



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2011/2012**

COURSE NAME : HUMAN PHYSIOLOGY
COURSE CODE : BEU 20103
PROGRAMME : BEU
EXAMINATION DATE : JUNE 2012
DURATION : 2 HOURS 30 MINUTES
INSTRUCTION : ANSWER **FOUR (4)** QUESTIONS ONLY

THIS PAPER CONSISTS OF **THREE (3)** PAGES

- Q1**
- (a) List and explain the characteristics of **THREE (3)** types of muscle in the body. (9 marks)
 - (b) Explain how an action potential results in muscle contraction? (5 marks)
 - (c) What is meant by oxygen debt? (4 marks)
 - (d) Suhasmi milked cows by hand each morning before school. One morning, he overslept and had to hurry to school on time. While he was milking the cows as fast he could, his hand became very tired, and then for a short time he could neither release his grip nor squeeze harder. Explain what happen. (7 marks)
- Q2**
- (a) What are primary functions of skeletal system? (3 marks)
 - (b) Give **FOUR (4)** examples of how the skeleton protects internal organs. (8 marks)
 - (c) Name and describe the differences among the **THREE (3)** major classes of joints. (9 marks)
 - (d) A skeleton was discovered in a remote mountain area. The coroner determined, it is a female skeleton. Justify this finding. (5 marks)
- Q3**
- (a) Explain what is meant by negative feedback in reference to hormone regulation. (4 marks)
 - (b) Discuss the role of the pancreas in the regulation of glucose levels in the blood. (9 marks)
 - (c) Male sex hormones, as a group, are called androgens. The principal androgen is testosterone, which is secreted by the testes. What is the functions of this steroid hormone? (4 marks)
 - (d) Birth control pills for women contain estrogen and progesterone compounds. Explain how these hormone can prevent pregnancy? (8 marks)

- Q4**
- (a) Explain how the kidneys respond to the pH changes of the body fluids. (5 marks)
 - (b) Describe the micturition reflex. (4 marks)
 - (c) During severe exertion in a hot environment, a person can lose up to 4 Liter of sweat per hour. What effect would this loss have on urine concentration and rate production? Explain the mechanism involved. (8 marks)
 - (d) Jeffmi decided to do an experiment after reading the urinary system chapter in his favorite anatomy and physiology textbook. He drank 2 Liter of water in 15 minutes and then monitored his rate of urine production and urine concentration over the next two hours. Explain the major mechanism involved. (8 marks)
- Q5**
- (a) What is the function of C shaped cartilage in the trachea? (3 marks)
 - (b) Describe the pressure changes that caused air to move in and out of the lungs. State the mechanism involved during respiration that makes these pressure changes? (8 marks)
 - (c) Explain why breathing become more difficult during an asthma attack. (6 marks)
 - (d) The blood pH of a runner was monitored during a race. Shortly after the beginning of the race, her blood pH increased for a short time. Propose an explanation to account the increased pH values following the start of the race. (8 marks)
- Q6**
- (a) Describe the systemic and pulmonary blood circulation route? (6 marks)
 - (b) Draw the structure of capillaries and explain its major function (5 marks)
 - (c) Define the blood pressure and describe how it is normally monitored. (5 marks)
 - (d) Where is baroreceptor located? Describe baroreceptor reflex when blood pressure increased and when it decreased. (9 marks)