



**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

**FINAL EXAMINATION  
SEMESTER I  
SESSION 2018/2019**

COURSE NAME : PLANT COMMUNITY ECOLOGY  
COURSE CODE : BWJ 20302  
PROGRAMME CODE : BWW  
EXAMINATION DATE : DECEMBER 2018 / JANUARY 2019  
DURATION : 2 HOURS  
INSTRUCTION : ANSWER ALL QUESTIONS

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THIS QUESTION PAPER CONSISTS OF **THREE (3)** PAGES

- Q1** (a) List down **FIVE (5)** primary consumers. (5 marks)
- (b) Compare generalist from obligate pollinator. Explain their unique roles in pollination ecology and give **ONE (1)** example for each. (10 marks)
- (c) Analyze how alien invasive pollinator can affect the pollination of native species of plants. (5 marks)
- Q2** (a) Explain the following.  
(i) Direct dispersal hypothesis  
(ii) Recalcitrant seed  
(iii) Seed dormancy  
(iv) Senescence  
(v) Drupe (10 marks)
- (b) Plants have evolved successfully by improving fitness to defend itself against hostile environment. Analyze the defense mechanism adapted by plants against hot weather or climate. (5 marks)
- (c) Plants produce secondary metabolites to defend itself against herbivores. Assess how some herbivores are inhibited while others are not by the same secondary metabolites produced by plants. (5 marks)
- Q3** (a) Population growth is controlled by the rate at which new individuals are added to the population as well as the individuals that leave the population. Compare exponential growth and logistic growth. Support your answer by illustrations. (10 marks)
- (b) Nutrient cycle is one of the most important processes in the ecosystem that plants have successfully been adapted to. Differentiate the process of nutrient cycle between tropical rainforest and temperate forest. (5 marks)
- (c) Plants require a variety of elements to carry out their metabolic processes as well as to synthesize new tissues. Assess what specific micronutrients are required by plants in order to ensure that photosynthetic capacity is always at its optimum level. (5 marks)

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**Q4** Plants can be injured by stress, which is then exhibited through metabolic dysfunctions. Outline **FIVE (5)** environmental stresses plants can be subjected to and explain clearly what happens to the metabolic functions of the plants.

(20 marks)

**Q5** (a) Illustrate a catchment area and label the parts.

(5 marks)

(b) An ecosystem with a good vegetation cover is an efficient watershed and important carbon reservoir. Justify this statement by interpreting the processes that make it an efficient watershed and important carbon reservoir.

(10 marks)

(c) With the continuous loss of forest cover worldwide, propose a mechanism how vegetation cover can be maintained amidst rapid land-use change.

(5 marks)

- END OF QUESTIONS -

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