DIGAMBARRAO BINDU ARTS COMMERCE AND SCIENCE COLLEGE BHOKAR. DIST NANDED

POS, PSOs and COs,

NAME OF PROGRAMME: B.SC. (BACHELORE OF SCIENCE)	
PO1:	Learner would get an opportunity to explore the field of science through pursuing science.
PO2:	Science department offers realistic approach to the learners where theory and practical go hand in hand.
PO3:	Through the establishments of department of science, a learner can contribute her/his part in making advancement in the field of technologies for the betterment of life of all aspects.
PO4:	It also gives an opportunity for them to study and correlate the day to day events happening in their own life and surroundings.
PO5:	The field of science also encourages learners to aim high, develop inquiring minds and curiosity.

PROGRAMME SPECIFIC OUTCOMES: ZOOLOGY,

PSO 1:	Learners would be amazed to know and understand beautiful world of animals and their interactions with surroundings.
PSO 2:	They will be able to correlate their existence with the other forms of the life on the earth.
PSO 3:	They can learn about the physiology, Anatomy, structures of cells, regulation, evolution, hierarchy and fundamental of all life forms.
PSO 4:	They will also explore the process of formation of different life forms on cellular basis. They can also distinguish between the different animals and appreciate the biodiversity.
PSO 5:	They will acquire the knowledge about environmental concerns and will contribute to conservation, management and sustainability.
PSO 6:	Learners will gain and implement the lessons of coexistence with nature.
PSO 7:	They will understand the technological advancement being made in biotechnology, medicinal sciences and contribute their own part.
PSO 8:	`Learners can also embark on an excursion of research through research ethics and methodology.

COURSE OUTCOMES: B.Sc. F.Y. ZOOLOGY

COURSE CODE	Objective	Course Outcomes
Paper I: Biodiversity of Invertebrates	• To broadly understand Biodiversity, Habitat, Adaptation, Anatomical organization and taxonomic status of invertebrate's phyla in relation to other animal taxa. • Understanding the basis of biological classification and its conceptual framework. • Appreciating the structural and functional correlation between different invertebrate groups.	• The student will be able to identify a given invertebrate up to class level. • Ability to understand the contribution of Invertebrates in the biodiversity index of any given habitat. • Ability to understand and appreciate the ecological and economic importance of invertebrates and vertebrates. • Ability to identify and describe external morphology and internal anatomical features of representative invertebrate species.
Paper-II : Biodiversity of Chordates	• To understand Biodiversity, Habitat, Adaptation organization and taxonomic status of Chordates. • Explaining the basic aspects of classification of chordates. • Develop the ability to understand structural and functional details of Chordates. • Develop a broad and correlated view of all chordate groups: extinct and living. • Acquire the skill to correlate anatomical and morphological aspects of different chordate groups.	• The student will be able to identify and understand the Biodiversity of Chordates. • Ability to understand anatomical relation between different vertebrate classes. • The learner will be able to understand the economic importance of Chordates.
Paper-III: Comparative Anatomy of Vertebrates	• To understand Anatomical structure of Vertebrates. • Explaining the basic aspects of evolution of various organs of vertebrates. • Understand the phylogenetic progression in vertebrate body and its systems. • To know about the extreme specialization in different organ systems in vertebrate groups in response to the environment.	• The student will be able to identify and understand comparative anatomical structure of vertebrate organ systems. • The learner will be able to understand the evolution of various organs and systems in thevertebrate body according to its environment. • Understand the plasticity of organ systems to adapt to the environment and acquire different novel forms.
Paper-IV: Developmental	• To get an insight into embryonic development of	• The student will be able to explain the basics processes

Biology of Vertebrates	vertebrates. • To correlate developmental stages of different vertebrate groups. • To identify and describe the different embryonic structures of vertebrates. • To grasp the basic processes of human development.	of vertebrate embryonic development. • Ability to describe the various steps in vertebrate development. • Identify and explain about the different embryonic structures. • Describe the functions of different extra-embryonic structures. • Understanding of the Assisted Reproductive Technologies.
Practical Paper V: Biodiversity of Invertebrates and Chordates & Comparative Anatomy and Developmental Biology of Vertebrates (Based on P-I,II,III&IV)	• To understand the anatomical organization of any species. • To identify and handle different body parts of invertebrates and vertebrates. • To understand and perform temporary and permanent mountings. • To identify and describe structure and functions of different bones.	• Ability to understand the anatomical organization of organs and systems in representative species. • Ability to identify and describe structure and functions of different body parts of invertebrates and vertebrates. • Students would be able to prepare temporary and permanent mountings of biological material. • Students would be able to relate different bones and be able to articulate them to form an skeleton. • Students would make observations of organisms in their natural environment and document them.

COURSE OUTCOMES: B.Sc. T.Y. ZOOLOGY

COURSE CODE	Objective	Course Outcomes
PAPER-XII-ECOLOGY AND ZOOGEOGRAPHY:	• To understand and appreciate the interactions of organisms with their environments and the consequences of these interactions for population, community, and ecosystem dynamics. • To be aware of the current environmental issues with an understanding of the basic ecological concepts involved. • To study the local and geographical distribution and abundance of organisms (habitat niche, community, bio-	• Basic knowledge of feeding strategy of animals and plants. • Knowledge of interdependence of plants and animals. • Awareness about various climatic zones of earth. • Understanding of climatic and weather phenomena.

	geography). • To understand the inter-relationship between individuals in population and communities (population ecology). • To study the structural adaptations and functional adjustment of organisms to their physical environment. • To study the conservation and management of natural resources and pollution (applied ecology).	
PAPER-XIII (D)- ENVIRONMENTAL BIOLOGY – I	• To identify the fundamental structure and function of an ecosystem. • To compare and contrast different types of ecosystems. • To study the Biodiversity and its classifications, identify threats to Biodiversity; know and apply methods to conserve Biodiversity.	• Knowledge about geography of India. • Awareness about industrial status of Maharashtra and India. • Understanding about feeding strategy of animals and plants. • Knowledge about basic chemical processes and various chemicals used by society.
PAPER-XIV- ETHOLOGY, BIOMETRY AND BIOINFORMATICS:	• To study the behaviour of organism under natural conditions (Ethology). • To understand the concepts of Biometry. • To get acquainted with and apply the fundamentals of applied statistical methodology. • To give students an introduction to the basic practical techniques of bioinformatics. • To emphasize the application of bioinformatics and biological databases for problem solving in real-life & research. • To familiarize student with the use of a wide variety of internet applications, biological database and to enable them to apply these methods under various situations.	• Knowledge of sensory systems in animals. • Awareness about nervous systems in animals and their intelligence. • A basic sense of behavior and different behaviors. • Knowledge of different types of operating systems, general application software. • Ability to use internet for searching general information and use of web browser.
PAPER-XV(D)- ENVIRONMENTAL BIOLOGY – II:	• To understand pollution status, including its causes and effects on environment. • To learn to protect oneself and the environment from the	• Knowledge about geography of India. • Awareness about industrial status of Maharashtra and India.

	adverse effects of environmental pollution. • To use an interdisciplinary approach to analyze environmental issues and problems. • To develop a worldview related to an understanding of current environmental issues and how global problems affect us locally.	• Understanding about feeding strategy of animals and plants. • Knowledge about basic chemical processes and various chemicals used by society.
PRACTICAL Ecology, Zoo-geography, Ethology, Biometry and Bioinformatics (P-XVI) Environmental Biology (XVII (D)	• To improve the skills of students in microscopy, whole mount preparation, observations, drawings and laboratory techniques. • To acquaint the students with operations of the different laboratory equipment. • To equip the student with the necessary skills in standard operating procedures for laboratories and handling of chemicals, reagents and glassware. • To instill an understanding of the methods and protocols for handling and maintenance of animals for experiments. • To provide basic practical skills and experience in using laboratory techniques in experimentation. • To train the students in the analysis of experimental data with statistical and computer aided techniques. • To induct the students in the activity of field observation of natural phenomena and organisms through excursion and drafting of reports in a scientific and objective manner. • To equip the students with the understanding of taxonomy and other aspects of different organisms so that they become capable of classifying any given organism, at least up to the level of Order.	• Knowledge about Physicochemical analysis of water • Understanding about Ecological Adaptations • Awareness about Vertebrate Endangered Species or Threatened Wild Animals. • Knowledge about Problems Based on Mean, Mode, Median and Classification of Data such as i) Histogram, ii) Pie-Diagram, iii) Polygon Frequency Curve. • Knowledge about and hand on performance of online search on Biological information/Literature. How to access the biological data from NCBI and Pub Med and BLAST- Sequence Search & alignment.