B.S.C. Zoology Degree Course

(Affiliated Colleges)

(For the students admitted from the academic year 2017-2018 and onwards)

Note: The revised syllabus for the Semester I:Core Paper I - BIODIVERSITY OF INVERTEBRATES Semester V: Core Practical III Based on core Papers V, VI, and VII and Semester – VI, Core Paper – VIII PHYSIOLOGY AND ENDOCRINOLOGY, Semester – VI, Skill Based Paper IV (Based on Skill based papers I, II & III) are furnished below be followed and there is no change in the existing scheme of examination and syllabi of remaining papers.

Semester – I core paper – I
BIODIVERSITY OF INVERTEBRATES

Objectives: 1. To understand Biodiversity, Habitat, Adaptation organization and taxonomic status of invertebrates.
2. Explaining the basic aspects of classification, structural and functional details of Invertebrates.

Unit I:
Protozoa : Classification up to orders and their characters with suitable Indian examples
Type study : Paramecium
General topic : Protozoan diseases and their control (Plasmodium Life cycle in detail)
Kingdom : Animalia
Porifera : Classification up to orders and their characters with suitable Indian examples.
Type Study : Leucosolenia
General topic: Economic Importance of sponges.

Unit II:
Coelenterate : Classification up to order and their characters with suitable Indian examples.
Type Study : Obelia
General topic : Coral reefs, Polymorphism in Coelenterates.

Unit III:
Helminthes : Classification up to order and their characters With suitable Indian examples.
Type Study : Taenia solium
General topic : Nematode parasite and their parasitic adaptation
Annelida : Classification up to order and their characters with suitable Indian examples.
Type Study : Earth Worm
General topic: Filter feeding in polychaetes.

Unit IV:
Arthropoda : Classification up to order and their distinguishing characters with suitable Indian examples.
Type Study : Cockroach

Unit V:
Mollusca: Classification up to order and their Distinguishing characters with suitable Indian examples.
Type Study: Pila globosa
General topic: torsion in Gastropoda, Economic importance of Mollusca
Echinodermata: Classification up to order and their Distinguishing characters with suitable Indian examples.
Type Study: Star fish
General topic: Larval forms and their significance.

Text books for study:
3. Ebanasar and Sheeja 2006 outlines of five kingdoms of life, “Shine and twinkle publication”.

Books for reference:

SEMESTER V
Core Practical III
Based on core Papers V, VI, and VII

3. Chironomous larva – Giant Chromosomes. (Drosophila / Chironomous)
4. Drosophila male and female. - Genetic importance
5. Homologous and analogous organs – Fore limbs and Hind limbs.
6. Fossils – Any Two
7. Qualitative estimation of carbohydrates, Protein and Lipids.
10. pH meter.
11. Centrifuge.
13. Plasmid (Any two)
14. Cosmid
15. Phagemid.
16. Isolation of DNA (demonstration only)
Objective: Explaining various aspects of physiological activities of animals with special reference to humans.

Unit – I

Unit – II
Circulation: Composition and function of blood – Types of Hearts – Neurogenic – Myogenic - ECG. Blood pressure Mechanism of Blood clotting Excretion – Classification of animals based on the nature of excretory products, ornithine cycle Osmo regulation in fresh water and marine animals.

Unit – III

Unit – IV
Receptors: Eye, ear, Thermoreceptors. Endocrinology: Structure, secretions and functions of Pituitary, Thyroid.

Unit – V Structure, secretions and functions of Parathyroid, adrenal, islets of langerhans, Testis ovary, placenta, Pheromones.

Text books for study:

Books for reference:
Semester – VI, Skill Based Paper IV
(Based on Skill based papers I, II & III)

PRACTICALS

1. Technique of sterilization using Autoclave and Pressure cooker
2. Preparation of Nutrient Agar and broth
3. Enumeration of Microbes in soil, air & water (Individual practical)
4. Determination of microbiological quality of raw milk and pasteurized milk samples – using MBR test (Methylene Blue Reduction)
5. Hanging drop technique
6. Gram’s staining, Spore staining
7. Mounting of Algal/Fungal filament
A visit to Industry / laboratory – A report to be submitted.

SPOTTERS
1) Thymus Gland, 2) Any bacteria / MTCC, 3) Penicillin,
4) Antibiotic disc, 5) Yeast, 6) Plasmodium,
7) Autoclave, 8) Pressure cooker, 9) VDRL Kit, 10) Membrane filter
11) Nutrient Agar Medium, 12) Anaerobic Jar