



**RAJARATA UNIVERSITY OF SRI LANKA  
FACULTY OF APPLIED SCIENCES**

**B.Sc. (General) Degree in Applied Sciences  
First Year - Semester II Examination – October/November 2017**

**ZOO 1303 – VERTEBRATE DIVERSITY**

**Time: Three (03) hours**

**Answer any six (06) of the following questions.**

1. a) Discuss the five (05) chordate hallmarks. (25 marks)  
 b) Describe the characteristic features of a named hemichordate. (50 marks)  
 c) Explain why the hemichordates are not categorized under chordates. (25 marks)
  
2. a) With suitable examples and diagrams, describe the different types of caudal fins in fish that are classified according to the **extension of vertebral column**. (20 marks)  
 b) Explain the function of spiracles present in sharks, rays and skates and how the position of spiracles facilitates their mode of life. (30 marks)  
 c) Describe the characters of sarcopterygians and how they differ from actinopterygians. (50 marks)
  
3. Anurans are the most diverse and widespread group of amphibians. Critically evaluate the key characters that may have helped the anurans to diversify and spread widely. (100 marks)



4. a) Describe the major features of reptiles that have allowed them to colonize land.  
(70 marks)
- b) A recent study predicted that 20% of the global lizard diversity may become extinct by 2080 due to global warming. Briefly evaluate this statement using your knowledge on reptile behaviour, physiology and life history.  
(30 marks)
5. a) Outline the features that can be observed in a typical bird.  
(20 marks)
- b) Using suitable examples, explain how birds have adapted for different habitats.  
(80 marks)
6. Discuss the specialization of skeletal, circulatory, respiratory and excretory systems of birds for an aerial life.  
(100 marks)
7. a) Write a brief account on the evolution of mammals.  
(40 marks)
- b) Describe briefly the soft tissue characteristics of the mammals.  
(60 marks)
8. Discuss the behavior and ecology of proboscideans.  
(100 marks)

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