

UNIVERSITY OF SWAZILND

FACULTY OF HEALTH SCIENCES

SUPPLEMENTARY EXAMINATION PAPER : JULY 2007

TITLE OF PAPER: HUMAN ANATOMY AND PHYSIOLOGY

COURSE CODE: HSC 101

TIME ALLOWED: THREE (3) HOURS

MARKS: 100

INSTRUCTIONS:

- 1. THERE ARE FIVE (5) QUESTIONS IN THIS PAPER**
- 2. SECTION A IS COMPULSORY**
- 3. IN SECTION B ANSWER ALL QUESTIONS**
- 4. EACH CORRECT STATEMENT OR FACT CARRIES ONE (1) MARK**

**THIS QUESTION PAPER SHOULD NOT BE OPENED UNTIL PERMISSION
HAS BEEN GRANTED BY THE INVIGILATOR**

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SECTION A**PART I: Write the letter corresponding to the correct answer e. g. 1 = D**

1. The esophagus joins with the stomach at the:
 - A. pyloric region
 - B. pyloric sphincter
 - C. cardiac sphincter
 - D. cardiac region

2. The adventitia layer in the esophagus differs from the serosa in that it (adventitia) consists of:
 - A. areolar connective tissue
 - B. stratified squamous epithelia
 - C. fibrous connective tissue
 - D. columnar epithelia

3. The muscularis externa of the stomach lumen is arranged in which order, from exterior to interior
 - A. oblique, circular, longitudinal
 - B. longitudinal, circular, oblique
 - C. transverse, circular, longitudinal
 - D. circular, longitudinal, transverse

4. Oral thrush (oral candidiasis) is caused by
- A. *streptococcal bacillus*
 - B. *staphylococcus aureus*
 - C. *yeast candida albicans*
 - D. *herpes simplex virus*
5. Gigantism and acromegally are conditions that are caused by
- A. prolonged hypersecretion of the growth hormone
 - B. prolonged hypersecretion of the thyroid gland
 - C. prolonged hyposecretion of the thyroid gland
 - D. prolonged hyposecretion of the growth hormone
6. Diabetes insipidus is characterized by
- A. decreased urine output
 - B. increased urine output
 - C. accumulation of excessive glucose in blood
 - D. absence of glucose in blood
7. Gametes are formed during:
- A. mitosis
 - B. meiosis
 - C. maturation
 - D. anteflexion

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8. In warm environments, vessels to the skin:
- A. constrict
 - B. dilate
 - C. remains essentially the same as when in a cold environment
9. Bile is produced in the:
- A. liver
 - B. gallbladder
 - C. pancreas
10. Alveoli are associated with the:
- A. trachea
 - B. pharynx
 - C. lungs
 - D. nose
11. Which of the following is located in the oropharynx?
- A. pharyngeal tonsil
 - B. palatine tonsil
 - C. lingual tonsil
 - D. both B and C
 - E. all of these

12. Hormones that contain iodine are produced by which of these glands?
- A. pituitary
 - B. adrenal medulla
 - C. thyroid
 - D. parathyroid
13. Which hormone would most likely be released in increased amounts in response to elevated blood glucose levels?
- A. epinephrine / adrenaline
 - B. glucagon
 - C. insulin
 - D. aldosterone
14. The middle ear contains the:
- A. cochlear
 - B. semicircular canals
 - C. incus
15. The fibers that connect the left and right cerebral hemispheres form the:
- A. projecting tracts
 - B. association tracts
 - C. commissural tracts

PART II: TRUE or FALSE? Write the most correct response e. g. 1 = True

16. Both mass movement and peristalsis occur in the small intestine. **True or False**
17. As the descending colon reaches the left pelvic brim, it curves to the midline via an S-shaped sigmoid colon. **True or False**
18. Normally, antibodies are not produced against a person's own antigens. **True or False**
19. The skin and mucous membranes serve as barriers to the invasion of the body by potentially damaging factors. **True or False**
20. The sciatic nerve, which is the largest nerve in the body, is the main branch of the sacral plexus. **True or False**

[20 MARKS]

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SECTION B

PLEASE ANSWER ALL THE FOUR (4) QUESTIONS IN THIS SECTION

Question1

- A. Identify the **major fluid components** of the body? (4)
- B. Describe the **causes and consequences** of **acid-base imbalances** in the body. (12)
- C. What do the following factors influence and how
- (i) Ventilation-perfusion coupling (2)
 - (ii) Thickness of surface area of membrane (2)

[20 MARKS]

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Question 2

A. How does a damaged **tympanic membrane** cause **deafness**?

(4)

Classification	Function	Location
Transitional		
Pseudostratified		
Stratified		
Simple squamous		
Dense connective (regular)		
Elastic		
Hyaline		
Fibrocartilage		

B. Complete the table (above) of the different epithelial and connective tissues, by indicating their functions and locations.

(16)

[20 MARKS]

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Question 3

- A. Describe the **endocrine pancreas**. (5)
- B. Indicate the function of each of the following hormones?
- (i) Aldosterone (2)
- (ii) Prolactin (2)
- (iii) Anti-diuretic hormone (2)
- C. Describe the **location, structure, and function** of the **prostate gland**? (9)

[20 MARKS]

Question 4

- A. At what level is a **needle** usually introduced in a **lumbar puncture** (spinal tap)?
Why? (5)
- B. In **advanced syphilis** there may be **destruction of the dorsal columns** of white matter in the spinal cord. What symptoms would you expect to see in an individual with this condition? (5)
- C. Differentiate between the **circumvallate, filiform, and fungiform papillae** of the tongue. (6)
- D. How do **duodenal ulcers** develop? (4)

[20 MARKS]

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