

**CONFIDENTIAL**



**UNIVERSITI TUN HUSSEIN ONN  
MALAYSIA**

**FINAL EXAMINATION  
SEMESTER I  
SESSION 2013/2014**

COURSE NAME : CELLS, GENES & DIVERSITY  
COURSE CODE : DAS 26203  
PROGRAMME : 2 DAU  
EXAMINATION DATE : DECEMBER 2013/JANUARY 2014  
DURATION : 3 HOURS  
INSTRUCTION : A) ANSWER ALL QUESTIONS IN  
SECTION A  
B) ANSWER **TWO (2)**  
QUESTIONS IN SECTION B

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

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**SECTION A**

- Q1**
- (a) List three main organ of a plant and give the main function of each organ. (6 marks)
  - (b) Describe the function of vascular tissue of a plant. (3 marks)
  - (c) Plants experience two type of growth. Draw and explain each type of growth in plant. (10 marks)
  - (d) Draw a structure of a perfect flower. Show the sepal, stigma, carpel, stamen, anther and ovary. (6 marks)
- Q2**
- (a) List and explain four of the general features of Animals. (8 marks)
  - (b)
    - (i) List and explain two characteristics of fish. (4 marks)
    - (ii) Draw a bony fish and label swimming bladder, gill and dorsal fin. (3 marks)
  - (c) Give two the characteristics of mammal and explain. (4 marks)
  - (d)
    - (i) Draw a structure of reptiles egg and label embryo, and four membranes of the egg. (5 marks)
    - (ii) Give the advantages for reptiles by having their eggs covers with the tough outer shell. (1 mark)

**SECTION B**

- Q3**
- (a) Define
    - (i) Theory. (1 mark)
    - (ii) Fossil. (1 mark)
    - (iii) Evolution. (1 mark)
  - (b) State the situations that will happen to a species if an environment's conditions change and no individuals have the alleles combinations required to survive and produce offspring. (1 marks)
  - (c) Define natural selection. (1 marks)
  - (d) List five principles of natural selection and explain. (10 marks)
  - (e) Plants are autotroph. Give the definition of autotroph and write a simple equation that show plants are autotroph. (4 marks)
  - (f) List all kingdoms of life. (6 marks)
- Q4**
- (a) Draw and label the structure of a virus. Give the function of genetics material and capsid that found in a virus. (6 marks)
  - (b) Virus undergoes 2 kind of life cycle in a host cells.
    - (i) Draw the lytic cycle of a virulence virus. (5 marks)
    - (ii) Explain the lytic cycle of a virulence virus. (10 marks)
  - (d) (i) Give two benefits of bacteria in life. (2 marks)
  - (ii) Give two harmful effects of bacteria in life. (2 marks)

- Q5**
- (a) Explain four differences between fungi and plants that make fungi exclude from Kingdom of Plantae. (8 marks)
  - (b) Draw a structure of mushroom and show hyphae, mycelium, nucleus and septa. (4 marks)
  - (c) Fungi are heterotroph. Give the definition of heterotroph and explain how fungi obtain nutrient. (5 marks)
  - (d) Briefly explain the two benefits of fungi. (4 marks)
  - (e) List two phylum of fungi and give the main characteristics of each phylum. (4 marks)
- Q6**
- (a) List five main characteristics of protists. (5 marks)
  - (b) Give two organelles or formation with the mechanisms for movements of protists. (4 marks)
  - (c) Defined and give the purpose of endospore. (2 marks)
  - (d) Most prokaryotes reproduce asexually through a process called binary fission. Draw and explain the process. (8 marks)
  - (e) State whether the virus is an organisms or not. Explain your answer. (2 marks)
  - (f) Explain how the virus reproduce. (4 marks)

- END OF QUESTION -