FINAL
Alternative Assessment

(COVER PAGE)

Session	:	**August 2020**
Programme	:	Foundation in Science (CFSI)
Course	:	**BIO1204: Biology 2**
Date of Examination	:	17 December 2020 (Thursday)
Time	:	9:00am – 11:30am 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 **4** printed pages, including the cover page.*

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

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

Question 1

(a) Describe **SIX (6)** types of connective tissue.

(6 marks)

(b) Explain how the mechanisms controlling homeostasis are based on negative feedback?

(2 marks)

(c) The stomach stores food and breaks it down with acid and enzymes, explain the process.

(3 marks)

(d) Diet can influence risk of cardiovascular disease and cancer. State the **TWO (2)** main types of cholesterol occur in the blood **AND** how does it affect blood vessels.

(4 marks)

(e) The SA node sets the tempo of the heartbeat. Describe the sequence of electrical events in a heartbeat.

(5 marks)

(f) Explain the difference between the single circulation of a fish and the double circulation of a land vertebrate.

(2 marks)

(g) Discuss innate immunity in vertebrate.

(3 marks)

Question 2

(a) Illustrates how a cytotoxic T cell kills an infected cell.

(4 marks)

(b) Thermoregulation involves adaptations that balance heat gain and loss. Explain with examples these **FIVE (5)** types of adaptation.

(5 marks)

(c) Discuss **THREE (3)** ways to dispose of nitrogenous wastes in animals.

(3 marks)

(d) Thyroid imbalance can cause disease. Discuss **THREE (3)** of these diseases.
(3 marks)

(e) Hormones affect target cells involve signaling mechanisms. Illustrate each stage of signaling briefly.
(3 marks)

(f) Explain **THREE (3)** ways of asexual reproduction that creation of genetically identical offspring by one parent.
(3 marks)

(g) Discuss how cleavage produces a ball of cells from the zygote.
(4 marks)

Question 3

(a) A nervous system has **THREE (3)** interconnected functions. State and describe these three functions.
(3 marks)

(b) Many neurological disorders can be linked to changes in brain physiology, including
a. schizophrenia,
b. major depression,
c. Alzheimer's disease, and
d. Parkinson's disease,
Describe these **FOUR (4)** disorders briefly.
(4 marks)

(c) Each plant organ (root, stem, or leaf) has three types of tissues. Describe **ONE (1)** function of each type of tissue.
(3 marks)

(d) Many plants have modified roots, stems, and leaves. Explain the modifications of plant parts adapting to various functions.
(3 marks)

(e) Describe how sugars are carried from a sugar source to a sugar sink.
(5 marks)

(f) Explain the process on how soil bacteria convert N_2 gas from the air into forms usable by plants via several processes.
(3 marks)

(g) Discuss **TWO (2)** groups of flowering plant that triggered by photoperiod.
(2 marks)

(h) Describe how abscisic acid inhibits plant processes.
(2 marks)

Question 4

(a) Gibberellins affect stem elongation and have numerous other effects. Discuss other effects of Gibberellins have on plants.

(3 marks)

(b) Define dispersion pattern **AND** describe **THREE (3)** dispersion patterns in a population.

(4 marks)

(c) Define **AND** explain the concept of an ecological footprint.

(3 marks)

(d) Use **ONE (1)** example to discuss how mutualism benefits both partners.

(3 marks)

(e) Define **AND** discuss by using **ONE (1)** example of invasive species.

(3 marks)

(f) Discuss how human activities are threatening natural ecosystems.

(4 marks)

(g) Human activities are responsible for rising concentrations of greenhouse gases. Discuss the statement.

(5 marks)

~ The End ~