



UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2023/2024**

- COURSE NAME : BIOGEOGRAPHY / BIOGEOGRAPHY AND EVOLUTION
- COURSE CODE : BWJ 21402 / BWJ 21602
- PROGRAMME CODE : BWW
- EXAMINATION DATE : JULY 2024
- DURATION : 3 HOURS
- INSTRUCTIONS :
1. ANSWER ALL QUESTIONS
 2. THIS TEST IS CONDUCTED VIA
 Open book
 Closed book
 3. STUDENTS ARE **PROHIBITED** TO CONSULT THEIR OWN MATERIAL OR ANY EXTERNAL RESOURCES DURING THE TEST CONDUCTED VIA CLOSED BOOK

THIS QUESTION PAPER CONSISTS OF **FOUR (4)** PAGES

TERBUKA

CONFIDENTIAL

- Q1**
- (a) Alfred Wegener hypothesized the existence of a super continent called Pangaea. Discuss **ONE (1)** type of evidence supporting the existence of a super continent. (2 marks)
- (b) Explain, in detail, **TWO (2)** ways how plate tectonics can influence the distribution of life on Earth. (4 marks)
- (c) A huge market exists for temperate climate fruits such as apples and pears. Recommend a place in Malaysia suitable for growing apples and pears and explain your rationale for choosing this place. (6 marks)
- (d) Climate scientists would like to understand what the climate was like in Malaysia hundreds of thousands of years ago. Outline **ONE (1)** possible way for studying Malaysia's historical climate. (8 marks)
- Q2**
- (a) What is an Ice Age? (2 marks)
- (b) Orangutan (*Pongo*) can be found on the islands of Sumatra and Borneo today. In addition, fossil evidence shows that they were formerly found in continental Asia (Peninsular Malaysia, Vietnam and China). Given that orangutan cannot swim, explain how it is possible for orangutan to be found on continental Asia, Sumatra and Borneo. (6 marks)
- (c) The movement of the Antarctic continental plate into the south pole was responsible for causing a major Ice Age. Outline the reason for this phenomenon. (8 marks)
- (d) Explain, in detail, what happens to warmth-climate and cold-climate plants when a cold glacial period changes into a warm inter-glacial period. (4 marks)

- Q3** (a) Explain, with examples, **FOUR (4)** different types of barriers to the distribution of living organisms.
(8 marks)
- (b) Discuss what is a keystone species and use **ONE (1)** specific example to describe what happens when you remove a keystone species from a given community.
(6 marks)
- (c) Explain, with examples, what are paleoendemics and neoendemics.
(6 marks)
- Q4** (a) Explain why tigers and lions are considered to be separate species.
(4 marks)
- (b) Cichlids have an extra set of jaws at the back of their mouth called pharyngeal jaws. Outline **ONE (1)** advantage and **ONE (1)** disadvantage of pharyngeal jaws.
(4 marks)
- (c) There is a tendency for island birds to evolve gigantism and lose the ability to fly. Explain why island birds are often gigantic and flightless.
(2 marks)
- (d) Most of the world's marine life is concentrated along the coasts of continents. In contrast, the open ocean is almost devoid of life. Outline the reason for this phenomenon.
(4 marks)
- (e) Describe **TWO (2)** types of coral reefs and discuss the environmental conditions that are required for coral reefs to form. Where is the highest hard coral diversity found in the world?
(6 marks)
- Q5** (a) List **FOUR (4)** characteristics of mammals.
(4 marks)
- (b) Early mammals that lived alongside dinosaurs were mainly small, shrew-like animals. Large mammals only evolved after dinosaurs became extinct. Outline the probable reason for this phenomenon.
(4 marks)

- (c) What are megafauna? Give **TWO (2)** examples of megafauna. Discuss **TWO (2)** factors that caused the mass extinction of the megafauna in Eurasia, America and Australia.

(8 marks)

- (d) What is the Out of Africa theory? Discuss **ONE (1)** type of evidence that supports this theory.

(4 marks)

- END OF QUESTIONS -