



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2015/2016**

COURSE NAME : HUMAN ANATOMY AND
PHYSIOLOGY

COURSE CODE : BWC 31503

PROGRAMME CODE : BWC

EXAMINATION DATE : JUNE/ JULY 2016

DURATION : 3 HOURS

INSTRUCTION : ANSWER ALL QUESTIONS

THIS QUESTION PAPER CONSISTS OF **FOUR (4)** PAGES

- Q1**
- (a) (i) Most of the skin is composed of dermis. Identify how papillary layer helps in keep the skin from tearing.
- (ii) Summarize why sweating is essential in the maintenance of homeostasis.
- (6 marks)
- (b) (i) Distinguish between intramembranous ossification and endochondral ossification.
- (ii) Give an example of a short bones, flat bones and accessory bones.
- (8 marks)
- (c) (i) Write the type of joint for each of the following movements:
- (1) Move thumb pad to touch an extended finger.
- (2) Bring wrist close to shoulder.
- (3) Move head to indicate 'YES'.
- (ii) State the relationship between the stability of a joint and its range of motion based on each movements in Q1(c)(i).
- (6 marks)
- Q2**
- (a) Draw and label the anatomy of skeletal muscle.
- (b) Define the following term
- (i) Tricuspid valve.
- (ii) Bicuspid valve.
- (10 marks)
- (c) Leukocytes serve as scavengers that destroy microorganisms at infection sites, helps removing foreign molecules and debris resulting from dead or injured tissue cells.
- (i) Determine the major function of lymphocytes and basophils.
- (ii) Outline in order the events that occur during phagocytosis
- (10 marks)

- Q3** (a) Digestion is the process of breaking down large molecules of food that cannot be used by the body into small and soluble molecules that can be absorbed and used by cells. Foods that are not digested and absorbed are finally eliminated from the body.
- (i) Classify the major organs of the digestive tract and state the primary function of each.
 - (ii) Describe how each of the following processes listed below are regulated:
 - (i) Peristalsis.
 - (ii) ATP breakdown.
 - (iii) Dehydration.
- (10 marks)
- (b) Kidney's function usually decreases with age, from 100 percent at 25 years old to about 88 percent at age 45, 78 percent at age 65 and 69 percent at age 85, as arteries to the kidneys become narrowed. Although some kidney tissue may be lost, each kidney needs only about 25 percent of its original tissue to function properly.
- (i) Justify how does the kidney regulate level of bicarbonate (HCO_3) in body.
 - (ii) Verify the three primary functions of the glomerulus.
- (10 marks)
- Q4** (a) A human body can survive without food for as long as several weeks and without water for several days, but if breathing stops for 3 to 6 minutes, death is likely. Body tissues, especially the heart and brain require a constant supply of oxygen.
- (i) What are larynx, epiglottis and bronchioles?
 - (ii) Specify the importance for the respiratory system to have a dual blood supply.
- (10 marks)
- (b) The nervous system is the main controlling and communicating system of the body. Every thing we do, feel and think consciously or unconsciously is directed by the nervous system.
- (i) Differentiate between central and peripheral nervous system.
 - (ii) Explain with an example, how motor neurons reflex when doing such activities.
- (10 marks)

- Q5** (a) A hormone is a specialized chemical substance produced and secreted by an endocrine cell or tissue. Hormones are effective only at specific target cells means cells with compatible receptors on the surface of the plasma membrane or within the cytoplasm or nucleus.
- (i) Discuss cause of hormonal imbalance in diabetes mellitus.
 - (ii) Conclude what hormones act in the production and release of milk from mammary glands
- (10marks)
- (b) Sexual reproduction produces new human beings and allows hereditary traits to be passed from both parents to their children and forming a new individual with a unique combination of genes.
- (i) Show stages in Oogenesis
 - (ii) Correlate the endometrial changes of the menstrual cycle with the cycles of ovarian hormones.
- (10 marks)

- END OF QUESTION -