

**TECHNICAL UNIVERSITY OF MOMBASA**

**FACULTY OF APPLIED AND HEALTH SCIENCES**

**DEPARTMENT OF MEDICAL SCIENCES**

UNIVERSITY EXAMINATION OF DEGREE

BACHELOR OF MEDICAL LABORATORY SCIENCE (BMLS )

**AMD 4210: MEDICAL PHYSIOLOGY II**

END OF SEMESTER EXAMINATION **SERIES** MAY 2016 PAPER ONE

**TIME** 2 HOURS

**SECTION A; Attempt all questions in this section**

Attempt all the questions provided in this section

1. Which of the following occurs within the submucosa in most regions of the GI tract:
  - a. several layers of smooth muscle.
  - b. nerves and parasympathetic ganglia of the submucosal (Meissners) plexus.
  - c. the myenteric (Auerbachs) plexus.
  - d. relatively few blood vessels.
  - e. numerous lymph nodules.
  
2. Which of the following is NOT an accessory structure of the digestive system
  - a.spleen
  - b. pancrease
  - c. liver
  - d.gall bladder
  - e.all the above
  
3. The pancreatic duct transports secretions from the pancreas to the
  - a. stomach
  - b. small intestine
  - c. large intestinet
  - d. colon

e. duodenum

4. Glucose is stored in the liver as:

- a. ATP
- b. fats
- c. glycogen
- d. starch
- e. lipids

5. Which would be an example of positive feedback

- a. Release of oxytocin to increase the strength of labor contractions
- b. Shivering to generate heat in a situation where body temperature is below normal
- c. Release of insulin to decrease a high level of glucose in the blood
- d. Release of glucagon to increase a below normal level of glucose in the blood
- e. none of the above

6. Homeostatic imbalance has occurred when a?

- a. person sweats as a result of being hot.
- b. person shivers as a result of being cold.
- c. person becomes ill.
- d. person's heart rate increases as a result of exercise.
- e. person's breathing rate increases as a result of exercise.

7. Which type of nutrient is important in building cell structures, insulating the body, and providing an energy-rich fuel reserve:

- a. vitamins
- b. minerals
- c. carbohydrate

- d. fats
- e. proteins

8 . Which of the following body systems acts as a fast-acting control system for the body?

- a. Endocrine
- b. Reproductive
- c. Respiratory
- d. Skeletal
- e. Nervous

9 . Which of the following body systems functions to produce blood cells

- a. Circulatory
- b. Reproductive
- c. Respiratory
- d. Urinary
- e. Skeletal

10. The following are examples of granulocytes except

- a. Neutrophils
- b. Monocytes
- c. Eosionophils
- d. Basophils
- e. None of the above

11. The kidney is important in the regulation of the following function except

- a. BP control
- b. acid-base balance
- c. excretion of urea
- d. detoxification of substances such as drugs
- e. red blood cell production

12. The kidney performs the following functions except
- hormone production
  - BP maintenance and control
  - calcitonin production
  - ultra filtration
  - none of the above
13. The following hormone is responsible for milk production
- oestrogen
  - progesterone
  - prolactin
  - adrenaline
  - oxytocin
14. Testosterone is responsible for the following process
- sex determination
  - proliferation of the ovary
  - development of the testis in male
  - spermatogenesis
  - all of the above
15. Which of the following neurotransmitters is not secreted by the adrenal gland
- Dopamine
  - serotonin
  - epinephrine
  - norepinephrine
  - Adrenaline
16. The following hormone is important in the maturation of the follicles in female ovary
- GRH
  - FSH
  - LH
  - Progesterone
  - TSH
17. Which of the following is not the conducting zone of the respiratory system
- larynx
  - trachea
  - primary bronchus

- d. Terminal bronchioles
  - e. None of the above
18. Which of the following statements is true about the cardiovascular system
- a. systemic blood supply is more than the pulmonary blood supply
  - b. systemic blood supply is less than pulmonary blood supply
  - c. pulmonary blood supply is two times more than than systemic blood supply
  - d. pulmonary blood supply is two times less than systemic blood supply
  - e. pulmonary blood supply is equal to the systemic blood supply
19. Which of the following is not true about testosterone
- a. Responsible for initiation and maintenance of body changes in puberty
  - b. secreted by leydig cells
  - c. Stimulate growth of bone growth after sealing of the epiphyseal disc
  - d. inhibit LH and GnRH production
  - e. promote hemoglobin synthesis
20. Which of the following hormone triggers ovulation
- a. LH
  - b. FSH
  - c. estrogen
  - d. progesterone
  - e. estradiol
21. An adult male has a heart beat of 76 beats per min his stroke volume is 100ml what is his cardiac output
- a. 100 l/min
  - b. 76 l/min
  - c. 760 l/min
  - d. 7.6 l/min
  - e. 10 l/min
22. During which phase of the cardiac cycle are all the four heart valves closed
- a. diastole
  - b. systole
  - c. isovolumic relaxation
  - d. both a and b
  - e. both b and c
23. The exchange of gases and nutrients between blood and tissues is a major function of:
- a. arterioles
  - b. arteries
  - c. capillaries
  - d. veins

e. venules

24. Which of the following body systems provides protection against disease and returns proteins and plasma to the cardiovascular system?

a. respiratory

b. Urinary

c. endocrine

d. lymphatic

e. integumentary

25. Which of the following is classified as a monosaccharide?

a. sucrose

b. glycogen

c. glucose

d. lactose

e. starch.

26. During isovolumetric ventricular contraction phase:

a. The mitral and tricuspid valves are close causing second heart sound.

b. The intraventricular pressure is increased without change in ventricular volume

c. The atrioventricular valves bulge into the atria causing a drop in atrial pressure.

d. QRS complex coincides with ventricular contraction.

e. Both b and d

**27.** Atrial repolarization is expressed as :

a. P wave

b. QRS complex

c. q wave

d. T wave

e. none of the above.

28. Cells which secrete pepsinogen into the stomach are called:

a. goblet cells.

b. chief (zymogenic) cells.

c. parietal (oxyntic) cells.

- d. Kupffer cells.
- e. Paneth cells.

29. Enteroendocrine cells, an inconspicuous but important epithelial cell type, occur:

- a. only in the stomach (especially its pyloric region).
- b. only in the small intestine.
- c. only in the colon.
- d. only in the gall bladder.
- e. mainly in the stomach (especially its pyloric region) and in the small intestine, but also elsewhere along the GI tract (and also along respiratory passages).

30. . Which of the following cells is most directly responsible for protecting the stomach mucosa from attack by acid and proteolytic enzymes?

- a. gastric chief cells
- b. gastric parietal cells
- c. enteroendocrine cells
- d. Paneth cells
- e. gastric surface mucous cells

#### Section B

Answer all the questions

31. Describe the functions of the pituitary hormones and their negative feedback mechanism.

(20mks)

32. Give a brief description of the circulatory system. ( 20mks)