

## M.Sc. Final

### PAPER-I COMPARATIVE ANATOMY OF VERTEBRATES

(Questions will be set from each unit)

- UNIT - I**
1. Ancestry of Chordates
  2. Inter relationship of urochordata and Cephalochordata and their relationship with other Deuterostomes.
  3. Tunicates : Reproduction, Development and meamorphosis.
  4. General Organization, Affinities and Systemic position of Amphioxus.
  5. Organs and Mechanism of Feeding in Urochordate and Cephalochordate.
- UNIT - II**
1. Origin, Evolution, General organization and Affinities of "Ostracoderms".
  2. General Organization, Specialised, Generalised and Degenerated characters of "Cylosomes".
  3. Origin, Evolution and General organization of early gnathostomes "Placoderms".
  4. General account of Elasmobranchi, Holocephali, Dipnoi and Crossopterygee.
  5. Integument and its derivatives in vertebrates.
  6. Fligh and gliding in Vertebrates.
- UNIT - III**
1. **General Plan of Circulation in Various Groups :**  
(a) Blood. (b) Evolution of Heart. (c) Evolution of aortic arches and portal systems
  2. **Respiratory System :** (a) Characters of respiratory tissue. (b) Internal and external respiration. (c) Comparative account of respiratory organs.
  3. **Skeletal system :**  
(a) Forms, Function, Body Size and Skeletal Elements of the Body.  
(b) Comparative Account of Jaw Suspensorium, Vertebra Column.  
(c) Limbs and Girdles.
- UNIT - IV**
1. **Evolution of urinogenital system in vertebrate series.**
  2. **Sense organs :** (a) Simple receptors. (b) Organs of olfaction and taste. (c) Lateral Line System. (d) Electro Reception.
  3. **Nervous System :**  
(a) Comparative anatomy of the brain in relation to itsk functions.  
(b) Nerves - Cranial, Peripheral and Autonomous nervous systems.