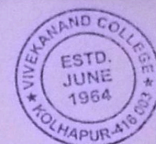
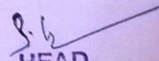


# Vivekanand College, Kolhapur (Empowered Autonomous), Department of Biotechnology



## Cross cutting Issues :- Course with relevance to Professional Ethics, Gender, Human Values and Environment Sustainability

Sr No.	Course Name Biotechnology- Entire	Course Code	Year of implementation	Related Professional Ethics	related to Gender	relevance to Human Values	relevance to Environment & Sustainability	Sustainable development Goals	NEP 2020
1	Chemistry	DSC-1331-A	2018-19				Wastage of chemicals in industries		--
2	Biochemistry	DSC-1332-A	2018-19		Importance of biomolecules to humans beings				--
3	Plant Science	DSC-1333-A	2018-19	Importance of flora and fauna					--
4	Mathematics	DSC-1334-A	2018-19						--
5	Computer-I	DSC-1335-A	2018-19						--
6	Instrumentation	DSC-1336-A	2018-19	Limited use of bio analytical techniques					--
7	Microbiology	DSC-1337-A	2018-19				Conclude different modes of transmission of disease		--
8	Physics-I	DSC-1338-A	2018-19						--
9	Chemistry	DSC-1331-B	2018-19						--
10	Biochemistry	DSC-1332-B	2018-19				Conservation Biochemistry		--
11	Animal Science	DSC-1333-B	2018-19				Importance of		--

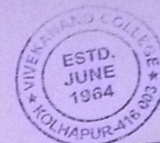
  
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Sr No.	Course Name Biotechnology- Entire	Course Code	Year of implementation	Related Professional Ethics	related to Gender	relevance to Human Values	fossils relevance to Environment & Sustainability	Sustainable development Goals	NEP 2020
12	Statistics	DSC-1334- 13B	2019-2020						--
13	Computer-II	DSC- 141335-B	2019-2020	Ethical use of communication devices					--
14	Cell biology	DS15C- 1336-16B	2019-2020						--
15	Microbiology	DSC- 133177-B	2019-2020						--
16	Physics-I	DSC- 118338-B	2019-2020						--
17	Genetics	DSC19- 1345-C	2020-2021	Induction of Mutation in Organism	Sex related Genetic disorders				--
18	Biophysics & Enzymology	DSC-1346-C	2020-2021				Use of electromagnetic radiation harmful for environment		--
19	Metabolic Path	DSC-1347-C	2020-2021	Alcohol fermentation			Use of auxotrophic mutants and radioisotopes		--
20	Ecology	DSC-1348-C	2020-2021	Importance of biodiversity	Evolution male and female		Causes of loss of bio diversity loss	Conservation of biodiversity	--
21	Molecular Biology-I	DSC-1349-C	2020-2021	Mutation and DNA repair					--



Sr No.	Course Name Biotechnology- Entire	Course Code	Year of implementation	mechanism for phenotypic disease	related to Gender	relevance to Human Values	relevance to Environment & Sustainability	Sustainable development Goals	NEP 2020
22	Plant Tissue Culture	DSC-1350-C	2021-2022			Use of poor but skilled labour in PTC	Induction of Somaclonal variation in plants	Micropropagation	--
23	Immunology	DSC-1345-D	2021-2022	Attenuated organism used in preparation of vaccine			Treatment of waste from diagnostic labs		--
24	Advances in Cell Biology	DSC-1346-D	2021-2022			Importance of cell and tissue			--
25	Plant Biochemistry	DSC-1347-D	2021-2022				Importance of photosynthesis	Importance of secondary metabolite	--
26	Environment Biotechnology	DSC-1348-D	2022-2023				Air, Water and Soil Pollution	Study the methods for Bioremediation	--
27	Molecular Biology -II	DSC-1349-D	2022-2023	Regulation of gene expression using chemicals					--
28	Animal Tissue Culture	DSC-1350-D	2022-2023					Importance of stem cell culture	--
29	Basics in Genetic Engineering	DSC-1355-E	2022-2023	Permission of extraction of			Use of fluorescent		--



Sr No.	Course Name Biotechnology- Entire	Course Code	Year of implementation	DNA sample for unethical tissues	Related Professional Ethics	related to Gender	relevance to Human Values	dyes and radiolabel probes	relevance to Environment & Sustainability	Sustainable development Goals	NEP 2020
30	Industrial Biotechnology	DSC-1356-E	2022-2023							Use of fermentation from economically important metabolites	--
31	Application Biotech Agriculture	DSC-1357-E	2022-2023					Improvement in crop production		Use of Biopesticides and Bio herbicides	--
32	Development Biology	DSC-1358-E	2022-2023			Study of Gametogenesis in humans					--
33	Advances in Genetic engineering	DSC-1355-F	2022-2023		Molecular diagnostics use for humans		Use of 18S rRNA for human identification				--
34	Food & Microbial Biotechnology	DSC-1356-F	2022-2023					Importance of food security principles			--
35	Application of Biotech Health	DSC-1357-F	2022-2023		Introduction of trans genes in humans		Use of mammals in cloning				--
36	Bioinformatics	DSC-1358-F	2022-2023		Storing human biological sequences in databases					Creation of big database required for study of different	--



B.Sc-I Biotechnology Entire NEP 2023 (As Per NEP 2020)										
Sr No.	Course Name Biotechnology- Entire	Course Code	Year of implementation	Sem - I			relevance to Human Values	relevance to Environment & Sustainability	Sustainable development Goals	NEP 2020
				Related Professional Ethics	related to Gender					
1	Biotechnology-I (Biotechnology for human welfare-I)	DSC07BTE11	2023	Types of Vaccine and Vaccine trial s on Humans			Evidence collection, Toxicology and Serology	Understand the importance of Biotechnology Health		
2	Biotechnology-II (Biochemistry-I)	DSC07BTE12	2023					Conservation Biotechnology		
3	Microbiology-I (Introduction to Microbial world)	MIN07BTE11	2023							
4	Microbiology-II (Techniques in Microbiology)	MIN07BTE12	2023				Conclude different modes of transmission of disease.			
5	(Bio- 6Instrumentation- I)	OEC07BTE11	2023	Limited use of bio analytical techniques						
6	(Plant Sciences)	OEC07BTE12	2023						Factors affecting seed germination	
7	English	AEC07ENG11	2023		Professional communication skills of male and females					
Sem - II										
1	Biotechnology -	DSC07BTE21	2023	Use of					Agricultural	



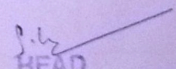
Sr No.	Course Name Biotechnology- Entire	Course Code	Year of implementation	Genetically Biotechnology crops	related to Gender	relevance to Human Values	relevance to Environment & Sustainability	Biotechnology	Sustainable development Goals	NEP 2020
2	Biotechnology-IV (Biochemistry-I)	DSC07BTE22	2023	Use of vitamins and minerals from animals						
3	Microbiology-III (Bacterial Cytology and Cultivation)	MIN07BTE21	2023	Use of auxotrophic mutants			Factors affecting the growth of microorganisms			
4	Microbiology-IV (Virology)	MIN07BTE22	2023					Cultivation of Viruses for production of Vaccine		
5	(Ecology)	OEC07BTE21	2023				Conservation of biodiversity			
6	(Animal Sciences)	OEC07BTE22	2023		Human Potency, Cell fate and Cell lineage					
7	(Basics in Cell Biology)	SEC07BTE21	2023				Importance of different cells of different genus			
8	English	AEC07ENG21	2023	Use of cultured communication languages						



M.Sc-I Biotechnology Entire NEP 2023 (As Per NEP 2020)

Sem - I

Sr No.	Course Name Biotechnology- Entire	Course Code	Year of implementation	Related Professional Ethics	related to Gender	relevance to Human Values	relevance to Environment & Sustainability	Sustainable development Goals	NEP 2020
1	Biological Chemistry	DSC21MBT11	2023				Biological importance of water		
2	Microbial technology	DSC21MBT12	2023	Microbial interaction				Measurement of microbial growth	
3 Optional Subject	Environmental Biotechnology and Ecology	DSE21MBT11	2023					Agricultural bioremediation	
	Genetics and Basic Cell Biology	DSE21MBT12	2023				Inbreeding selfing in plants		
4	Research Methodology	RMD21MBT11	2023					Carbon dating	

  
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