

II B.Sc Zoology	BIOTECHNOLOGY	19ZO408
SEMESTER – IV		HRS/WK – 4
CORE – VIII		CREDIT – 3

Objective:

1. To generate potential knowledge regarding the scope and applications of biotechnology.
2. To understand the modern biotechnology practices and approaches with highlighting in genetic engineering , rDNA technology, cloning and gene transfer technology

Course Outcomes (CO's):

On completion of the course students will be able

CO1: To know the scope and applications of biotechnology

CO2: To acquire knowledge on techniques of genetic engineering and rDNA technology.

CO3: To realise gene cloning in prokaryotes and basics of human genome project.

CO4: To describe transgenic plants and animals

CO5: To understand the application of recombinant DNA technology

Relationship Matrix Course Outcomes, Programme Outcomes and Programme Specific Outcomes

SEMESTER IV	COURSE CODE: 19ZO408					COURSE TITLE: BIOTECHNOLOGY										HOUR S: 4	CRED ITS:3
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)					PROGRAMME SPECIFIC OUTCOMES(PSO)										MEAN SCORE OF CO'S	
	PO 1	PO 2	PO 3	PO 4	PO 5	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO 10		
CO1	5	5	5	5	4	3	5	1	3	4	4	3	4	3	5	4.0	
CO2	5	5	5	5	4	3	5	2	3	4	4	4	4	4	5	4.1	
CO3	5	5	4	5	4	3	5	2	4	4	4	4	4	4	5	4.1	
CO4	5	5	5	5	4	3	5	2	4	4	4	4	4	4	5	4.2	
CO5	5	5	5	5	4	3	5	2	4	4	4	4	4	3	5	4.1	
Mean Overall Score															4.1		

Result: The Score of this Course is 4.1 (Very High)

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

This Course is having **VERY HIGH** association with Programme Outcome and Programme Specific Outcome

UNIT – I

12Hours

Definition – Scope and applications of Biotechnology – isolation of DNA – types of DNA extraction methods – cloning – Tools of Genetic Engineering: Enzymes, Linkers and Adaptors.

UNIT-II

12Hours

Cloning vectors: requirements of a cloning vector, types [plasmids, pBr322, Phage I, Cosmids and phagemids]. Techniques of Genetic Engineering - recombinant DNA Technology.

UNIT-III

12Hours

Gene Cloning in prokaryotes, **cDNA- Genomic Library**, construction and uses. Human genome project: Genome and its significance, techniques of Human Genome Project, Potential benefits of Human genome projects .

UNIT – IV

12Hours

Transgenic plants and animals – Production of Transgenic plant (Bt. Cotton) and transgenic animal (mice), Applications of Transgenic animals. .DNA finger printing and its applications– gene therapy – biosensors and its applications – biochips and its applications

UNIT-V

12Hours

Application of Recombinant DNA technology in Medicine and Agriculture – Application of biotechnology in environmental protection – Socio economic issues of Biotechnology in India

Text Books:

1. Dubey, R.C 2006 Text Book of Biotechnology S. Chand & co. New Delhi.
2. Kumar H. D. 1998 A text book of Biotechnology, affiliated East West pvt. Ltd., New Delhi.

Reference Books:

1. Higgins II, Best GJ and Jones J 1996 Biotechnology – Principles and application Black well scientific Publication Oxford London.
2. Gupta, P.K. 2001 Elements of Biotechnology Rastogi publication, Meerut.
3. Vijayaraman, Chellammal K.S and Manikkili. P 1998. UyiriyaeThozhilnutpam. Chimeeraa, Trichy.

III B.Sc Zoology	ELECTIVE – II PUBLIC HEALTH AND HYGIENE	20EZ513B
SEMESTER – VI		HRS/WK – 4
ELECTIVE –II (Optional)		CREDIT – 3

Objective:

1. To impart awareness on Public Health and Hygiene
2. To create knowledge on Health Education.

Course Outcomes (CO's):

On completion of the course students will be able

CO1: To understand public health and hygiene

CO2: To realize environment and health hazards

CO3: To understand the communicable diseases and their control measures.

CO4: To understand the non-communicable diseases and their control measures

CO5: To know the health education in India

Relationship Matrix Course Outcomes, Programme Outcomes and Programme Specific Outcomes

SEMESTER VI	COURSE CODE: 20EZ513B					COURSE TITLE: ELECTIVE - II PUBLIC HEALTH AND HYGIENE										HOUR S:4	CRED ITS:3
COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)					PROGRAMME SPECIFIC OUTCOMES(PSO)										MEAN SCORE OF CO'S	
	PO 1	PO 2	PO 3	PO 4	PO 5	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO 10		
CO1	5	5	2	3	3	5	5	3	2	4	2	3	5	3	5	3.7	
CO2	5	5	2	3	3	5	5	3	2	4	2	3	5	3	5	3.7	
CO3	5	5	4	3	3	5	5	3	2	4	2	3	5	3	5	3.8	
CO4	5	5	4	3	3	5	5	3	2	4	2	3	5	3	5	3.8	
CO5	5	5	4	3	3	5	5	3	2	4	2	3	5	3	5	3.8	
Mean Overall Score															3.8		

Result: The Score of this Course is 3.8 (High)

Association	1%-20%	21%-40%	41%-60%	61%-80%	81%-100%
Scale	1	2	3	4	5
Interval	0<=rating<=1	1.1<=rating<=2	2.1<=rating<=3	3.1<=rating<=4	4.1<=rating<=5
Rating	Very Poor	Poor	Moderate	High	Very High

This Course is having **HIGH** association with Programme Outcome and Programme Specific Outcome

UNIT-I**12Hours**

Scope of Public health and Hygiene – nutrition and health – classification of foods – Nutritional deficiencies - Vitamin deficiencies.

UNIT-II**12Hours**

Environment and Health hazards – Environmental degradation – Pollution and associated health hazards.

UNIT-III**12Hours**

Communicable diseases and their control measures such as Measles, Polio, Chikungunya, Rabies, Plauge, Leprosy and AIDS.

UNIT-IV**12Hours**

Non-Communicable diseases and their preventive measures such as Hypertension, Coronary Heart diseases, Stroke, Diabetes, Obesity and Mental ill-health.

UNIT-V**12Hours**

Health Education in India – WHO Programmes – Government and Voluntary Organizations and their health services – Precautions, First Aid and awareness on sporadic diseases.

Text Books:

1. Park and Park, 1995: Text Book of Preventive and Social Medicine – Banarsidas Bhanot Publ. Jodhpur – India.
2. Dubey, R.C and Maheswari, D.K. 2007 : Text Book of Microbiology – S. Chand & Co. Publ. New Delhi – India.

Reference Books:

1. Verma, S. 1998 : Medical Zoology, Rastogi publ. – Meerut – India
2. Singh, H.S. and Rastogi, P. 2009 : Parasitology, Rastogi Publ. India