



**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)**

MAIN CAMPUS

**UNIVERSITY EXAMINATIONS
2022/2023 ACADEMIC YEAR**

MAIN EXAMINATION

**FOR THE DEGREE
OF
BACHELOR OF MEDICAL LABORATORY SCIENCES &
MEDICAL BIOTECHNOLOGY**

COURSE CODE: BML 122

COURSE TITLE: SYSTEMIC HUMAN ANATOMY

DATE: 20TH APRIL 2023
1.00PM

TIME: 11.00AM –

INSTRUCTIONS TO CANDIDATES

This paper is divided into three sections, **A B** and **C**, carrying respectively: Multiple Choice Questions (**MCQs**), Short Answer Questions (**SAQs**) and Long Answer Questions (**LAQs**). Answer all questions. **DO NOT WRITE ON THE QUESTION PAPER.**

TIME: 2 Hours

SECTION A: Multiple Choice Questions (20Marks)

- MMUST observes ZERO tolerance to examination cheating
Consists of 4 Printed Pages. Please Turn Over.
1. The greater omentum connects the stomach to which structures?
 - a) Spleen, transverse colon
 - b) Spleen, ascending colon
 - c) Spleen, descending colon
 - d) Spleen, small bowel
 2. Where is Auerbach's myenteric plexus situated?
 - a) Lamina propria
 - b) Muscularis mucosa
 - c) Submucosa
 - d) Muscularis propria
 3. Where does the body of the stomach lie between?
 - a) Fundus and pyloric antrum
 - b) Pyloric antrum and cardia
 - c) cardia and fundus
 - d) cardia and antrum
 4. How does age affect digestion?
 - a) Slows swallowing
 - b) Overgrowth of bacteria reduces the amount of nutrients the intestines absorb
 - c) Reduces stomach secretions
 - d) All of the above
 5. Which of the following organs only receives oxygenated blood?
 - a) Lungs
 - b) Spleen
 - c) Liver
 - d) All of the above
 6. The alveolar epithelium of lungs is
 - a) Simple cuboidal
 - b) Simple columnar
 - c) Simple squamous
 - d) Transitional epithelium
 7. _____ is located between two pleural sacs and is the central compartment of the thoracic cavity?
 - a) Hilum
 - b) Mediastinum
 - c) Pleura
 - d) Thoracic cage
 8. Which one of the following statements is false about the trachea?
 - a) Has C-shaped rings
 - b) It is covered by epiglottis
 - c) It splits into the right and left lungs
 - d) None of the above
 9. Which one of the following is correct regarding larynx?

- a) It houses the vocal cords
 - b) It prevents the invading pathogens into the trachea
 - c) It is an organ made of cartilage and connects the pharynx to the trachea
 - d) All of the above.
10. Which of the following membranes encloses lungs?
- a) Pleural membrane
 - b) Pericardium
 - c) Perichondrium
 - d) Periosteum
11. The linings that separate air contained in lungs from venous blood
- a) Squamous epithelium and tunica media
 - b) Squamous epithelium and endothelium
 - c) Transitional epithelium and tunica externa
 - d) None of the above
12. Which of the following cells found in the stomach secrete pepsinogen
- a) Parietal cells
 - b) Chief cells
 - c) Goblet cells
 - d) G-cells
13. Which of the following is the function of the trachea?
- a) Gaseous Exchange
 - b) Exhales the air from the body
 - c) Filters the air we breathe
 - d) All of the above
14. What portion of the nephron extends into the medulla?
- a) Nephron loop.
 - b) Proximal convoluted tubule.
 - c) Distal convoluted tubule.
 - d) Papillary duct.
15. Which of the following is the correct sequence in which urine flows through the kidney toward the urinary bladder?
- a) Renal pelvis, major calyx, minor calyx, papillary duct, ureter.
 - b) Papillary duct, minor calyx, major calyx, renal pelvis, ureter.
 - c) Minor calyx, major calyx, papillary duct, renal pelvis, ureter.
 - d) Papillary duct, major calyx, minor calyx, ureter, renal pelvis.
16. The apex of the renal pyramid is called the:
- a) Major calyx.
 - b) Minor calyx
 - c) Renal papilla.
 - d) Renal pelvis.
17. Which of the following options completes the following statement? "The right atrioventricular valve..."
- a) Is a semilunar valve

- b) Is open during systole
 - c) Is prevented from everting by papillary muscles
 - d) Prevents blood returning from the pulmonary trunk as the heart relaxes.
18. Which sequence describes the systemic circulation?
- a) Left ventricle → aorta → arteries → veins → capillaries
 - b) Left ventricle → aorta → arteries → capillaries → veins
 - c) Right ventricle → pulmonary trunk → arteries → capillaries → veins
 - d) Right ventricle → pulmonary trunk → arteries → veins → capillaries
19. The male urethra lies within which portion of the penis?
- a) Vesicular
 - b) Corpus cavernosum
 - c) Corpus spongiosum
 - d) Bulbourethral
20. Name the structure in the developing fetus that shunts blood from the right atrium to the left atrium
- a) Ductus venosus
 - b) Foramen ovale
 - c) Ductus arteriosus
 - d) Mitral valve

SECTION B: Short Answer Questions (40marks)

1. Describe the intrinsic salivary glands. (4mk)
2. Explain how the stomach is protected from digesting itself. (4mks)
3. Describe the histology of the esophageal wall. (4mks)
4. State the differences between the small and large intestine. (4mks)
5. Discuss the digestive functions of the pancreas (4mks)
6. Discuss the effect of testosterone on the vocal cords in the larynx. (4mks)
7. The structures of the liver. (4mks)
8. Using a well labelled diagram, describe the structure of a bipolar neuron. (4mks)
9. Describe the layers of uterine wall (4mks)
10. Compare the lymph and blood vessels (4mks)

SECTION C: Long Answer Questions (60marks)

1. Discuss the fetal blood circulation. (20mks)
2. Describe histology gastro-intestinal tract (20mks)
3. Describe the embryology and anatomy of the kidneys (20mks)