

Course objective

BS322 Comparative Anatomy and Developmental Biology

Objective: On completion of the course, students are able to understand:

- Ontogenetic and phylogenetic developmental in vertebrates
- the structural comparisons of vertebrate systems in major groups of vertebrates
- the terms: Gametogenesis, Fertilization and early development
- cleavage and its types based upon egg organization, cell types and cell patterns
- stem cells, cell potency, cell competence, embryonic induction and cell determination

BS132 Animal diversity I “Nonchordates”

Objective: On completion of the course, students are able to understand:

- the general taxonomic rules on animal classification and the complex interactions among animals of different phyla
- Classification of Protista and Phylum Porifera to Echinodermata with taxonomic keys
- Distinguishing characters of non chordates
- Complex evolutionary processes and behaviour of different animals

BS221 “Chordates” Animal Diversity-II

Objective: On completion of the course, students are able to understand:

- Organization of Protochordata, Urochordata and Cephalochordata
- Classification of various classes of vertebrates i.e. Pisces, Reptiles, Aves and Mammals
- External morphology and sexual dimorphism in chordates

BS233 Animal Physiology

Objective: On completion of the course, students are able to understand:

- about various metabolic and physiological mechanisms of the human body
- the mechanisms that work to keep the human body alive and functioning
- The course also prepare students for a number of Part II Natural Science courses, principally Physiology, Development & Neuroscience, but also Pharmacology, Pathology and Zoology, among others

BS215 Food Biotechnology

- This course aims to impart an insight into the classification, ingredients and additives of food.
- Importance of studying this paper is highlighted reflecting on the current changing needs of the students by providing latest information of food processing and preservation techniques.

- To understand production of fermented food and beverages.
- To study international and national food laws, standards.

BS222 Angiosperm morphology and Taxonomy

- This course aims to impart an insight into the habit, vegetative characters and diversity.
- To study internal structure and reproduction of the most evolved group of plants, the Angiosperm.
- This course helps the students to understand the distinguishing features of angiosperm families and get an insight in to the fruit, seed development and inflorescence.

BS321 Plant Anatomy and Embryology

- This paper deals to understand the scope and importance of plant anatomy and embryology of angiospermic plant.
- Importance of studying this paper is highlighted reflecting on the current changing needs of the students by providing latest information of various tissue systems, anomalous secondary growth in plants.
- To understand structure and development in microsporangium and megasporangium, process of microsporogenesis and megasporogenesis.
- To know fertilization, endosperm and embryogeny.

BS231 Ecology and Adaptation

- To provide introductory knowledge on plant communities.
- To study ecological adaptations along with biotic and abiotic environmental factors.
- This course helps to learn about phylogeographic and zoogeographic realms, vegetation types of India, plant types and succession.
- To study adaptation in animals along with their behavior.

BS 232 Plant Physiology

- To explain principle of plant functions covering physiological processes in plants, such as biochemical metabolism, secondary products, water and solute.
- Understand the process of photosynthesis in higher plants with particular emphasis on light and dark reactions, C3 and C4 pathways.
- To know the importance of the photosynthesis as related to harvesting solar energy and plant productivity.
- To study plant hormone and its relation with plant growth and development.

Medical Biotechnology (BS-304) B.Sc (BT) III

Course objective

- The objective of this course is to have a firm foundation in the basics of different microbial diseases along with its therapies and some medico-legal aspects and ethical issues.

B.Sc Biotechnology

Biophysical (BS-202) B.Sc (BT) II

Course objective

- Advanced instrumental techniques are used to understand the theoretical principles involved in Bioinstrumentation which may be used for the determination of nutrients, major ions and trace elements, biological samples together with the analytical techniques. Some of these techniques are particularly useful for the detailed analysis of recent methodologies used in the chemical analysis of biota.

B.Sc Biotechnology

Cell biology and genetics (BS-203) B.Sc (BT) II

Course objective

- The objective of this course is to have a firm foundation in the fundamentals of genetics and cell biology and its behaviour.

B.Sc Biochemistry

Fundamental of Genetics (BS-241)

Course objective

- The objective of this course is to have a firm foundation in the fundamentals of genetics and *Drosophila* development.

B.Sc Biotechnology

Animal Science (BS-111) I yr/II sem

Course objective

- To understand the inter relationships within and between anatomical and physiological systems of the human body.
- To understand the importance of economic zoology.

M.Sc Biochemistry

Physiological and Clinical biochemistry (BS-523) III semester

Course objective

- The objectives of this course are to demonstrate, through lectures and other lab based methods, how basic biochemistry and analytical chemistry can be applied to medical diagnosis, treatment and management. It will use examples within human system to demonstrate clinical disorders, the biochemical consequences of particular disease process and the response to therapy.
- To understand the inter relationships within and between anatomical and physiological systems of the human body.

M.Sc Biotechnology

rDNA Technology (BS-501)

Objective: The objective of this course is to give students a basic understanding of various components required for gene cloning.

M. Sc Biochemistry

Genetic Engineering (BS 521)

Objective: The objective of this course is to give a deeper insight in the various techniques employed in genetic engineering including their application.

B.Sc Life Sciences

Genetic Engineering (BS 303)

Objective: The objective of this course to give a brief outlook of various tools and procedure required in gene cloning along with their application in human health

BS305 Genomics, Proteomics & Metabolomics

Course Objective:

To provide students a proper understanding of techniques used in genomics, proteomics and metabolomics and their application in various fields.

BS444 Microbial Cytology and Genetics

Course Objective:

- To give students a proper understanding of prokaryotic and eukaryotic cell organization.

- To develop in students the understanding about mechanism and regulation of eukaryotic cell cycle and signal transduction.
- To explain students about various methods of gene transfer in bacteria.

BS504 Advanced Molecular Techniques

Course Objective:

To develop in students the understanding about advanced techniques used in molecular biology and biotechnology and their application.