

Syllabus and Structure
For
Bachelors of Science (Honors)
in
Biotechnology

Under
Choice Based Credit System



AKS UNIVERSITY, SATNA (M.P.)

July 2020

B.Sc. (HONOURS) BIOTECHNOLOGY (CBCS STRUCTURE)
Three-Year (6 Semester) Full Time Degree Programme

B.Sc. (Hons.) Biotechnology – First Year

Semester – I

S. No.	Subject Code	Subject	Subject area	Periods			Credit
				L	T	P	
1	49CH101	Chemistry-I (Biochemistry And Bioenergetics)	C1	4	-	-	4
2	49BT102	Cell Biology	C2	4	-	-	4
3	49SD103	English communication	AECC1	2	-	-	2
4	49BT104	Biotechnology and Human Welfare	GE-1	4	-	-	4
5	49CH151	Chemistry-I (Biochemistry And Bioenergetics) (Lab)	C1P	-	-	4	2
6	49BT152	Cell Biology(Lab)	C2P	-	-	4	2
7	49BT153	Biotechnology and Human Welfare (Lab)	GEP-1			4	2
TOTAL				14	-	12	20

C: Core Courses; **GE:** Generic Elective; **AECC:** Ability Enhancement Compulsory Course; **SEC:** Skill Enhancement Courses; **DSE:** Discipline Specific Elective **NCAEC:** Non Credit Ability Enhancement Course

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Semester – II

S.No.	Subject Code	Subject	Subject area	Periods			Credit
				L	T	P	
1	49BT201	Mammalian Physiology	C3	4	-	-	4
2	49BT202	Plant and Microbial Physiology	C4	4	-	-	4
3	49CH203	Chemistry-II (Basics of Chemistry)	C5	4	-	-	4
4	49EV204	Environmental Science	AECC2	2	-	-	2
5	49EN205	Entrepreneurship Development	GE-2	4	-	-	4
6	49BT251	Mammalian Physiology(Lab)	C3P	-	-	4	2
7	49BT252	Plant Physiology(Lab)	C4P	-	-	4	2
8	49CH253	Chemistry-II (Basics of Chemistry) (Lab)	C5P	-	-	4	2
9	49EN253	Entrepreneurship Development (Project Viva voce)	GEP-2	-	-	-	2
TOTAL				18	-	12	26

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Semester – III

S.No.	Subject Code	Subject	Subject area	Periods			Credit
				L	T	P	
1	49BT301	Genetics	C6	4	-	-	4
2	49MB302	General Microbiology	C7	4	-	-	4
3	49CH303	Chemistry-III (Organic Chemistry)	C8	4	-	-	4
Choose any one from number 4				2	-	-	2
4	49BT304	Industrial Fermentation	SEC-1				
	49FS305	Basics of Forensic Science	SEC-2				
5	49BT306	Bioethics and Bio-safety	GE-3	4	-	-	4
6	49BT351	Genetics (Lab)	C6P	-	-	4	2
7	49MB352	General Microbiology (Lab)	C7P	-	-	4	2
8	49CH353	Chemistry-III (Organic Chemistry) (Lab)	C8P	-	-	4	2
9	49BT354	Bioethics and Bio-safety (Lab)	GEP-3	-	-	4	2
TOTAL				18	-	16	26

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Semester – IV

S.No.	Subject Code	Subject	Subject area	Periods			Credit
				L	T	P	
1	49BI401	Molecular Biology	C9	4	-	-	4
2	49BT402	Immunology	C10	4	-	-	4
3	49CH403	Chemistry-IV (Inorganic Chemistry)	C11	4	-	-	4
Choose any one from number 4				2	-	-	2
4	49BT404	Molecular Diagnostics	SEC-3				
	49BT405	Enzymology	SEC-4				
5	49BI406	Developmental Biology	GE-4	4	-	-	4
6	49BI451	Molecular Biology(Lab)	C9P	-	-	4	2
7	49BT452	Immunology(Lab)	C10P	-	-	4	2
8	49CH453	Chemistry-IV (Inorganic Chemistry) (Lab)	C11P	-	-	4	2
9	49BI454	Developmental Biology (Lab)	GEP	-	-	4	2
TOTAL				18	-	16	26

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Semester – V

S.No.	Subject Code	Subject	Subject area	Periods			Credit
				L	T	P	
1	49BT501	Bioprocess Technology	C12	4	-	-	4
2	49BT502	Recombinant DNA Technology	C13	4	-	-	4
Choose any one from number 3			DSE-1	4	-	-	4
3	49CH503	Agriculture Biotechnology	DSE				
	49BT504	Animal Biotechnology	DSE				
Choose any one from number 4			DSE-2	4	-	-	4
4	49BT505	Bioinformatics	DSE				
	49MB506	Medical Microbiology	DSE				
5	49BT551	Bioprocess Technology(Lab)	C12P	-	-	4	2
6	49BT552	Recombinant DNA Technology(Lab)	C13P	-	-	4	2
Choose any one from number 7 (as per theory subject)			DSEP-1	-	-	4	2
7	49CH553	Agriculture Biotechnology (Lab)					
	49BT554	Animal Biotechnology (Lab)					
Choose any one from number 8 (as per theory subject)			DSEP-2	-	-	4	2
8	49BT555	Bioinformatics (Lab)					
	49MB556	Medical Microbiology (Lab)					
TOTAL				16	-	16	24

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Semester – VI

S.No.	Subject Code	Subject	Subject area	Periods			Credit
				L	T	P	
1	49BT601	Bio Analytical Tools	C13	4	-	-	4
2	49BT602	Genomics and Proteomics	C14	4	-	-	4
Choose any one from number 3			DSE-3	4	-	-	4
3	49BT603	Plant Biotechnology	DSE				
	49BT604	Environmental Biotechnology	DSE				
Choose any one from number 4			DSE-4				
4	49BT605	Biostatistics	DSE	4	-	-	4
	49CH606	Food Biotechnology	DSE	4	-	-	4
	49BT651	Project work	DSE	-	-	6	6
5	49BT652	Bio Analytical Tools(Lab)	C13P	-	-	4	2
6	49BT653	Genomics and Proteomics(Lab)	C14P	-	-	4	2
Choose any one from number 7 (as per theory subject)			DSEP	-	-	4	2
7	49BT654	Plant Biotechnology (Lab)	DSEP				
	49BT655	Environmental Biotechnology (Lab)	DSEP				
TOTAL				16		18	32