INTI
International College Penang

FINAL
Examination Paper

(COVER PAGE)

Session	:	August 2019
Programme	:	Foundation In Science (CFSI)
Course	:	**BIO1204 : BIOLOGY 2**
Date of Examination	:	13 December 2019 (Friday)
Time	:	11:00AM – 1:00PM Reading Time : Nil
Duration	:	2 Hrs
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	:	Prof. Dr. Sreeramanian Subramaniam

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

INTI INTERNATIONAL COLLEGE PENANG
FOUNDATION IN SCIENCE PROGRAMME
BIO1204: BIOLOGY 2
FINAL EXAMINATION: AUGUST 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) Name and explain **SIX (6)** major groups of connection tissues.
(6 marks)

(b) Define positive feedback and negative feedback.
(2 marks)

(c) List and describe **FOUR (4)** saliva substances are important in food processing.
(4 marks)

(d) Explain how active pepsin is form.
(3 marks)

(e) Compare **ONE (1)** feature of alimentary canal in carnivores (coyote) and herbivores (koala).
(1 mark)

(f) Distinguish between diastole and systole.
(3 marks)

(g) Discuss the structure of blood vessels to their functions.
(6 marks)

Question 2

(a) Define and describe the nature of innate defenses in vertebrates.
(5 marks)

(b) Describe the steps of the inflammatory response and explain how it can disinfect tissues and limit further infection.
(4 marks)

(c) Explain how cytotoxic T cells destroy infected body cells.
(5 marks)

(d) List the **FIVE (5)** general categories of adaptations that help animals thermoregulate.
(5 marks)

(e) Describe the process by which the human excretory system produces filtrate and converts filtrate into urine.

(6 marks)

Question 3

(a) Explain how the functions of the hypothalamus and pituitary glands are related.

(5 marks)

(b) Describe **TWO (2)** functions of the thyroid gland and discuss the symptoms of hypothyroidism, hyperthyroidism, and goiter.

(5 marks)

(c) Discuss the sequence of events that occur during fertilization in sea urchin.

(6 marks)

(d) Describe the knee-jerk reflex.

(4 marks)

(e) Define a resting potential and explain how it is created.

(5 marks)

Question 4

(a) Describe the **THREE (3)** main types of tissue systems found in young eudicot roots, stems, and leaves.

(6 marks)

(b) List **FIVE (5)** major types of plant cells.

(5 marks)

(c) Explain **TWO (2)** routes of water and solutes from soil to root xylem.

(4 marks)

(d) Discuss the pressure flow in plant phloem from a sugar source to a sugar sink.

(4 marks)

(e) Explain how phototropism, gravitropism, and thigmotropism reactions occur and describe their significance to plants.

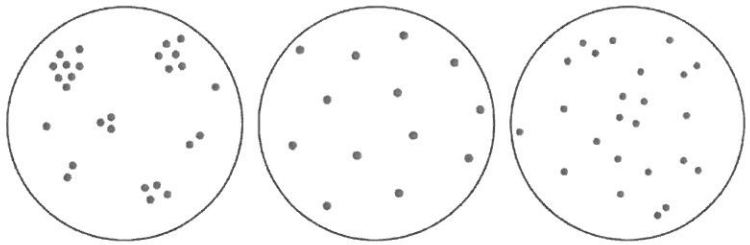
(6 marks)

Question 5

(a) In many developed countries, the human population displays Types I life expectancy. In developing countries, the curve is likely to be a Type II one. Explain why?

(4 marks)

(b) Describe the factors that might produce the following **THREE (3)** types of dispersion patterns in populations.



(6 marks)

(c) In southeast Asia, there's an old saying: "There is only one tiger to a hill." In terms of energy flow in ecosystems, explain why big predatory animals such as tigers and sharks are relatively rare.

(2 marks)

(d) Discuss carbon cycle.

(5 marks)

(e) If the concentration of greenhouse gasses were to increase, would it be beneficial for life on Earth? Explain.

(2 marks)

(f) 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~

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