Programme: B. Sc. Biotechnology

PROGRAMME OUTCOMES (PO's)

PO1: Graduate Attributes

A graduate student shall be able to develop skill and acquire knowledge in fundamentals of Chemistry, Biology and will develop disciplinary theory and practical knowledge in the diversified areas of Biochemistry. The students are given fundamentals in each course and they are encouraged to become unique by allowing them to perform experiments in the areas of their interest. This will enable the students to equip themselves with the basic practical training in different areas of Biochemistry having various Biomolecules, nature and their structure and function. To take up further specialized Master level courses in these areas or to take up suitable assignments/jobs in Biotech/Biochemical industries. The students shall enjoy the academic freedom which will bring out the best from each student. These attributes are elaborated as under:

PO2: Disciplinary Knowledge:

a) Ability to understand fundamental concepts of biology, chemistry and biochemistry.
b) Ability to apply basic principles of chemistry to biological systems and molecular biology.
c) Ability to relate various interrelated physiological and metabolic events.
d) A general awareness of current developments at the forefront in biotechnology, biochemistryand allied subjects.
e) Ability to critically evaluate a problem and resolve to challenge blindly accepted concepts.
f) Zeal and ability to work safely and effectively in a laboratory.
g) Good experimental and quantitative skills encompassing preparation of laboratory reagents,conducting experiments, satisfactory analyses of data and interpretation of results.
h) Awareness of resources, and their conservation.
i) Ability to think laterally and in an integrating manner and develop interdisciplinary approach.
j) Overall knowledge of the avenues for research and higher academic achievements in the field ofBiotechnology and allied subjects

B. Sc. Biotechnology (Syllabus as amended Under NEP-2020)

SEMESTER-I					
Paper code	**Courses offered (Core course)**	**Course Name**	**C redit**		**Max Marks**
			Theory	**Practical***	

BBT – 1001	CC-1	Chemistry	4		100
BBT – 1001P	Practical-1	Chemistry Practical		2	100
BBT – 1002	CC-2	Cell Biology	4		100
BBT – 1001P	Practical-2	Cell Biology Practical		2	100
BBT – 1003/AECC-01	Ability Enhancement Compulsory Course	English Communication-I	4		100
BBT – 1004/GE01	Generic Elective (elect any one)	1004(A): Biotechnology and Human Welfare	4		100
		1004(B): I.P.R Entrepreneurship Bioethics & Biosafety	4		100
Total			**20**		**600**
SEMESTER-II					
Paper code	**Courses offered (Core course)**	**Course Name**	**Theory**	**Practical***	
BBT – 2001	CC-3	Mammalian Physiology	4		100
BBT – 2001P	Practical-3	Mammalian Physiology Practical		2	100
BBT – 2002	CC-4	Plant Physiology	4		100
BBT – 2001P	Practical-4	Plant Physiology Practical		2	100
BBT – 2003/AECC-01	Ability Enhancement Compulsory Course	Environmental Sciences	4		100
BBT – 2004/GE02	Generic Elective (elect any one)	2004 (A): Gene Organization, Expression and Regulation	4		100
		2004 (B): Development Biology	4		100
Total			**20**		**600**
SEMESTER-III					
Paper code	**Courses offered (Core course)**	**Course Name**	**Theory**	**Practical***	
BBT – 3001	CC-5	General Biochemistry	4		100
BBT – 3001P	Practical-5	General Biochemistry Practical		2	100

BBT – 3002	CC-6	General Microbiology	4		100
BBT – 3002P	Practical-6	General Microbiology Practical		2	100
BBT – 3003	CC-7	Genetics	4		100
BBT – 3003P	Practical-7	Genetics Practical		2	100
BBT - 3004/SEC-01	Skill Enhancement Course	Enzymology	4		100
Total			**22**		**700**
SEMESTER-IV					
Paper code	**Courses offered (Core course)**	**Course Name**	**Theory**	**Practical***	
BBT – 4001	CC-8	Bioanalytical Tools	4		100
BBT – 4001P	Practical-8	Bioanalytical Tools Practical		2	100
BBT – 4002	CC-9	Intermediary Metabolism	4		100
BBT – 4002P	Practical-9	Intermediary Metabolism Practical		2	100
BBT – 4003	CC-10	Immunology	4		100
BBT – 4003P	Practical-10	Immunology Practical		2	100
BBT - 4004/SEC-02	Skill Enhancement Course	Molecular diagnostics	4		100
Total			**22**		**700**
SEMESTER-V					
Paper code	**Courses offered (Core course)**	**Course Name**	**Theory**	**Practical***	
BBT – 5001	CC-11	Molecular Biology	4		100
BBT – 5001P	Practical-11	Molecular Biology Practical		2	100
BBT – 5002	CC-12	Biostatistics	4		100
BBT – 5002P	Practical-12	Biostatistics Practical		2	100
BBT – 5003	Discipline Specific Elective (elect any two)	Animal Biotechnology	4		100
BBT – 5004		Environmental Biotechnology	4		100

BBT -4005		Microbial Biotechnology	4		100
Total			**20**		**600**
SEMESTER-VI					
Paper code	**Courses offered (Core course)**	**Course Name**	**Theory**	**Practical***	
BBT – 6001	CC-13	Recombinant DNA Technology	4		100
BBT – 6001P	Practical-13	Recombinant DNA Technology Practical		2	100
BBT – 6002	CC-14	Genomics and Proteomics	4		100
BBT – 6002P	Practical-14	Genomics and Proteomics Practical		2	100
BBT – 6003	Discipline Specific Elective (elect any two)	Plant Biotechnology	4		100
BBT – 6004		Bioinformatics	4		100
BBT - 6005		Bioprocess Technology	4		100
Total			**20**		**600**
SEMESTER-VII					
Paper code	**Courses offered (Core course)**	**Course Name**	**Theory**	**Practical***	
In addition com plete any THREE optional subject: BBT-7001(A)/(B)/(C)/(D)					
BBT – 7001 (A)	CC-15	Applied Biotechnology	4		100
BBT – 7001 (A)P		Practical		2	100
BBT – 7001 (B)		Applied Biochemistry	4		100
BBT – 7001 (B)P		Practical		2	100
BBT – 7001 (C)		Applied Microbiology	4		100
BBT – 7001 (C)P		Practical		2	100
BBT – 7001 (D)		Applied Food Technology	4		100

BBT – 7001 (D)P		Practical		2	100
BBT – 7002	CC-16	Research Methodology	4		100
Total			**22**		**700**
SEMESTER VIII					
Paper code	**Courses offered (Core course)**	**Course Name**	**Theory**	**Practical***	**Theory**
Develop the skil l required to completed a substantial original research project					
BBT-8001	CC-17	Research Project		20	700
Total				20	700
Grand Total			**166**		**5200**

Table 3: List of Courses