



**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

**FINAL EXAMINATION  
SEMESTER I  
SESSION 2016/2017**

**TERBUKA**

COURSE NAME : TERRESTRIAL ECOLOGY  
COURSE CODE : BWJ 20503  
PROGRAMME CODE : BWW  
EXAMINATION DATE : DECEMBER 2016 / JANUARY 2017  
DURATION : 3 HOURS  
INSTRUCTION : ANSWERS ALL QUESTIONS

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

- Q1** (a) Define 'ecosystem' and demonstrate the importance of maintaining the ecosystem. (4 marks)
- (b) Based on **Figure Q1(b)**, develop **TWO (2)** strategies for forest floor plant to survive with limited sunlight. (6 marks)
- (c) Compare the concepts related to energy in the First Law of Thermodynamic and the Second Law of Thermodynamics. (4 marks)
- (d) There are **THREE (3)** basic biotic components of an ecosystem. Analyse the importance of each component to the ecosystem. (6 marks)
- Q2** (a) Lowland Tropical Rain Forest in Malaysia is dominated by Dipterocarpaceae. It has a great economic value as an export item. However, excessive logging will pose threat to the ecosystem. List down **TWO (2)** solutions to this dilemma. (4 marks)
- (b) Identify **THREE (3)** characteristics of a Lowland Tropical Rainforest. (6 marks)
- (c) Analyse **TWO (2)** threats specifically occurring to Highland Tropical Rain Forest. (4 marks)
- (d) Determine **ONE (1)** management and conservation strategy at each level:  
(i) Local or state level  
(ii) National level  
(iii) Global level (6 marks)
- Q3** (a) Limestone rock is made up of **TWO (2)** types of minerals. Name them. (2 marks)
- (b) Demonstrate the formation of a sinkhole. (8 marks)
- (c) (i) Explain your understanding on limestone forest and state two localities in Malaysia that have this ecosystem. (4 marks)

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- (ii) Outline the impact of human activities on karst landscape as put forward by Fleury (2009). (6 marks)
- Q4** (a) (i) What are the main challenges for plant and animals living in the desert? (2 marks)
- (ii) Describe the adaptations of plants inhabiting the desert. (6 marks)
- (b) Demonstrate how animal avoids predation in the widely open spaces such as savannah. (4 marks)
- (c) (i) Describe the physical properties of Chaparral ecosystems. (4 marks)
- (ii) Chaparral ecosystems are closely related to wildfires. Outline how the biotic community of this ecosystems interact with wildfires. (4 marks)
- Q5** (a) Outline your understanding on mangrove forest. (10 marks)
- (b) Categorize the permanent forest reserve in Peninsular Malaysia. (4 marks)
- (c) Using your knowledge on land use policy, propose **THREE (3)** impacts of unsustainable land use. (6 marks)

**-END OF QUESTIONS-**

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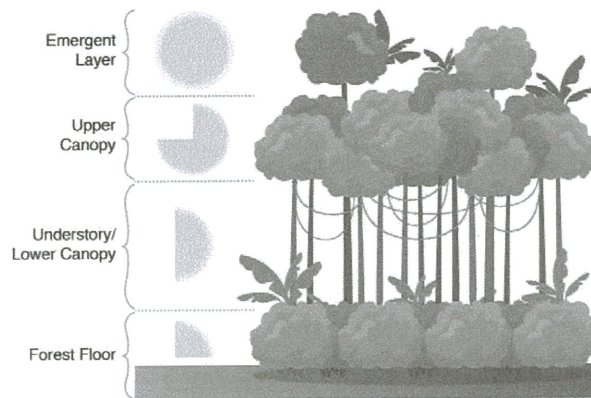
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Rainforest Layers of Vegetation



**Figure Q1(b)**

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