



**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

**FINAL EXAMINATION  
SEMESTER I  
SESSION 2015/2016**

COURSE NAME : PLANT COMMUNITY ECOLOGY  
COURSE CODE : BWJ 20302  
PROGRAMME : 2 BWW  
EXAMINATION DATE : DECEMBER 2015 / JANUARY 2016  
DURATION : 2 HOURS  
INSTRUCTION : ANSWER **ALL** QUESTIONS

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

- Q1** (a) Name **FIVE (5)** floristic regions in the world based on Takhtajan's classification. (5 marks)
- (b) Wallace's Line and Weber's Line are two of the most famous biogeographic hypotheses in paleotropic. Illustrate the major difference between these two hypotheses. (5 marks)
- (c) Plant-pollinator interaction is an important component of pollination ecology. Outline **FIVE (5)** reasons why plant-pollinator interaction has been successful. (10 marks)
- Q2** (a) Explain the following. (10 marks)
- (i) Seed dispersal
  - (ii) Seed dormancy
  - (iii) Predator escape hypothesis
  - (iv) Recalcitrant seeds
  - (v) Polygalacturonase
- (b) Mutualists can act as keystone species. By giving an example, analyze how this mutualist can be classified as keystone species. (5 marks)
- (c) Mutualism is a reciprocally positive interaction between species. Outline the differences between facultative and obligate mutualism. Give one specific example for each mutualistic relationship. (5 marks)
- Q3** (a) Illustrate the stages of population growth and explain briefly each stage. (10 marks)
- (b) Population growth and structure are influenced by many factors. Analyze the following concepts and explain how population growth is controlled under these concepts. (10 marks)
- (i) Liebig Law of the Minimum
  - (ii) Shelford Law of Tolerance
- Q4** (a) Water is one element that is highly influenced by plants as well as a vital resource needed by the plant. Illustrate the relationship involved between plant productivity and water availability. (5 marks)
- (b) List down **FIVE (5)** ecosystem services and outline the important role of plant communities in each of these ecosystem services. (10 marks)

- (c) Haze has been a perennial problem in Southeast Asia caused either by anthropogenic or natural burning. Propose a mechanism that will reduce the occurrence of haze caused by natural forest fires. (5 marks)
- Q5** (a) Explain the impacts of invasive species to natural vegetation. (5 marks)
- (b) Analyze the following scenario by which global change affects plant ecology.
- (i) Global vegetation pattern changes
  - (ii) Disruption of energy balance
- (10 marks)
- (c) Justify why vegetation plays an important role in maintaining a stable climate. (5 marks)

- END OF QUESTIONS -