



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF MEDICAL SCIENCES

UNIVERSITY EXAMINATION FOR:

BACHELOR OF MEDICAL LABORATORY SCIENCES

AMD 4210: HUMAN PHYSIOLOGY II

END OF SEMESTER EXAMINATION

SERIES:DECEMBER2016

TIME: 2HOURS

DATE: Dec2016

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of Choose NoSection(s). AttemptALL questions.

Circle the correct answer in section A.

PAPER 11

SECTION A;

Attempt all questions in this section

1. Oxygenated blood is carried to the heart by the
 - a. Aorta
 - b. carotid arteries
 - c. inferior vena cava
 - d. pulmonary veins
 - e. superior vena cava
2. Where is the sinoatrial node located?
 - a. Between the left atrium and the left ventricle
 - b. Between the right atrium and the right ventricle
 - c. In the interventricular septum
 - d. In the upper wall of the left ventricle
 - e. In the upper wall of the right atrium
3. Which of the following is the source cell for the secretion Pepsinogen?
 - a. Chief cell
 - b. Plasma cell
 - c. G cell

- d. Parietal cell
 - e. Goblet cell
4. The two body systems that regulate homeostasis are the:
- a. cardiovascular and respiratory systems
 - b. cardiovascular and urinary systems
 - c. cardiovascular and endocrine systems
 - d. nervous and cardiovascular systems
 - e. nervous and endocrine systems
5. Which of the following hormones promote lipolysis :
- a. growth hormone
 - b. Glucagone
 - c. Cortisol in tissues
 - d. All the above
 - e. Both a and c
6. The action of glucocorticoids involves many functions, but only one of the following is a correct one:
- a. increases inflammatory responses
 - b. decreases lipid hydrolysis (lipolysis)
 - c. increases glucose levels
 - d. retention of electrolytes by the kidneys
 - e. increases osteoclast activity
7. In general, veins exhibit this characteristic when compared to arteries:
- a. are thinner walled
 - b. have more smooth muscle in the tunica media
 - c. carry faster moving blood
 - d. have thicker endothelium
 - e. are more elastic
8. Which of the following secretes oxytocin
- a. Adenohypophysis
 - b. Neurohypophysis
 - c. Zona glumerulosa
 - d. Pers intermedia
 - e. cervix
9. Homeostasis is the condition in which the body maintains:
- a. The lowest possible energy usage
 - b. A relatively stable internal environment, within limits
 - c. A static state with no deviation from preset points
 - d. A changing state, within an unlimited range
 - e. The highest possible energy usage
10. Which of the following describes the nephrones
- a. is also called the "Bowman's capsule
 - b. the site where ADH is produced
 - c. the functional unit of the kidney
 - d. the site of urine storage
 - e. all the above
11. The sum of all chemical reactions that occur in the body is known as
- a. Growth

- b. Reproduction
 - c. Metabolism
 - d. Differentiation
 - e. Homeostasis
12. Which of the following would result from a thyroidectomy (removal of the thyroid gland)?
- a. decreased TSH secretion
 - b. increased T3 and thyroxine secretion
 - c. increased calcitonin secretion
 - d. increased TSH secretion
 - e. both b and c apply.
13. All of the following are normally found in urine except
- a. Glucose
 - b. Creatinine
 - c. Uric acid
 - d. Sodium ions
 - e. urea
14. During ovulation all of the following occur EXCEPT:
- a. rupture of the Graafian follicle
 - b. estrogen production is very low
 - c. FSH and LH production is high
 - d. formation of the corpus luteum
 - e. Non of the above
15. The exchange of gases between blood and cells is called
- a. pulmonary ventilation.
 - b. internal respiration.
 - c. external respiration.
 - d. cellular respiration.
 - e. Muscle respiration
16. A tumor of the beta cells of the pancreatic islets would probably affect the body's ability to:
- a. lower blood glucose level
 - b. lower blood calcium level
 - c. raise blood calcium level
 - d. raise blood glucose level
 - e. raise blood sodium level.
17. Removal of the adenohypophysis would affect all except:
- a. adrenal cortex
 - b. adrenal medulla
 - c. ovaries
 - d. mammary glands
 - e. thyroid gland.
18. Which of the following does NOT belong to the conducting portion of the respiratory system
- a. Alveoli
 - b. bronchioles

- c. nose
 - d. pharynx
 - e. all the above
19. Which blood component plays the largest role in maintaining the osmotic pressure of blood
- a. Albumin
 - b. carbon dioxide
 - c. white blood cells
 - d. fibrinogen
 - e. globulins
20. The following contract together to pump blood
- a. Right atrium with the right ventricle and left atrium with the left ventricle
 - b. Right atrium with left atrium and right ventricles with left ventricle
 - c. Tricuspid valve and mitral valve
 - d. Aorta and pulmonary artery
 - e. Aorta, pulmonary artery and pulmonary vein
21. If forcefully exhaling as much air as possible after a normal breath, this is
- a. tidal volume
 - b. expiratory reserve volume
 - c. maximum expiratory flow rate
 - d. eupnea
 - e. inspiratory reserve volume
22. For air to enter the lungs during inspiration
- a. the pressure inside the lungs must be higher than the atmospheric pressure
 - b. the pressure inside the lungs must become lower than the atmospheric pressure
 - c. the pressure inside the lungs must be equal to the atmospheric pressure
 - d. the diaphragm must be relaxed
 - e. intrapulmonary pressure must be equal to intrapleural pressure
23. Which tunic of an artery contains endothelium?
- a.tunica interna/intima
 - b.tunica media
 - c.tunica externa
 - d.tunica adventitia
 - e.none of the above
24. The heart's natural pacemaker is termed the:
- a. sinoatrial node
 - b. atrioventricular node
 - c. bundle of His/atrioventricular bundle
 - d. left and right bundle branches
 - e. Purkinje fibers
25. Compared to the systemic arteries, the pulmonary arteries are characterized by:
- a. carrying blood at a higher blood pressure
 - b. having a higher resistance to blood flow

- c. having a greater tendency for vascular resistance to increase as blood flow and blood pressure increase
- d. carrying blood with a higher PCO_2
- e. carrying blood with a higher pH

26. The most important function of the juxtaglomerular apparatus (JGA) is to:

- a. secrete water and sodium into the filtrate
- b. reabsorb sodium
- c. generate bicarbonate ions in response to decreased blood pH
- d. secrete renin in response to decreased renal blood pressure or blood flow
- e. constrict the afferent arterioles and decrease sodium reabsorption

27. The blood vessels that play the most important role in the regulation of blood flow to a tissue and blood pressure are the:

- a. arterioles
- b. capillaries
- c. venules
- d. arteries
- e. veins

28. Which of the following regions of the GI tract is not characterized by simple columnar epithelium on the mucosal surface?

- a. stomach
- b. small intestine
- c. appendix
- d. large intestine
- e. anal canal

29. Cells which secrete HCl into the stomach are called:

- a. goblet cells.
- b. chief(zymogenic)cells.
- c. parietal(oxynitic)cells.
- d. enterocytes.
- e. Paneth cells.

30. The lining of the inner walls of the heart's chambers is termed the:

- a. visceral pericardium
- b. serous pericardium
- c. epicardium
- d. Myocardium
- e. endocardium

Section B

Answer all the questions

31. Describe the endocrine and exocrine function of the pancreas and give details of each of these functions 20mks

32.a. Describe the functions of the circulatory system 12marks

b. Describe the pulmonary and systemic circulation 8 marks

