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UNIVERSITY EXAMINATIONS 2023/2024

FIRST YEAR, SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR
OF SCIENCE IN MEDICAL LAB

HML 3121: HUMAN ANATOMY II

DATE: APRIL 2024

TIME: 2 HOURS

INSTRUCTIONS:

Part I: Multiple Choice Questions (MCQs)

Part II: Short Answer Questions

Part III: Long Answer Questions

PART I (20 MARKS)

1. The innermost layer of blood vessels is composed of what type of material?
 - a) Simple squamous epithelium
 - b) Smooth muscle
 - c) Connective tissue
 - d) Elastic tissue
2. Which layer of the gastro-intestinal tract is in contact with the contents of the gut?
 - a) Muscularis externa



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- b) Mucosa
 - c) Serosa
 - d) Sub-mucosa
3. Which of the following definitions best describes veins?
- a) a vessel that carries blood towards the heart
 - b) a vessel that carries oxygenated blood
 - c) vessels that carry blood away from the heart
 - d) vessels whose walls are composed of three tunics
4. Which arteries are called elastic arteries because of their ability to expand when blood surges into them?
- a) Distributing arteries
 - b) Conducting arteries
 - c) Arterioles
 - d) Metarterioles
5. What is the name of the tube that connects the bladder to the kidney?
- a) renal tubule
 - b) ureter
 - c) urethra
 - d) collecting duct
6. Which structure is responsible for directing food and liquids into the esophagus during swallowing?
- a) Glottis
 - b) Epiglottis
 - c) Adam's apple
 - d) Conchae
7. In which lymphatic organ do T cells mature?
- a) Red bone marrow
 - b) Tonsils
 - c) Spleen
 - d) Thymus



8. What purpose do the cartilaginous rings around the trachea serve?
- a) Keep the trachea from collapsing during inhalation
 - b) Attach the trachea firmly to the esophagus
 - c) Protect the trachea from trauma
 - d) They serve no purpose
9. A triangular-shaped smooth area on the floor of the bladder is called the:
- a) rugae.
 - b) papilla.
 - c) cortex.
 - d) trigone.
10. What is the name of the lobe of the brain that is immediately superior to the cerebellum?
- a) Dorsal
 - b) Occipital
 - c) Posterior
 - d) Parietal
11. What is the function of the cilia on the cells that line the bronchial tree?
- a) They help mix the inhaled fresh air with the residual air contained in the bronchial tree.
 - b) They slow the movement of air to allow for efficient exchange of gases.
 - c) They move the mucus on the cell surface up out of the bronchial tree.
 - d) They filter particles from inhaled air.
 - e) a glomerulus, a proximal convoluted tubule, loop of Henle, and a distal convoluted tubule
12. Which of the following materials is found in the walls of capillaries?
- a) Endothelium
 - b) elastic fibres
 - c) collagen fibres
 - d) smooth muscle
13. Which of the listed structures does the male reproductive tract pass through?
- a) the prostate
 - b) the bulbourethral gland
 - c) the seminiferous vesicles

- d) the bladder
14. Which of the following assists in returning the blood to the heart through the veins?
- a) valves in the veins, the effect of breathing, gravity
 - b) valves in the veins, the effect of breathing, squashing action of muscles, gravity
 - c) the effect of gravity, the pumping action of the heart
 - d) the effect of breathing, squashing action of muscles, the right ventricle
15. Which of the following organs is an accessory organ of the gastrointestinal tract?
- a) jejunum
 - b) appendix
 - c) caecum
 - d) pancreas
16. Where is the autonomic control centre for most of body homeostasis located?
- a) In the limbic system
 - b) In the brainstem
 - c) In the hypothalamus
 - d) In the cerebellum
17. Which inner ear structure contains the structures for hearing?
- a) Vestibule
 - b) Semicircular canals
 - c) Cochlea
 - d) Auricle
18. The "systemic circulation" refers to which of the following?
- a) The movement of blood from the pulmonary trunk, through capillaries into the pulmonary veins.
 - b) The movement of blood into the coronary arteries, through capillaries into the coronary sinus.
 - c) The flow of blood into the right atrium and eventually out of the left ventricle.
 - d) The movement of blood from the aorta, through capillaries, then eventually into the vena cavae.
19. Which pancreatic cells secrete digestive enzymes?



- a) Acinar cells
- b) Islets of Langerhans
- c) Duct cells
- d) Kupffer cells

20. Why do arteries have more elastic and muscular tissue than veins?

- a) arteries need to expand and contract as blood flows through them
- b) arteries need carry a greater volume of blood than do veins
- c) to ensure that blood flows only in the direction away from the heart
- d) in order to support the larger diameter of arteries compared to veins

PART II (40 MARKS) – Attempt all questions

- 1. Discuss briefly the internal anatomy of the nose (8 Marks)
- 2. Outline five stages of development of ovarian follicles (8 Marks)
- 3. Name five arteries that constitute the circle of Willis (8 Marks)
- 4. Describe the anatomy of the urinary bladder and micturition reflex (8 Marks)
- 5. Outline the anatomy of the penis (8 Marks)

PART III (40 MARKS) – Attempt any two questions

- 1. a. Discuss the internal anatomy of the kidneys (10 Marks)
- b. Describe the positions of the urethra for males and females (10 Marks)
- 2. Discuss the anatomy and function of the following
 - a) Pituitary gland (5 Marks)
 - b) Pineal gland (5 Marks)
 - c) Thyroid gland (5 Marks)
- 3. Describe the anatomy of the following
 - a) Bronchi and bronchial tree (10 Marks)
 - b) Larynx (10 Marks)

