



# INTI International College Penang

FINAL  
Examination Paper

(COVER PAGE)

Session : April 2019

Programme : Foundation In Science (CFSI)

Course : **BIO1204**

Date of Examination : 26 July 2019 (Friday)

Time : 2:00PM – 4:00PM Reading Time : Nil

Duration : 2 Hours

**Special Instructions** :

This paper consists of **FIVE (5)** questions. Answer any **FOUR (4)** questions in the answer booklet provided.

Materials permitted :  
Non-Programmable Scientific Calculator

Materials provided :  
Nil

Examiner(s) : **Ooi Saik Huey**

Moderator : Dr. Sreeramianiam A/L Subramaniam

*This paper consists of 4 printed pages, including the cover page.*

INTI INTERNATIONAL COLLEGE PENANG  
FOUNDATION IN SCIENCE PROGRAMME (CFSI)  
BIO1204: BIOLOGY 2  
FINAL EXAMINATION: APRIL 2019 SESSION

**Instructions:** This paper consists of **FIVE (5)** questions. Answer any **FOUR (4)** questions in the answer booklet provided. All questions carry equal marks.

**Question 1**

- (a) Describe **ONE (1)** function of adipose tissue, cartilage, bone and blood. (4 marks)
- (b) Describe **ONE (1)** structure and **ONE (1)** function of **THREE (3)** types of muscle tissue. (6 marks)
- (c) Describe suspension feeders, substrate feeders, fluid feeder and bulk feeders. (4 marks)
- (d) Describe how peristalsis moves food through the esophagus to the stomach after swallowing. (3 marks)
- (e) Explain how heartbeats are controlled. (4 marks)
- (f) Explain how the structure of a capillary relates to its functions. (4 marks)

**Question 2**

- (a) Describe the process of clonal selection. (4 marks)
- (b) Compare a primary immune response to a secondary immune response. (4 marks)
- (c) Describe the specific functions of helper T cells and how they interact with other cells. (6 marks)
- (d) Describe the **THREE (3)** ways that animals eliminate nitrogenous wastes and **ONE (1)** advantage and **ONE (1)** disadvantage of each way. (6 marks)
- (e) Describe the general and specific structure of the human kidney. Explain how this organ promotes homeostasis. (5 marks)

**Question 3**

- (a) Distinguish between the **TWO (2)** major classes of vertebrate hormones **AND** compare the **TWO (2)** general mechanisms by which hormones trigger changes in target cells. (6 marks)
- (b) Compare the mechanisms and functions of the endocrine and nervous systems. (4 marks)
- (c) Describe the hormones synchronise cyclic changes in the ovary and uterus. (9 marks)
- (d) Discuss how neurons communicate at synapses. (6 marks)

**Question 4**

- (a) With the aid of diagram, explain the development of pollen and ovules culminates in fertilization. (10 marks)
- (b) Describe how phloem transports sugar. (4 marks)
- (c) There are **THREE (3)** types of bacteria involved in supplying nitrogen to plants; name each type and describe its action. (6 marks)
- (d) Describe the recruitment of a wasp in response to an herbivore. (5 marks)

**Question 5**

- (a) State and describe **THREE (3)** different types of dispersion patterns. (6 marks)
- (b) Compare Type I, Type II, and Type III survivorship curves. (3 marks)

- (c) Fill in the blanks in the table below summarizing the interspecific interactions in a community.

Interspecific interaction	Effect on species 1	Effect on species 2	Example
	+	-	
	-	-	
	+	-	
	-	-	
	+	+	

(5 marks)

- (d) Describe the phosphorus cycle.

(5 marks)

- (e) What are the **THREE (3)** levels of biological diversity? For each level, give **ONE (1)** example of how the loss of diversity would impact humans.

(6 marks)

~ The End ~  
 BIO1204(f)/april2019/