

# **DEPARTMENT OF ZOOLOGY**

## **Syllabus for Ph.D Entrance Examination**

### **Unit I:**

Introduction to the Principles of Taxonomy, Phylum – Protozoa – General Characters and Classification upto class level – Type Study – Paramecium – External morphology and type study of Frog

### **Unit II:**

Plasma membrane – Ultra Structure – Chemical Composition, Functions – Endoplasmic reticulum – Structure, types and functions – Golgi Complex – Structure, Composition, Functions

### **Unit III:**

Mendel's Laws of Inheritance – Mendelian ratio – test cross – back cross – pleiotropism, penetrance, expressivity, linkage and crossing over, Genes – Fine Structure

### **Unit IV:**

Gametogenesis – spermatogenesis – oogenesis – types of eggs – fertilization – human reproduction – birth control – Infertility – test tube baby

### **Unit V:**

Circulation – Types of heart – composition of blood – blood clotting

### **References:**

1. Ekambaranatha Ayyar M. and Ananthakrishnan, T.N. 2003, A manual of Zoology, Volume I, Viswanathan (Printers and Publishers) Pvt. Ltd, Chennai
2. Ekambaranatha Ayyar M. and Ananthakrishnan, T.N. 1981, A manual of Zoology, part-II (Chordate), Viswanathan (Printers and Publishers) Pvt. Ltd, Chennai
3. DeRobertis, E.D.P, and DeRobertis, E.M.F., 2001, Cell and Molecular Biology
4. Sinnott, Dunn and Dobzansky, Principles of Genetics, McGraw Hill, Pub. Co
5. Belinsky, B.I., 1981, An Introduction to Embryology, Holt Saunders, New York.
6. William S.Hoer, 2004, General and Comparative Animal Physiology, Prentice Hall