



2020

SYLLABUS

School of Natural Sciences

**B.Sc. (H) in
Biotechnology
under UGC – CBCS**



B.Sc. Biotechnology (H) Course Structure

Category definition with credit breakup

Semester	Credit						
	CC	DSE	GE	AECC	SEC	USC	Total/Sem
First	12		4	2		2	20
Second	12	6	4	2	1	2	27
Third	12	6	4	2	1	2	27
Fourth	12	6	4	2	1	2	27
Fifth	18	6			1		25
Sixth	24						24
Total Credit/ Course	90	24	16	8	4	8	
Total Credit							150

CC: Core Courses; **GE:** General Elective; **AECC:** Ability Enhancement Compulsory Course;
SEC: Skill Enhancement Courses; **DSE:** Discipline Specific Elective; **USC:** University specified course

First Year

Category	Course Name	Credit	Teaching Scheme		
			L	T	P
Semester – I					
CC – 1	Biochemistry	4	4	0	0
	Biochemistry Lab	2	0	0	4
CC – 2	Cell Biology	4	4	0	0
	Cell Biology Lab	2	0	0	4
GE – 1	Generic Elective	4	4	0	0
AECC – 1	Communicative English – I	2	2	0	0
USC – 1	Foreign Language I	2	2	0	0
Total Credit = 20			Teaching Hour = 24		
Semester – II					
CC – 3	Fundamentals of Molecular Biology	4	4	0	0
	Fundamentals of Molecular Biology Lab	2	0	0	4
CC – 4	Bioenergetics and Metabolism	4	4	0	0
	Bioenergetics and Metabolism Lab	2	0	0	4
DSE – 1	Mathematics and Statistics	4	4	0	0
	Mathematics and Statistics Lab	2	0	0	4
GE – 2	Generic Elective	4	4	0	0
AECC – 2	Communicative English – II	2	2	0	0
SEC – 1	Mentored Seminar – I	1	1	0	0
USC – 2	Foreign Language II	2	2	0	0
Total Credit = 27			Teaching Hour = 33		

Second Year

Category	Course Name	Credit	Teaching Scheme		
			L	T	P
Semester – III					
CC – 5	Immunology	4	4	0	0
	Immunology Lab	2	0	0	4
CC – 6	Introduction to Microbiology	4	4	0	0
	Introduction to Microbiology Lab	2	0	0	4
DSE – 2	Fundamentals of Chemistry	4	4	0	0
	Fundamentals of Chemistry Lab	2	0	0	4
GE – 3	Generic Elective	4	4	0	0
AECC – 3	Environmental Science – I	2	2	0	0
SEC – 2	Mentored Seminar – II	1	1	0	0
USC – 3	Foreign Language III	2	2	0	0
Total Credit = 27			Teaching Hour = 33		
Semester – IV					
CC – 7	Biophysical Chemistry and Instrumentation	4	4	0	0
	Biophysical Chemistry and Instrumentation Lab	2	0	0	4
CC – 8	Principles of Genetics	4	4	0	0
	Principles of Genetics Lab	2	0	0	4
DSE – 3	Essential Physics	4	4	0	0
	Essential Physics Lab	2	0	0	4
GE – 4	Generic Elective	4	4	0	0
AECC – 3	Environmental Science – II	2	2	0	0
SEC – 3	Mentored Seminar – III	1	1	0	0
USC – 4	Foreign Language – IV	2	2	0	0
Total Credit = 27			Teaching Hour = 33		

Third Year

Category	Course Name	Credit	Teaching Scheme		
			L	T	P
Semester – V					
CC – 9	Recombinant DNA Technology	4	4	0	0
	Recombinant DNA Technology Lab	2	0	0	4
CC – 10	Animal and Plant Biotechnology	4	4	0	0
	Animal and Plant Biotechnology Lab	2	0	0	4
CC – 11	Biodiversity and Taxonomy	4	4	0	0
	Biodiversity and Taxonomy Project	2	0	0	4
DSE – 4	Basics of Computer Science	4	4	0	0
	Basics of Computer Science Lab	2	0	0	4
SEC – 4	Mentored Seminar – IV	1	1	0	0
Total Credit = 25			Teaching Hour = 33		
Semester – VI					
CC – 12	Computational Biology	4	4	0	0
	Computational Biology Lab	2	0	0	4
CC – 13	Drug designing and drug delivery	4	4	0	0
	Drug designing and drug delivery Lab	2	0	0	4
CC – 14	Fermentation and Food Technology	4	4	0	0
	Fermentation and Food Technology Lab	2	0	0	4
CC – 15	Biotechnology Project	6	0	0	12
Total Credit = 24			Teaching Hour = 36		