
UNIVERSITI SAINS MALAYSIA

First Semester Examination
2014/2015 Academic Session

December 2014 / January 2015

BZT 212/3 - Vertebrate Zoology
[Zoologi Vertebrata]

Duration : 3 hours
[Masa : 3 jam]

Please ensure that this examination paper contains **FOUR** printed pages before you begin the examination.

*[Sila pastikan bahawa kertas peperiksaan ini mengandungi **EMPAT** muka surat yang bercetak sebelum anda memulakan peperiksaan ini.]*

Instructions: Answer **FIVE** (5) out of **SIX** (6) questions, in English or Bahasa Malaysia. Each question carries 20 marks.

[Arahan: Jawab **LIMA** (5) daripada **ENAM** (6) soalan yang diberikan dalam Bahasa Inggeris atau Bahasa Malaysia. Tiap-tiap soalan bernilai 20 markah.]

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

[Sekiranya terdapat sebarang percanggahan pada soalan peperiksaan, versi Bahasa Inggeris hendaklah diguna pakai].

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1. Write short notes on the following topics. Select **TWO** (2) from **THREE** (3) topics.

*[Tulis nota ringkas tentang topik berikut. Pilih **DUA** (2) daripada **TIGA** (3) topik.]*

- [a] Group of Order Crocodilia: gharials, crocodiles and alligators.

[Kumpulan Order Crocodilia: gharial, buaya dan aligator]

(10 marks / 10 markah)

- [b] Snake venom.

[Bisa ular.]

(10 marks / 10 markah)

- [c] Order Sphenodonta: Tuatara.

[Order Sphenodonta: Tuatara.]

(10 marks / 10 markah)

2. Write short notes on the following topics. Select **TWO** (2) from **THREE** (3) topics.

*[Tulis nota ringkas tentang topik berikut. Pilih **DUA** (2) daripada **TIGA** (3) topik.]*

- [a] Coelacanth (Class Osteichthyes)

[Coelacanth (Kelas Osteichthyes)]

(10 marks / 10 markah)

- [b] Ecology and reproduction of lamprey (Class Cephalaspidomorphi)

[Ekologi dan pembiakan lampri (Kelas Cephalaspidomorphi)]

(10 marks / 10 markah)

- [c] Holocephali (Class Chondrichthyes).

Holocephali (Kelas Chondrichthyes).]

(10 marks / 10 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.]

(20 marks / 20 markah)

4. Discuss the following topics :

[Bincangkan topik berikut :]

[a] Order Apoda (Gymnophiona).

[Order Apoda (Gymnophiona).]

(10 marks / 10 markah)

[b] Respiratory system of amphibian.

[Sistem pernafasan amfibia.]

(10 marks / 10 markah)

5. Discuss the **FIVE** (5) types of integumentary glands in mammals.

*[Bincangkan **LIMA** (5) jenis kelenjar integumen pada mamalia.]*

(20 marks / 20 markah)

6. Write short notes on the following topics. Select **TWO** (2) from **THREE** (3) topics.

*[Tulis nota ringkas tentang topik berikut. Pilih **DUA** (2) daripada **TIGA** (3) topik.]*

- [a] Structure and type of feathers in birds.

[Struktur dan jenis bulu burung.]

(10 marks / 10 markah)

- [b] Evolution of flight in birds.

[Evolusi penerbangan burung.]

(10 marks / 10 markah)

- [c] Migration, migration routes and direction finding in migration for birds.

[Migrasi, laluan migrasi dan penentuan arah migrasi burung.]

(10 marks / 10 markah)

