

B.Sc. HONOURS BIOTECHNOLOGY

CURRICULUM STRUCTURE

SEMESTER 1

Sl. No	Course Code	Course Title	Credits
1	25MIC101	INTRODUCTORY BIOLOGY	3
2	25CHY105	CHEMISTRY	4
3	25ENG100	ENGLISH	3
4	25MIC102	INTRODUCTORY MICROBIOLOGY	3
5	25PHY106	PHYSICS	4
6	22ADM101	FOUNDATIONS OF INDIAN HERITAGE	2
7	22AVP103	MASTERY OVER MIND (MAOM)	2
8	25MIC181	INTRODUCTORY MICROBIOLOGY LAB	2
Total Credits			23

SEMESTER 2

Sl. No	Course Code	Course Title	Credits
1	25BIO112	PRINCIPLES OF ECOLOGY AND EVOLUTION	3
2	25BIO111	BIOCHEMISTRY	3
3	25ENG110	ENGLISH-CREATIVE WRITING & SOFT SKILLS	3
4	25CSA113	INFORMATION SYSTEMS	3
5	25MAT114	MATHEMATICS	4
6	22ADM111	GLIMPSES OF GLORIOUS INDIA	2
7	25PHY184	PHYSICAL SCIENCES LAB	2
8	25BIO181	BIOCHEMISTRY LAB	2
Total Credits			22

SEMESTER 3

Sl. No	Course Code	Course Title	Credits
1	25BIO201	MOLECULAR BIOLOGY	3
2	25MAT204	BIOSTATISTICS	3
3	25BIO203	PLANT BIOLOGY	4
4	25BIO205	ANALYTICAL BIOCHEMISTRY	3
5	25MIC202	VIROLOGY	3

6	25BIF201	INTRODUCTORY BIOINFORMATICS	3
7	22ADM201	AMRITA VALUE PROGRAMME I (STRATEGIC LESSONS FROM MAHĀBHĀRATA)	1
8	25MIC281	GENERAL MICROBIOLOGY LAB	2
9	25BIO282	CELL AND MOLECULAR BIOLOGY LAB	2
Total Credits			24

SEMESTER 4

Sl. No	Course Code	Course Title	Credits
1	25BIO216	HUMAN PHYSIOLOGY	4
2	25BIO211	GENETICS	3
3	25BIO212	IMMUNOLOGY	3
4	25BIO213	ENZYME TECHNOLOGY	3
5	25BIO214	CELL BIOLOGY	3
6	25BIO215	INTRODUCTORY BIOPHYSICS	2
7	25SSK201	SOFT SKILLS- I	1
8	22ADM211	AMRITA VALUE PROGRAMME II (LEADERSHIP FROM RĀMĀYANA)	1
9	25BIO283	IMMUNOLOGY LAB	2
10	25BIO284	ENZYMOMOLOGY LAB	2
Total Credits			24

SEMESTER 5

Sl. No	Course Code	Course Title	Credits
1	25BIF302	PYTHON FUNDAMENTALS FOR BIOLOGISTS	3
2	25BIO302	OMES AND OMICS	3
3	25BIO303	BIOENERGETICS AND METABOLISM	3
4	25BIO304	INDUSTRIAL & ENVIRONMENTAL BIOTECHNOLOGY	3
5	25BIO300	RESEARCH METHODOLOGY	2
6	25BIO390*	LIVE-IN-LABS*/OPEN ELECTIVE	3
7	25SSK301	SOFTSKILLS - II	1
8	25BIO381	INDUSTRIAL BIOTECHNOLOGY LAB	2
Total Credits			20

SEMESTER 6

Sl. No	Course Code	Course Title	Credits
1	25BIO311	PHARMACOLOGY	4
2	25BIO312	DEVELOPMENTAL BIOLOGY	3
3	25BIO313	GENETIC ENGINEERING	4
4	25MIC311	PLANT AND ANIMAL TISSUE CULTURE	3
5	25BIF314	ARTIFICIAL INTELLIGENCE FOR BIOLOGY	3
6	25BIO382	GENETIC ENGINEERING LAB	2
7	25MIC381	PLANT AND ANIMAL TISSUE CULTURE LAB	2
Total Credits			21

SEMESTER 7

Sl. No	Course Code	Course Title	Credits
1	25BIO401	METABOLIC ENGINEERING	3
2	25BIO404	RESEARCH ETHICS, SCIENCE COMMUNICATION AND IPR MANAGEMENT	3
3	25BIO402	APPLIED BIOANALYTICAL METHODS	3
4		ELECTIVE I	3
5	25BIO403	ADVANCED PHARMACEUTICAL BIOSCIENCES	3
6	25BIO481	ADVANCED MOLECULAR GENETICS AND GENE EXPRESSION LAB	2
Total Credits			17

SEMESTER 8

Sl. No	Course Code	Course Title	Credit
B.Sc. Hons. By Research			
1	25BIO499	PROJECT	12
B.Sc. Hons. (Regular)			
1	25BIO496	MINI PROJECT	6
2		ELECTIVE II	3
3		ELECTIVE III	3

Total Credits	12
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Total credits for program completion	163
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Sl. No	Course Code	Course Title	Credit
1	25BIO431	EMBRYOLOGY	3
2	25BIO432	HOST-PATHOGEN INTERACTION AND HUMAN MICROBIOME	3
3	25BIO433	MOLECULAR FLUORESCENCE: APPLICATIONS IN CHEMICAL BIOLOGY	3
Sl. No	Course Code	Course Title	Credit
1	25BIO441	CANCER BIOLOGY	3
2	25BIO442	PHAGE BIOLOGY	3
3	25BIO443	CELL SIGNALLING	3
4	25BIO444	BIOMIMICRY	3
5	25BIO445	NEUROSCIENCE	3
6	25BIO446	REGENERATIVE BIOLOGY & STEM CELLS	3