



UTHM

Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION

SEMESTER I

SESSION 2019/2020

COURSE NAME : HUMAN PHYSIOLOGY
COURSE CODE : BEU 20103
PROGRAMME CODE : BEJ
EXAMINATION DATE : DECEMBER 2019/JANUARY 2020
DURATION : 3 HOURS
INSTRUCTION : 1. ANSWER ALL QUESTIONS
2. PLEASE WRITE ALL ANSWERS IN
THE QUESTION BOOKLET

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THIS QUESTION PAPER CONSISTS OF NINE (9) PAGES

Q1 All sensory pathways begin with a stimulus sensed by sensory receptors, in the form of physical energy that acts on a group of muscle. Vision, taste, smell and hearing are the special senses that could stimulate organs movement.

(a) Explain the role of the afferent division of the nervous system. (2 marks)

(b) Give **THREE (3)** common problems of vision. (3 marks)

(c) Fill in the blank of the sense group for the following statement.

- (i) The special sense of _____ converts light signals into electrical signals within the nervous system.
- (ii) Sensory signals from the _____ system are not transmitted through the central nervous system.
- (iii) _____ is the sense of detecting sound or receiving information about the environment from vibratory movement.
- (iv) Emotion and _____ senses have a very strong link to human action.
- (v) The major sense in animals is _____. The detection of volatile chemical compounds is an important attribute for any animal to survive.

(5 marks)

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- (d) Summarize the sensory pathway for the ascending and descending tracts. (10 marks)

Q2 Human skin is the outer covering of the body and is the largest organ of the integumentary system. It has a total area of about 20 square feet. Skin consists of three layers: epidermis, dermis, and hypodermis. The epidermis, the outermost layer of skin, provides a waterproof barrier and creates our skin tone.

- (a) Illustrate the three layers of skin with their important features. (6 marks)

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(b) Explain **TWO (2)** functions of skin.

(4 marks)

(c) Predict **ONE (1)** effect when skin soaks in water for a long time.

(2 marks)

Q3 A cardiovascular system is a series of the blood vessels filled with blood and connected to the heart. The primary function of cardiovascular system is to transport materials to and from all parts of the body.

(a) Describe the phase of the cardiac cycle to which each of the following applies.

(i) Diastolic pressure.

(2 marks)

(ii) Systolic pressure.

(2 marks)

(b) Observe the difference when bleeding is occurred in arterial and venous.

(2 marks)

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- (c) Find the differences and similarities of the lymphatic system and cardiovascular system.
(10 marks)

- (d) Discuss **TWO (2)** possible diseases that related to the blood vessels.
(4 marks)

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- (e) Stroke occurs when blood clot accumulates in the brain blood vessel. Predict **TWO (2)** symptoms and **TWO (2)** possible treatments of someone who is suffering from stroke disease.

(8 marks)

Q4 The respiratory system consists of structures involved in ventilation and gas exchange.

(a) Define the following terms:

(i) pulmonary ventilation:

(2 marks)

(ii) external respiration:

(2 marks)

(iii) internal respiration:

(2 marks)

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- (b) Describe the conducting and respiratory zone as one of the collected structures in respiratory system.

(4 marks)

- (c) Explain the process of gas exchange that occurs in the lungs.

(8 marks)

- (d) Explain the interaction between the cardiovascular system and the respiratory system.

(2 marks)

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Q5 (a) Describe the relationship between physiology and anatomy.

(2 marks)

(b) Define the **SIX (6)** main systems of the body and their major functions.

(12 marks)

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- (c) Analyze **THREE (3)** effects on human body if homeostasis is failed to maintain.
(6 marks)

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-END OF QUESTIONS-