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The Open University of Sri Lanka
Faculty of Natural Sciences
B.Sc/B. Ed Degree Programme

Department	: Zoology
Name of the Examination	: Final Examination 2023/2024
Academic Year	: 2023/2024
Course Code and Title	: ZYU5307-Mammalian Biolog
Level	: 5
Date	:18.03.2024
Time	: 9.30 a.m. – 11.30 a.m.
Duration	: Two hours

General Instructions to Candidates

1. Read all instructions carefully before answering the questions.
2. This question paper consists of **three (02) pages** and **Six (06) questions**.
3. Answer any **four (04) questions**.
4. The answer for each question should commence from a new page.
5. Use blue or black ink to write your answers.
6. Draw fully labelled diagrams where necessary.
7. Write the numbers of the questions you answered on the front page of the answer script.
8. Clearly write your index number in the answer script.
9. Do not bring in or have in possession unauthorized materials, including mobile phones and other electronic devices, or violate other examination rules.
10. Handover your answer script at the end of the examination.

Answer any four (04) questions

1. Describe the unique features of mammals that enable them to survive in diverse ecosystems. (100 marks)

2. 2.1 It is important for mammals to maintain their body temperature at an optimum level. Discuss why it so (25 marks)

   2.2 Discuss the challenges faced by mammals living in deserts in terms of regulating their body temperature (20 marks)

   2.3. Citing examples, discuss how mammals living in deserts maintain the endothermicity (55 marks)

3. 3.1 Describe the adaptations seen in bats for an areal mode of life. (60 marks)

   3.2 Define the terms "Aspect ratio" and "Wing load" of a bat wing and discuss how these factors determine the forging habitats of bats. (40 marks)

4. Assume that you are a curator of a natural history museum and were given skulls of four different mammals, each adapted to a carnivorous, herbivorous, omnivorous, and insectivorous mode of life.

   4.1. What characters can you use to ascertain if the skulls belong to mammals? (20 marks)

   4.2 Explain the unique characteristics of skulls that would enable you to identify each as a carnivorous, herbivorous, omnivorous, or nsectivorous mammal. (80 marks)

5. Compare and contrast between the following. (50 marks x 2)

   a) Marsupials and Eutherians

   b) Primates in the group Strepsirrhini and Haplorrhine

6. Write short notes on any two (02) of the following (50 marks x 2)

   a) Hair

   b) Embryonic diapause in kanagaroos

   c) Skull adaptations of bats for feeding on blood.

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