A.V.Education Society's DEGLOOR COLLEGE, DEGLOOR <u>Programme Outcomes – (Zoology)</u>

- After completing this specific programme (B.Sc.) (Zoology)
- 1. Students will aware importance of Ecology-Environment subject in "UPSC-MPSC Examination.
- 2. Important career in "INDIAN COUNCIL OF MEDICAL RESEACH(ICMR) NEW DELHI."
- 3. Importance in research "INTERNATIONAL BARCODE OF LIFE DNA BIODIVERSITY."
- 4. Importance in research "IMMUNOLOGY LABORATORY TEST NCBI."
- 5. Importance in research "AGRICULTURAL ZOOLOGY"
- 6. "CSIR-UGC LIFE SCIENCE EXAMINATION"
- 7. Management & Control in "Biodiversity & Conservation of Life"
- 8. Opportunities in" Sericulture, Apiculture, Entomology, Agricultural Nematology."
- 9. Opportunities in "Maleria, Filariasis, Physiologists, Consultant.
- 10. Contribution in" Socio-Economic Sector"

Course Outcomes - (Zoology)

B.Sc. First Year

Semester - I (Paper-wise)

Name of the Paper – I

PAPER I: Biodiversity of Invertebrates

- A) Zoology deals with study of the animals. It embodies study of the structure, embryonic development, classification, habits, distribution and evolution of all animals, both living and extinct.
- B) There are several specializations available to students pursuing this field. There are several groups of animals studied in Zoology like Invertebrates, Vertebrates and others.

C) In the study of zoology, there are many options to choose from depending on individual capabilities and interests.

D)The University has introduced the Choice Based Credit System (CBCS) in its curricula. Following is a briefing about CBCS as envisaged by the UGC.

Name of the Paper – II PAPER II: Biodiversity of Chordates

- A) The Core Courses (CC) offered to students of B.Sc. I Year Zoology are aimed at preparing the students for their future study and career.
- B) The students are prepared for pursuing their post-graduate studies. They would also be able to take up entrepreneurship related to biological sciences.

C)Additionally, the students could choose to take up positions in public or private sectors like fishery, forestry, wildlife conservation, agricultural research, health services, environmental management and restoration.

Semester – II Name of the Paper – III Comparative Anatomy of Vertebrates

A) The course contents offered are related to Animal Morphology, Taxonomy, Anatomy and Development.

B) These courses would induce understanding of the subject so that the student could later take up specialized post-graduate courses and also pursue research in the relevant field.

C)The students could also explore possibilities in developing themselves in such specialized fields to fit in the competitive environment.

Name of the Paper - IV

PAPER IV: Developmental Biology of Vertebrates. Practical Paper- V: Biodiversity of Invertebrates and Chordates & Comparative Anatomy and Developmental Biology of Vertebrates

Study of the fields of Biodiversity of Invertebrates & Chordates and Comparative Anatomy of Vertebrates & Developmental Biology of Vertebrates equips students to pursue further study in a wide variety of subjects. It also prepares the students for future research in any of the related fields. Such a broad coverage of topics in the first year of the course also helps in widening their perspective of biological sciences

B.Sc. Second Year

Semester – III Name of the Paper - VI PAPER VI: Physiology

Develop knowledge about the functions of organs and tissues in the human body:

1-The major aims of this course are to provide students with a basic understanding of the fundamental processes and mechanisms that serve and control the various functions of the body.

2-It should be noted that, although introductory, this course in Human Physiology is comprehensive in scope. Areas treated in detail include both relatively simple cellular mechanisms as well as more complex interactions between whole organ systems.

3-The major areas of study include excitable tissues, muscle, blood, the cardiovascular system and neurophysiology. primary literature to develop the ability to think critically about issues in animal physiology and write about those in an effective manner.

4- To learn to properly and safely use animals and modern laboratory equipment to conduct research.

Name of the Paper - VII PAPER VII: Biochemistry

Practical Paper- X: Physiology and Biochemistry (Practical based on P-VI & VII) SEC – I (Name of the Paper)

SECZ -I (A) : Haematology.

A)To improve the skills of students in microscopy, whole mount preparation, observations, drawings and laboratory techniques.

B)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.

C)To instill an understanding of the methods and protocols for handling and maintenance of animals for experiments.

D)To provide basic practical skills and experience in using laboratory techniques in experimentation.

Semester – IV Name of the Paper - VIII PAPER VIII: Cell Biology and Genetics

- 1. A working understanding of the genetic terminology required to be able to function well in the transfusion laboratory.
- 2. An understanding of the clinical relevance of genetic concepts.
- 3. Knowledge of Internet genetics resources.
- 4. Knowledge of current developments and trends in applying genetics to transfusion medicine.
- 5. An historical perspective of how genetics has evolved.
- 6. An appreciation of the importance of genetics as a foundation of transfusion science theory and practice.

Name of the Paper - IX

PAPER IX: Evolutionary Biology & Genetic Engineering

Practical Paper- XI: Cell Biology, Genetics, Evolutionary Biology and Genetic

Engineering (Practical based on PVIII & IX)

1)To provide basic practical skills and experience in using laboratory techniques in experimentation.

2)To train the students in the analysis of experimental data with statistical and computer aided techniques.

3)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.

4)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.

SEC – II (Name of the Paper)

SECZ –II (D): Apiculture

1)To increase the knowledge of bees and bee culture;

2)To improve the standard of beekeeping amongst amateur beekeepers;

3)To assist in the study of subjects allied and relevant to apiculture;

4)To foster intelligent observation and good practical handling of bees;

5)To afford advice and assistance to beginners;

6)To arrange lectures, discussions, demonstrations and field days for the benefit of members;

7)To assist members in the acquisition of suitable apicultural literature and equipment by purchase or loan;

B. Sc. Third Year

Semester – V Name of the Paper - XII PAPER-XII- ECOLOGY AND ZOOGEOGRAPHY

A)To understand and appreciate the interactions of organisms with their environmentsB) To study the local and geographical distribution and abundance of organisms (habitat niche, c

C)To be aware of the current environmental issues with an understanding of the basic ecology D) To study the conservation and management of natural resources and pollution (applied ecology).

Name of the Paper – XIII (A) PAPER-XIII (A)-PISICULTURE

A) To exchange and circulate information, ideas and practical experience relating to fisheries and their management.

B) To enable students with Fishery specific knowledge for entering PG courses or fishery industries.

SEC – III (Name of the Paper) SECZ –III (F) : VERMICULTURE AND VERMICOMPOSTING

The introduction of this skill in the curriculum is with the objective that the learners should be able to do vermiculture in a systematic way and also be able to get hands on experience in all related activities till vermicomposting. This will increase the awareness and skill availability in the need of the day viz. organic farming

Semester – VI Name of the Paper-PAPER-XIV PAPER-XIV- ETHOLOGY, BIOMETRY AND BIOINFORMATICS. Practical Paper- XVI-ECOLOGY, ZOOGEOGRAPHY ETHOLOGY, BIOMETRY AND BIOINFORMATICS (Practical based on P-XII & XIV)

A)To improve the skills of students in microscopy, whole mount preparation, observations, drawings and laboratory techniques.

B)To acquaint the students with operations of the different laboratory equipment.

Name of the Paper – XII PAPER-XV (A)- AQUACULTURE Practical Paper- XVII (A)- PISICULTURE & AQUACULTURE (Based on P-XIII(A)& XV (A)

A)To introduce student to various types of aquaculture and culture methods.

B) To obtain knowledge of fishery science, with a particular emphasis on the biology, assessment, and

management of fish and invertebrate fisheries.

C) To create awareness about manmade hazards to aquaculture.

D) To elaborate the role of Larvivorous fishes in relation to public health.

SEC – IV (Name of the Paper) SECZ –IV (G): AQUARIUM KEEPING

Economic aspects of aquarium keeping are also covered in this course. Related study like fish

identification, preparation of supplementary food of concern fish species is also covered. This skill is

more self-employability oriented.