DEPARTMENT OF ZOOLOGY

SRI Y N COLLEGE (AUTONOMOUS): NARSAPUR

Program Specific Outcomes

B.Sc., (BZC) (Botany, Zoology & Chemistry)

The program has been introduced to prepare the students for a bright career which finds application and provides solution to some of the major contemporary problems on the globe i.e., providing food for growing population, designing advanced medical treatment options for increasing evolving diseases, to find solutions for wild life conservation and to deteriorating environment caused due to over exploitation / misuse of natural resources etc.,

In this program the study of Biology offers around the world where there are Biologists making a difference to our lives – ensuring our food is safe, treating and preventing disease, developing green technologies or tracking the role of Organisms in climate change.

In this program the knowledge about the subject chemistry comes in to play when structures of macromolecules and their interactive relations to the environment are to be understood.

Finally the subject Biology amalgamates with various disciplines of sciences and offers ethically acceptable knowledge to bring about sustainable solutions for a variety of problems related to Ecology, Evolution, Agriculture, Environment and Quality of human life. These problems are solved with responsibility using appropriate tools while keeping in mind safety factor of Environment and Society.

Courses offered and course codes from 2012-20

S. No.	Program name	Semester	Paper & Course code	Course name
1.	BZC	I	I - 1107	ANIMAL DIVERSITY NON-CHORDATES
2.	BZC	I	I - 1107	ANIMAL DIVERSITY NON-CHORDATES
3.	BZC	II	II - 2107	ANIMAL DIVERSITY CHORDATES
4.	BZC	II	II - 2107	ANIMAL DIVERSITY CHORDATES
5.	BZC	III	III - 3107	CYTOLOGY, GENETICS & EVOLUTION

6.	BZC	III	III - 3107	CYTOLOGY, GENETICS & EVOLUTION
7.	BZC	IV	IV - 4107	ANIMAL PHYSIOLOGY, ECOLOGY & ZOOGEOGRAPHY
8.	BZC	IV	IV - 4107	ANIMAL PHYSIOLOGY, ECOLOGY & ZOOGEOGRAPHY
9.	BZC	V	V - 5135	ANIMAL BIOTECHNOLOGY
10.	BZC	V	V - 5135	ANIMAL BIOTECHNOLOGY
11.	BZC	V	VI - 5136	ANIMAL HUSBANDARY
12.	BZC	V	VI - 5136	ANIMAL HUSBANDARY
13.	BZC	VI	VII - 6144	IMMUNOLOGY
14.	BZC	VI	VII - 6144	IMMUNOLOGY
15.	BZC	VI	VIII-A - 6145	PRINCIPLES OF AQUACULTURE
16.	BZC	VI	VIII-A - 6145	PRINCIPLES OF AQUACULTURE
17.	BZC	VI	VIII-B - 6146	AQUACULTURE MANAGEMENT
18.	BZC	VI	VIII-B - 6146	AQUACULTURE MANAGEMENT
19.	BZC	VI	VIII-C - 6147	POST HARVEST TECHNOLOGY
20.	BZC	VI	VIII-C - 6147	PROJECT

PROGRAMME SPECIFIC OUTCOME

PSO 1: Understand The program Botany, Zoology and chemistry has been introduced to prepare the students for a career which finds application and provides solution to some of the major contemporary problems on the globe i.e., providing food for growing population, designing advanced medical treatment options for increasing evolving diseases, to find solution to deteriorating environment caused due to over exploitation / misuse of natural resources etc.,

PSO 2: In this program the study of Biology offers around the world there are biologists making a difference to our lives – ensuring our food is safe, treating and preventing diseases, developing green technologies or tracking the role of organisms in climate change.

PSO 4: In this program the knowledge about the subject chemistry come in to play when structures of macromolecules and their interactive relations to the environment are to be understood.

Finally the subject biology amalgamates the various disciplines of sciences and offers ethically acceptable knowledge to bring about sustainable solutions for a variety of problems related to Ecology, Evolution, Agriculture, Environment and Quality of human life. These problems are solved with sole responsibility of using appropriate tools while keeping in mind safety factor of Environment and society.

COURSE OUTCOME

S.NO	COURSE OUTCOME
CELL BIOLOGY AND MICROBIOLOGY	
1	To learn about contributions of various scientists in the field of Biology and the microscopy, various staining methods useful for the study of micro organisms in detail. To be motivated to pursue research through keen observations.
2	To study in detail about Microorganisms like bacteria and viruses - their structure, life cycle, history, classification and their importance. To apply the knowledge about microorganisms in daily life like maintaining hygiene, and taking food rich in probiotics for healthy life.
3	To study the food habits of diverse microorganisms under the name microbial nutrition. To acquire the ability to decide which nutrition should be supplied to a particular microorganism for its growth and to apply this knowledge for carrying out project.
4	To know about the favourable and unfavourable conditions, growth properties, mechanisms to control growth of microbes. To use this knowledge in controlling harmful microorganisms and thus avoiding occurrence of infectious diseases.
5	To study the detailed structure and the sub cellular structures, various mechanisms occurring in the eukaryotic cell, which helps in designing drugs in case there is abnormal cell division etc.
MACROMOLEULES, ENZYMOLOGY AND BIOENERGETICS	
6	To know about the discovery, structure and properties, stabilizing forces of various kinds of DNA. The understanding of the basic molecule of life like DNA for inspiring research in various fields and specifically in life science for gene therapy, designing drugs etc.
7	To know about the structures, classification physico-chemical properties of the building blocks of proteins i.e., amino acids. To learn about the mechanism of diseases resulting due to abnormal protein structures.
8	To learn about the classification, structure, nomenclature and importance of a major nutrient that is carbohydrate. To learn about the polysaccharides present in nature and various conditions arising due to lack of improper intake of carbohydrates.
9	To learn about the structure, classification, nomenclature, inhibition, kinetics of the enzymes the knowledge of which is useful for application in medical field to cure diseases arising due to non-functional or absence of enzymes.
10	To study regulation, inhibition, Bypass reactions of various pathways taking place in living cells in detail as any abnormalities or diseases arising due to dysregulation of the pathways is easily understood and solution can be provided through research.

11	To acquire knowledge on the principle, basic concepts, instrumentation, applications, type spectrophotometry are studied and this knowledge is applied for estimation of biomolecules DNA, Proteins, Coloured solutions etc.
BIOPHYSICAL TECHNIQUES	
12	To learn about the principle, mechanism, equipment and applications of separation of biomolecules, pigments etc., is learnt. This knowledge is useful in isolating certain molecules pure form.
13	To be able to design and carry out appropriate PCR based DNA detection assays and to apply electrophoresis in DNA detection and quantification, Evaluate appropriate methods for mutati detection, Use Bioinformatics tools for DNA sequence analysis.
14	To learn about Isotopic tracer techniques - how to calculate the Measurement of radioactivity, different principle, advantages, disadvantages instrumentation techniques of counters, mass spectroscopy and they can learn how to apply different isotopes in biotechnology.
15	To learn the basic principles, concept and types of centrifuges to isolate cell components determine molecular weight by sedimentation velocity and sedimentation equilibrium meth To learn the basic concepts of mean, median, mode and standard deviation and standard error Anova using to calculate problems,
IMMUNOLOGY	
16	To learn about the basic mechanisms, distinctions and functional interplay of innate and adapt immunity and the cellular/molecular pathways of humoral/cell-mediated adaptive responses.
17	To learn about the structure, classes, types of Antibody and Antigens and factors affecting antigenicity.
18	To understand how disease causing microorganism can be used as a weapon to fight against t same microorganism.
19	To get better understanding about vaccination, blood transfusion, grafting etc.
20	To gain knowledge that helps to take up research to find medicines for present incurable diseases.
GENETICS AND MOLECULAR BIOLOGY	
21	To study about macromolecules responsible for life on earth.
22	To acquire knowledge on organelle genome organization and various gene families.
23	To know the level of expression by transcription and translation.
24	To learn the molecular mechanisms responsible for diseases and may take up research in this field.