FINAL
Alternative Assessment

(COVER PAGE)

Session	:	**April 2020**
Programme	:	Foundation in Science (CFSI)
Course	:	**BIO1204: Biology 2**
Date of Examination	:	7 August 2020 (Friday)
Time	:	10:00am – 12:30pm Reading Time : Nil
Duration	:	2 hours + 30 minutes (uploading time)
Special Instructions	:	

This paper consists of **FOUR (4)** questions. Answer **ALL FOUR (4)** questions.
All questions carry equal marks.

Materials permitted :

Non-Programmable Scientific Calculator

Materials provided :

Nil

Examiner(s)	:	**Ms. Ooi Saik Huey**
Chief Moderator	:	Ms. Tan Bee Hooi

*This paper consists of **3** printed pages, including the cover page.*

FOUNDATION IN SCIENCE (CFSI)
BIO1204: BIOLOGY 2
FINAL ALTERNATIVE ASSESSMENT: APRIL 2020 SESSION

Instructions: This paper consists of **FOUR (4)** questions. Answer **ALL** the questions. All questions carry equal marks.

Question 1

(a) Describe the epithelial tissues and note their structures and functions.
(4 marks)

(b) Describe **ONE (1)** structure and **ONE (1)** function of loose connective tissue **AND** fibrous connective tissue.
(4 marks)

(c) Explain how the structure of the small intestine promotes nutrient absorption.
(3 marks)

(d) Compare the structures and functions of gastrovascular cavities, open circulatory systems, and closed circulatory systems.
(6 marks)

(e) Describe the components of blood and their functions.
(4 marks)

(f) Describe and distinguish between the humoral immune response and the cell-mediated immune response.
(4 marks)

Question 2

(a) Describe the specific structure of an antibody and relate its shape to its functions.
(6 marks)

(b) Explain the process by which the human excretory system produces filtrate and converts filtrate into urine.
(7 marks)

(c) Describe the specific structures, locations, and functions of the pineal glands.
(3 marks)

(d) Describe the functions of the thyroid gland.
(2 marks)

(e) Discuss and compare the processes and products of spermatogenesis and oogenesis.
(7 marks)

Question 3

(a) Describe the structures and functions of neurons **AND** myelin sheaths.
(4 marks)

(b) Explain how resting potential is created.
(4 marks)

(c) Describe the structures and functions of the **FIVE (5)** major types of plant cells.
(5 marks)

(d) Explain how guard cells control transpiration. Describe **THREE (3)** factors influence guard cell activity.
(7 marks)

(e) Describe functions of the **FIVE (5)** major types of plant hormones.
(5 marks)

Question 4

(a) Define boom-and-bust cycles, explain why they occur, and provide examples.
(5 marks)

(b) Explain the concept of an ecological footprint.
(3 marks)

(c) Identify and compare the trophic levels of terrestrial and aquatic food chains.
(6 marks)

(d) Explain how human activities are threatening natural ecosystems.
(3 marks)

(e) Describe the goals and methods of restoration ecology.
(2 marks)

(f) Explain why sustainable development should be the ultimate goal for the long-term maintenance of human societies and the ecosystems that support them.
(2 marks)

(g) Explain how zoned reserves are being used to protect ecosystems **AND** describe the success and ongoing challenges of such reserves in Costa Rica.
(4 marks)

~ The End ~