**SYLLABUS FOR THE SUBJECT OF ZOOLOGY**

**PAPER – I**

**Total Marks: 100**

**Invertebrate and Chordate Zoology**

**Section – A**

**Invertebrate:** Introduction General organizations (Structure, function, mode of

life, Reproduction, life cycles, adaptation, distribution and Economic

Importance) of the Following groups with special reference to the

Topic mentioned in each group:-

**Protozoa:** Animal – like Protists:

Origin and Phylogenetic relationship of protozoa, parasitism,

Locomotion, Nutrition, Reproduction, Economic Importance and

Harmful Protozoa.

**Porifera:** Mullticellular and Tissue level of organization: origin and

Evolutionary perspeetive, Evolutions of canal system, skeleton and

Reproductive System in Porifera.

**Coelenterata:** Boy wall and Nematocysts, Polymorphism, Coral and Coral reefs,

Economic Importance of Coral reefs.

**Platyhelmenthes:** The Triploblastic Acoelomate Body plan: Evolutionary perspective,

Parasitic adaptation, life cycle of Fasciola Hepatica (liver fluke)

**Nematoda** The Pseudocoelomate Body Plan:

**(Aschelminthes):** Evolutionary Perspective, General characteristic, Economic

Importance. Parasitic Nematodes of man.

**Ammelida:** The Metameric Body Form:

Evolutionary relationship with other animals, Metamerism and

Tagmatization, Phylogenctic Consideration.

**Mollusca:** Origin of Coelome, Diversity in Gastropods, Bivalve and

Cepholopods, Torsion, shell in Mollusca, modification of foot in

Mollusca

**Arthropoda:** Ebolutionary Perspeetive, Metamarphosis, Ecdysis, Appendages

feeding, Respiration, Social insect, Economic Importance of

Insects, Larvae in various Classes of Arthropoda.

**Echinodermata:** Skeletion, Water vascular System, Larval farms and their

evolutionary significance, Phylogenetic Consideration.

**Section – B**

**Chordata:** Origin and basic plan of chordate, basic plane of vertebvrate body,

Earliest known vertebrate, Primitive jawed vertebrate, Evolution of

jaw in vertebrate, Swimblader in Fishes, Excretion and

Osmoregulation.

**Amphibian:** First terrestrial vertebrates:

Evolutionary perspective, Excretion and Osmoregulation,

Reproduction and development.

**Reptile:** The First Amniotes

Evoluion of Reptile, Rise and Fall of Reptile, Extinction of

Dinosaurs, Exeretion and Osmoragulation, Poisonous apparatus

and biting mechanism of poisonous snake.

**Aves:** Birds, Feathers, Flight and Endothermy:

Phylogenetic Relationship and evolution of Birds, Evolution of flight

in Aves, Aerial adaptation and Migration of Birds.

**Mammalia:** Specialized teeth, Endothermy:

Origin of mammals, Evolutionary perspectives, Diversity among

mammals, adaptation in External Structure and Locomotion,

vertebrate Excretion, osmoregulation, Reproduction and

development, Dentition in vertebrae, Comparative account of

Evolution of Heart, gridles Skull, development, nervous system,

Stomach in the vertebrate and urinogenital ducts in vertebrates;

**BOOKS RECOMMENDED (LATEST EDITION)**

*1. Barrington E. J. W., 1969 Invertebrate Structure and Function. The English*

*Language Book Society and Nelson London.*

*2. Willmer,P. 1991 Invertebrate Relationships (pattern in animal evolution) Cambridge*

*University Press.*

*3. Barnes, R.D.(1980). Invertebrate Zoology (4th ed.), Saunders, Philadelphia.*

*4. Hegner and Engemann. Invertebrate Zoology Macmillan Publishing Company Inc,*

*New York.*

*5. Parker and Haswell. A Text Book of Zoology. (Vol.!) Macmillan London.*

*6. Borredaile, L.A., Potts, F.A. Eastham, L.E.S., Saunders, J.T. and Kerkut, G.A.*

*(1961). The Invertebrata. Cambridge University Press.*

*7. Hyman L.H, The Invertebrates. McGraw Hill Book Company Inc.*

*8. Bhatti, H.K. and Hashmi, T .H. Invertebrate Zoology Caravan Book Corporation,*

*Lahore.*

*9. Dhami and Dhami. Comparative Invertebrate Morphology.*

*10.F. Harvey Pough, John, Bheiser, William N. Mcfarland Vertebrate life. 2nd Edition,*

*1985., and 3rd Edition, 1990.*

*11. G.C. Kent, 1987. Comparative Anatomy of vertebrates.*

*12.Yong, J. Z. 1965. The life of Mammals.*

*13.Young, J.Z. 1981. The Life of Vertebrate.*

*14.Romer & Parson, The vertebrate body. 6th Edition.*

*15.Edwin H Colbert. 1980. Evolution of the verttbrates. 3rd edition.*

*16.Miller. A.S. and Harley. J.B., (1999) & 2002; Zoology. 4th &5th Edition (International).*

*Singapore: McGraw Hill.*

*17.Hickman, C.P., Roberts. L.S. and Larson. A. 2001. Integrated Principles of Zoology.*

*11 th Edition (International). Singapore: McGraw Hill Pechenik, J .A. (2002) Biology*

*of Invertebrate. 4th Edition (International). Singapore: McGraw Hill.*

*18.Campbell, N.A. (2002). Biology Sixth Edition. Menlo Park. California:*

*Benjamin/Cummings Publishing Company. Inc.*