

**Vishwavidyalaya Research Entrance test (VRET) Syllabus for Entrance  
Exam, Department of Zoology**

**SECTION-A**

**Total Marks: 50**

**Paper 1: Research Methodology**

**UNIT I:** **10 Marks**  
**Basics of Research:** Definition and overview of Research, Need for Scientific Research, Bibliography, Research Aptitude, Citations and its importance, Research Ethics.

**UNIT II:** **10 Marks**  
**Data Collection and analysis:** Methods of data collection, Observation and Collection of data, Sampling Methods- Data Processing and Analysis strategies. Measures of dispersion: Range, Mean deviation, Standard deviation, Standard error of mean.

**UNIT III:** **10 Marks**  
**Basic statistical definitions and concepts:** Variables and Variation, Frequency Distributions and Cumulative Frequency Distributions, Test of significance: Student t- test, ANOVA; Elementary idea of probability, Central tendencies.

**UNIT IV:** **10 Marks**  
**General aptitude and Computation:** Basics of computers and operating systems, Blood Relation Test, Input-Output Test, Data Analysis and Interpretation Test, Ratios Test, Permutations and Combinations Test, Percentage Test, Symbol Sequence Test.

**UNIT V:** **10 Marks**  
**Reasoning:** Number Series, Verbal Classification, Analogies, Matching Definition, Verbal Reasoning, Statement and Assumption, Statement and Conclusion, Cause and Effect, Logical Deduction, Making Judgments, Logical Problems, Analyzing Arguments.

Section B

Vishwavidyalaya Research Entrance test (VRET) Syllabus for Entrance Exam  
Department of Zoology, School of Life Science

Section B: Subjective Paper (Zoology)

815 (B)

**UNIT I:**

**Animal Diversity and Biomolecules:** Principles and methods of taxonomy, Levels of structural organization, Comparative anatomy, adaptive radiation, adaptive modifications; Composition, structure and function of biomolecules; Bioenergetics, mechanism of enzyme catalysis.

**UNIT II:**

**Cell and Molecular Biology:** Structural organization and function of cell membrane and intracellular organelles; Cell division and cell cycle; Organization of genes and chromosomes, Replication, Transcription, Translation and gene regulation.

**UNIT III:**

**Animal Physiology and Developmental Biology:** Digestion, Cardiovascular, Respiratory, Excretory and nervous systems; Cell signaling, Endocrinology, reproduction and Immunology; Gametogenesis, Fertilization and Organogenesis.

**UNIT IV:**

**Genetics, ecology and evolution:** Mendelian's Principle and its extension; Sex determination, chromosomal aberrations and human genetics; Structure and function of Ecosystem, Population ecology, Biodiversity and conservation; Evolutionary thoughts, Molecular mechanism of evolution.

**UNIT V:**

**Biochemistry:** Biochemistry of Intermediary Metabolism, Proteins and Enzymology, Medical Biochemistry

**Endocrinology:** Human reproduction, Hormone Receptors and Signaling Mechanisms

**Fish Biology:** Fish Reproduction-Genetics and Biotechnology; Capture Fishery

**Neuroscience** Neurons, action potential, Neurotransmitters, synapse, blood brain barrier, common neurological disorders

**Toxicology:** History and scope of toxicology, toxic substances, dose response relationship, occupational hazards, antioxidant defence mechanism and oxidative stress.

*Sanku Sind*

*Arav*

*→*

*Mouli*

विभागाध्यक्ष  
HEAD  
जन्तु विज्ञान विभाग  
Department of Zoology  
गुरु घासीदास वि.वि., बिलासपुर  
Ghasidas Vishwavidyalaya, Bilaspur