

University of Ruhuna - Faculty of Technology

Bachelor of Biosystems Technology Degree

Level 1 (Semester 1) Examination

November 2019

Course Unit: BST1152, Animal Physiology

Time Allowed: 1 hour

Index No:

Answer three questions including question 01 and question 02

This question paper contains **05 pages** including this instruction page.

1. Underline the correct answer (20 minutes)

a. Monocytes,

- i. Have 3-4 lobes in the nucleus
- ii. Involved in inflammation reactions
- iii. Phagocytic and engulf bacteria
- iv. Have granules in the cytoplasm
- v. Represents 24% of WBC

b. Which one of the following hormone is secreted by Pituitary gland?

- i. Growth Hormone (GH)
- ii. Adrenalin
- iii. Testosterone
- iv. Cortisol
- v. Insulin

c. An example for a ruminant is,

- i. Rabbit
- ii. Goat
- iii. Monkey
- iv. Elephant
- v. Pig

- d. The major function of the pons in regulation of the respiration is,
- Controls the rate or speed of involuntary respiration
 - Sends signals to the muscles that control respiration
 - Controls the reflexes for non-respiratory air movements
 - Detects changes in the pH of spinal fluid
 - Detects changes in lung volumes
- e. Which one of the following factors is affects the stroke volume of the heart?
- Autonomic innervation
 - Fitness level
 - Hormones
 - Age
 - Size of the thoracic cavity
- f. The epidermis,
- Contains blood and lymph vessels
 - Stores fat
 - Creates skin tone
 - Consists of two layers
 - Sweat glands present
- g. Steroid hormones,
- Derived from Tyrosine and Tryptophan
 - Are the precursors for peptide hormones
 - Synthesized in endoplasmic reticulum
 - Important in blood clotting
 - Important in sexual development and stress response
- h. The frontal lobe of the human brain,
- Manages sensation
 - Involves in memory
 - Manages the visual processing
 - Responsible for the motor function
 - Involves in hearing
- i. Which of the following is a regulatory function of human blood?
- Transfer oxygen and carbon dioxide
 - Blood clotting
 - Destroy pathogenic agents
 - Maintenance of pH
 - Hormone transportation

- j. "Rugae" present in,
 - i. Oral cavity
 - ii. Stomach
 - iii. Small intestine
 - iv. Large intestine
 - v. Rectum

2. Answer all questions in the given spaces (20 minutes)

A.

- i. Mention three distinct characteristics of a circulatory system

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- ii. State two differences between arteries and veins

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- iii. What is the major function of following components of blood plasma?

- a. Prothrombin -
- b. Water -
- c. Mineral ions -

- iv. Name two main categories of chemoreceptors those involved in respiratory feedback?

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B.

i. Mention one function of following electrolytes in human body.

- a. Sodium ions -
- b. Potassium ions -
- c. Chloride ions -
- d. Bicarbonate ions -

ii. Which layer of the skin is responsible for the following functions?

- a. Provides a waterproof barrier -
- b. Fat storage -
- c. Production of sweat -

iii. Mention two major ways of water intake and water loss in human body

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iv. Explain the following terms.

a. Peripheral Nervous System

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b. Excitable cells

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C.

i. What is an endocrine gland?

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ii. Name endocrine secretions of glands indicated below?

- a. Testes -
- b. Adrenal gland -
- c. Thyroid gland -
- d. Pancreas -

iii. What are Prostaglandins?

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iv. Mention a major function of Prostaglandins

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3. Answer only one (01) question (20 minutes)

1. Write an essay on the process of chemical digestion in human digestive tract
2. Write short notes on any two of the followings.
 - a. Functions of blood
 - b. Physiology of human kidney
 - c. Neurons