8	0
5	BBTJ0801	Industrial Training	0	0	0	2	0

Mandatory Non Graded Courses

S. NO.	CODE	SUBJECT	TEACHING SCHEME			UNIT	CONTACT HR/WK
			L	T	P		
1.	BCSM0001	Introduction to Cyber Security	2	0	0	2	2
2.	BCHM0101	Disaster Management	2	0	0	2	2
3.	MBAM0001	Basic Courses in Entrepreneurship	2	0	0	2	2
4.	MBAM0002	Leadership And Organizational Behaviour	2	0	0	2	2

Humanities & Social Sciences

S. NO.	CODE	SUBJECT	TEACHING SCHEME			CRED ITS	CONTACT HR/WK
			L	T	P		
1.	BELH0001	English Language skill for communication-I	2	0	0	2	2
2.	BELH0002	English Language skill for communication-II	2	0	0	2	2
3.	BELH0003	English for Professional Purpose - I	2	0	0	2	2
4.	BELH0004	English for Professional Purpose - II	2	0	0	2	2
5.	BELH0006	Ethics & Values	2	0	0	2	2
6.	MBAC0005	Industrial Management	3	0	0	3	3
PRACTICALS							
7.	BELH0801	English Language Lab - I	0	0	2	1	2
8.	BELH0802	English Language Lab - II	0	0	2	1	2
9.	BTDH0301	Soft Skills – I	0	0	2	1	2
10.	BTDH0302	Soft Skills - II	0	0	2	1	2
11.	BTDH0303	Soft Skills -III	0	0	8	4	8
12.	BTDH0304	Soft Skills - IV	0	0	8	4	8
TOTAL			13	0	24	25	37

Basic Sciences

S. NO.	CODE	SUBJECT	TEACHING SCHEME			CRED ITS	CONTACT HR/WK
			L	T	P		
1.	DHM1001	Applied Mathematics – I	3	1	0	4	4
2.	DHM2001	Applied Mathematics – II	3	1	0	4	4
3.	BMAS0501	Biostatistics	3	1	0	4	4
3.	BCHS0101	Engineering Chemistry	3	1	0	4	4
4.	BPHS0001	Engineering Physics	3	1	0	4	4
5.	BCHS0201	Environmental Studies	2	0	0	2	2
6.	BBTC0001	Introduction to Biology	3	1	0	4	4
PRACTICALS							
6.	BCHS0801	Engg. Chemistry Lab	0	0	2	1	2
7.	BPHS0801	Engg. Physics Lab	0	0	2	1	2
8.	BBTC0801	Biology lab	0	0	3	2	3
TOTAL			20	6	7	30	33

Engineering Sciences

S. NO.	CODE	SUBJECT	TEACHING SCHEME			CRED ITS	CONTACT HR/WK
			L	T	P		
1.	BEEG0001	Electrical Engineering	3	1	0	4	4
2.	BECG0001	Electronics Engineering	3	1	0	4	4
3.	BCSG0001	Python programming	4	1	0	5	5
4.	BCEG0001	Basic Mechanical Engineering	3	1	0	4	4
PRACTICALS							
5.	BEEG0800	Electrical Engineering Lab	0	0	2	1	2
6.	BECG0800	Electronics Lab	0	0	2	1	2
7.	BCSG0800	Python programming Lab	0	0	2	1	2
8.	BMEG0800	Engineering Workshop Practise Lab	0	0	2	1	2
9.	BMEG0801	Engg. Drawing Lab	0	0	2	1	2
TOTAL			13	4	10	22	27

Open Electives (to be offered to other Department)

For interdisciplinary knowledge, 16 Credits of Open Electives subjects shall be taken by the students of B.Tech. (Biotech.). These electives shall be offered by other departments of University.

However, following are the detail of Open Elective subjects to be offered from Bio-Technology department

S. NO.	CODE	SUBJECT	TEACHING SCHEME			CRED ITS	CONTACT HR/WK
			L	T	P		
THEORY							
1	BCHO0101	Nonmaterial & Nanotechnology	3	2	0	4	5
2.	BCHO0106	Toxicology	3	0	0	3	3
3	BBTO0001	Introduction to Health-IT	4	0	0	4	4
4	BCHO0105	Sociological Impact of Medicinal chemistry	2	0	2	3	4