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UNIVERSITY OF SWAZILAND
FACULTY OF HEALTH SCIENCES
GENERAL NURSING DEPARTMENT
FINAL EXAMINATION MAY 2008

COURSE TITLE : HUMAN ANATOMY AND PHYSIOLOGY

COURSE CODE: HSC 111

MARKS ALLOCATED 100

TIME ALLOCATED: THREE (3) HOURS

INSTRUCTIONS:-

1. THERE ARE TWO (2) SECTIONS IN THIS PAPER
 - I) SECTION ONE IS MULTIPLE CHOICE AND MATCHING
 - II) SECTION TWO IS SHORT ANSWERS
2. PLEASE ANSWER ALL SECTIONS
3. SECTIONS ONE CARRY 25 MARKS
SECTION THREE CARRY 75 MARKS
4. USE ANSWER SHEET FOR ALL YOUR ANSWERS

NB: DO NOT OPEN THE QUESTION PAPER UNTIL PERMISSION HAS BEEN GRANTED BY THE INVIGILATOR.

SECTION 1

- A. MULTIPLE CHOICE:** Please write the most appropriate answer for the following questions. e.g. 1 = B
1. Hyposecretion of pituitary growth hormone causes:-
 - A. excessive long bone growth in children
 - B. dwarfism
 - C. gigantism
 - D. acromegally
 2. acromegally is.-
 - A. hyposecretion of growth hormone in children
 - B. hyposecretion of growth hormone in adults
 - C. hypersecretion of growth hormone in children
 - D. hypersecretion of growth hormone in adults
 3. Absorption of body nutrients occurs mainly in :-
 - A. the stomach
 - B. the duodenum
 - C. the ileum
 - D. the transverse colon
 4. The function of the seminiferous tubules.-
 - A. storage for mature spermatozoa
 - B. production of spermatozoa
 - C. transport spermatozoa during ejaculation
 - D. all of the above
 5. The epididymis:-
 - A. produce spermatozoa
 - B. stores mature spermatozoa
 - C. sends spermatozoa through rete testis to epididymis
 - D. none of the above

6. The inner lining of the uterus is called the:-
- A. the peritoneum
 - B. the myometrium
 - C. the endometrium
 - D. the endocardium
7. Diabetes Mellitus is caused by:-
- A. hyposecretion of insulin
 - B. hypersecretion of insulin
 - C. both A and B
 - D. all of the above
8. Leukemia is:-
- A. over production of leucocytes
 - B. group of cancerous conditions involving the white blood cells.
 - C. all of the above
 - D. none of the above
9. Membrane hyper polarization is:-
- A. when membrane potential becomes -25mV
 - B. when membrane potential becomes 90Mv
 - C. when the membrane potential is -70mV
 - D. when membrane potentials become $+70\text{mV}$
10. Why is sodium and potassium not at equal levels inside and outside the cell.
- A. ATP sodium and potassium pump, transport more potassium extra cellular
 - B. ATP sodium potassium pump transport more potassium intracellular
 - C. ATP sodium potassium pump transport 3 sodium from cell and 2 potassium back to cell
 - D. APT pump transport 2 sodium from cell and 3 potassium back to cell

11. The value of resting membrane potential ranges from:-
- A. -40mV to -90mV
 - B. -30mV to -95mV
 - C. +40mV to +90 mV
 - D. +30 mV to +95mV
12. Afferent or sensory neurons :-
- A. transmit impulses from skin to CNS
 - B. transmit impulses from CNS to skin
 - C. transmit nerve impulse to muscle
 - D. transmits nerve impulse from sensory to motor.
13. Motor impulses are :-
- A. unipolar
 - B. bipolar
 - C. multipolar
 - D. none of the above
14. REM is:-
- A. sleeping stage where dreaming occurs
 - B. NREM
 - C. deep sleep
 - D. 1st stage of NREM
15. Cranial nerves **do not** service the:-
- A. the head
 - B. the face
 - C. the neck
 - D. the lower extremities
16. The Vegas nerve is:-
- A. cranial nerve number X
 - B. the only nerve supplying the thoracic and abdomen
 - C. All of the above
 - D. none of the above

17. during meiosis, the reproductive cell.
- A. divides into 46 chromosomes
 - B. divides into 23 chromosomes
 - C. produce one secondary spermatocytes
 - D. produce one secondary oocyte with 46 chromosomes
18. This artery supply blood to the heart.
- A. coronary artery
 - B. ascending aorta
 - C. descending aorta
 - D. mesenteric artery
19. This vein carries blood rich in nutrients.
- A. hepatic artery
 - B. abdominal aorta
 - C. portal vein
 - D. inferior vena cava
20. The following is **not the** contents of saliva
- A. mucus
 - B. water
 - C. enzymes
 - D. plasma

B. TRUE AND FALSE:-

1. The gastro esophageal sphincter prevents gastric contents backing up to the esophagus.
A. TRUE
B. FALSE
2. Leukocytes are body*s defense mechanism.
A. TRUE
B. FALSE
3. The pancreas functions only as an endocrine gland.
A TRUE
B. FALSE
4. Language is mainly controlled in the right hemisphere of the cerebral cortex.
A. TRUE
B. FALSE
5. Aphasia is a language disorder due to damage to special cortical areas e.g. in cases of stroke.
A. TRUE
B. FALSE

SECTION 2

SHORT ANSWERS

QUESTION 1

- A. Follow a drop of blood from the left ventricle to the kidney and back to the left ventricle. (10)
- B. Describe the structure and functions of erythrocytes? (10)
- C. Define the following terms
- i. blood pressure (1)
 - ii) systolic blood pressure (2)
 - iii) diastolic blood pressure (2)

QUESTION 2

- A. With the aid of a diagram, describe the process of urine formation. (10)
- B. i) Define cerebral cortex (1)
ii) State four functions of the cerebral cortex (8)
- C. i) Identify the three parts of the brain that form the brain stem (3)
ii) Identify the cerebral membranes: (3)

QUESTION 3

- A. State the functions of endocrine glands
- i) Adrenal gland
 - ii) Thymus gland
 - iii) Thyroid gland
 - iV) parathyroid gland
 - v) pancreas (10)
- B. Identify five body organs with glands responsible for producing endocrine glands (5)
- C. Describe the location of the diencephalon (thalamus and hypothalamus) and its functions. (10)