



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

**Bachelor of Science in Applied Sciences
First Year - Semester II Examination – January/ February 2023**

ZOO 1302 – VERTEBRATE DIVERSITY

Time: Three (03) hours

Answer any SIX (06) questions.

1. a) Explain the criteria used to include an animal under phylum Chordata. **(30 marks)**
 b) Discuss the modifications and upgrading of anatomical and physiological systems in chordates when they evolved to vertebrates. **(70 marks)**
2. a) Compare the feeding behaviour of lamprey and hagfish. **(40 marks)**
 b) Giving suitable examples, explain why Elasmobranchs and Holocephalians are placed in different subclasses although they belong to the category of cartilaginous fishes. **(60 marks)**
3. a) Describe the general reproductive mode of modern amphibians and compare how it differs among the different orders of modern amphibians. **(75 marks)**
 b) Scientists predict that global climate change will lead to global changes in rainfall, humidity and temperature. Briefly evaluate how these global changes could affect reproduction in modern amphibians. **(25 marks)**

4. Reptiles are considered the conquerors of land. Support this statement by describing the biological innovations of reptiles that allowed them to colonise land. **(100 marks)**
5. a) Citing suitable examples, briefly discuss the main morphological and anatomical adaptations of birds for an aerial life. **(70 marks)**
- b) Describe briefly the mechanism of flight in birds. **(30 marks)**
6. The mammalian body plan is often referred to as a “winning design”. Justify this statement and write a brief account of the features that contribute to the “winning design”. **(100 marks)**
7. Write a concise account of the Order- Monotremata. **(100 marks)**

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