

**SULIT**

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First Semester Examination  
2021/2022 Academic Session

February/March 2022

**BZT305- Vertebrate Zoology  
(Zoologi Vertebrata)**

Duration : 2 hours  
(Masa : 2 jam)

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Please check that this examination paper consists of TWO (2) pages of printed material before you begin the examination.

*[Sila pastikan bahawa kertas peperiksaan ini mengandungi TWO (2) muka surat yang bercetak sebelum anda memulakan peperiksaan ini.]*

**Instructions** : Answer **FOUR (4)** questions from 5 questions.

**Arahan** : Jawab **EMPAT (4)** soalan daripada 5 soalan. ]

In the event of any discrepancies, the English version shall be used.

*[Sekiranya terdapat sebarang percanggahan pada soalan peperiksaan, versi Bahasa Inggeris hendaklah digunapakai].*

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1. Describe the characteristics of the following groups:  
*[Huraikan ciri kumpulan berikut.]*
  - [i]. Order Crocodilia: gharials, crocodiles and alligators.  
*[Order Crocodilia: gharial, buaya dan aligator.]*  
[15 marks / 15 markah]
  - [ii]. Extinct groups of reptiles – pterosaurs and ichthyosaurs.  
*[Kumpulan reptilia yang pupus – pterosauria dan iktiosauria.]*  
[10 marks / 10 markah]
2. Examine and discuss the fish-amphibian transition in the context of early anatomical preadaptation and the environmental conditions under which the transition occurred.  
*[Teliti dan bincangkan transisi ikan-amfibia dalam konteks praadaptasi anatomi awal dan keadaan persekitaran di mana transisi berlangsung.]*  
[25 marks / 25 markah]
3. Discuss the fossil records of vertebrates during the Mesozoic Era and the Cenozoic Era.  
*[Bincangkan rekod fosil vertebrata semasa Era Mesozoik dan Era Kenozoik.]*  
[25 marks/ 25 markah]
4. [a] Explain the flight evolution in vertebrates.  
*[Jelaskan evolusi penerbangan pada vertebrata.]*  
[15 marks / 15 markah]  
  
[b] Differentiate the morphological flight adaptations between birds and bats.  
*[Bezakan adaptasi morfologi penerbangan antara burung dan kelawar.]*  
[10 marks / 10 markah]
5. [a] Differentiate the reproductive patterns of pouched marsupials and placental mammals.  
*[Bezakan corak reproduktif marsupial berkantung dan mamalia berplasenta.]*  
[10 marks / 10 markah]  
  
[b] Describe the characteristics and structure of teeth, horns and antlers in mammals.  
*[Huraikan ciri dan struktur gigi, tanduk dan antler pada mamalia.]*  
[15 marks / 15 markah]

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