

## **Mode of Examination: Online**

**Unique paper code :** 32231401

**Name of the paper :** Comparative Anatomy of Vertebrates

**Name of course :** B.Sc. (Hons) Zoology

**Semester :** IV, CBCS

**Duration :** 2 Hours

**Maximum marks :** 75

*Attempt ANY FOUR questions. All questions carry equal marks.*

### **Questions:**

1. The Stratum Corneum of Craniates produces a variety of cornified structures for the purpose of offence, defense and thermoregulation. Justify the statement.
2. The Arterial channels supply oxygenated blood to most organs and carry deoxygenated blood to respiratory organs. In different vertebrates, the modifications of aortic arches are correlated with respiration. Explain with the help of well labelled diagrams.
3. Grain eating birds have a specialized Oesophagus and Ruminants have a stomach adapted for digesting cellulose. Discuss.
4. Avian lungs have distensible diverticula, an adaptation for aerial mode of life. Discuss. Also explain the mechanism for respiration when a bird is in flight and when the bird is at rest.
5. The adult kidney of mammals develops from the nephrogenic mesoderm. Elaborate your answer with suitable diagram.
6. Light receptors play an important role in the survival of vertebrates on land. Explain the structure and functions of a generalized visual organ that focusses light from the environment onto a photosensitive epithelium, where an image is formed. Also explain the concept of colour vision in some mammals and specialized features of eyes of Raptorial birds.