



**AMREF INTERNATIONAL UNIVERSITY  
SCHOOL OF MEDICAL SCIENCES  
DEPARTMENT OF NURSING & MIDWIFERY SCIENCES  
SUPPLIMENTARY EXAMINATIONS MARCH 2024**

**COURSE CODE AND TITLE: BSN 123 MEDICAL PHYSIOLOGY II  
(SUPPLEMENTARY)**

**DATE: 19<sup>TH</sup> March 2024**

**Duration: 2 HOURS**

**Start: 10:30 AM**

**Finish: 12:30 AM**

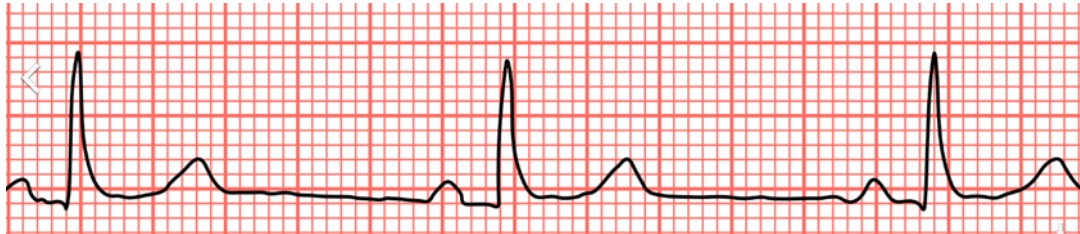
**INSTRUCTIONS**

- 1. This exam is out of 70 marks**
- 2. This Examination comprises THREE Sections. Section I: Multiple Choice Questions (20 marks) Section II: Short Answer Questions (30 marks) and Section III: Long Answer Questions (20 marks)**
- 3. Answer ALL Questions.**
- 4. Do Not write anything on the question paper -use the back of your booklet for rough work if need be.**

**SECTION I: MULTIPLE CHOICE QUESTIONS**

**(20 MARKS)**

Use the following ECG strip to answer question 1 and 2



1. The ECG strip in indicates
  - A. Tachycardia
  - B. Bradycardia
  - C. 1<sup>st</sup> Degree block
  - D. Normal rhythm
2. The ECG strip is expected in the presence of the following, except
  - A. Carotid massage
  - B. Organophosphate poisoning
  - C. Vagotomy
  - D.  $\beta$ - blockers
3. Potent isoform of estrogen is: -
  - A. Estrone
  - B. Estradiol
  - C. Estriol
  - D. Progesterone
4. Saliva does not contain: -
  - A. Alpha-amylase and lingual lipase.
  - B. Mucin and muramidase.
  - C. Bicarbonate and magnesium.
5. Slow waves are initiated by
  - A. Change in osmolarity
  - B. Endocrine

- C. Intestinal cell of Cajal
- D. All of the Above
6. One gram of haemoglobin can carry
- A. 1.34 mls of oxygen
  - B. 134 mls of oxygen
  - C. 10 mls of oxygen
  - D. 13 mls of oxygen
7. One of the following does NOT happen during inspiration
- A. The ribs move upward.
  - B. The diaphragm lifts up.
  - C. The antero-posterior dimensions of the chest are increased
  - D. The transverse dimensions of the thorax are increased.
8. Mannitol is ideal for estimating: -
- A. Extracellular volume
  - B. Intracellular volume
  - C. Plasma volume
  - D. Transluminal volume
9. The maternal growth hormone of pregnancy is: -
- A. hGH
  - B. hCS
  - C. estriol
  - D. hCG

10. The blood-testis barrier: -

- A. By Leydig cells
- B. Form an immune privilege site
- C. Have gap junctions
- D. Site of mitosis

11. Pancreatic beta cells secrete

- A. Glucagon
- B. Somatostatin
- C. Insulin
- D. Incretin

12. The resting membrane potential of ventricular cardiomyocytes is closest to the Nernst potential for: -

- A. Sodium
- B. Chloride
- C. Potassium
- D. Calcium

13. In skeletal muscle: -

- A. Serve as site of erythropoiesis.
- B. Important for glucose hemostasis
- C. Important in thermoregulation
- D. Have sense organs

14. Pneumothorax is likely to cause one of the following shocks: -
- A. Cardiogenic
  - B. Obstructive
  - C. Distributive
  - D. Haemorrhagic
15. When tubule transport maximum (T<sub>max</sub>) of glucose is exceeded
- A. Hyperglycemia results
  - B. Glycosuria ensues
  - C. Suppression of thirst occurs
  - D. All of the above
16. The following will be the effect of blocking the activity of aldosterone
- A. Hyperkalemia
  - B. Hypokalemia
  - C. Hypernatremia
  - D. Fluid volume overload
17. Gastritis is likely to cause
- A. Reduced absorption of Vitamin B3
  - B. Microcytic anemia.
  - C. Reduced absorption of Vitamin B12
  - D. Aplastic anemia.

18. In the micturition reflex, the parasympathetic nervous system: -

- A. It is for emptying of the bladder
- B. It is filling the bladder
- C. Causes relaxation of detrusor muscle
- D. Causes contraction of sphincter muscle

19. The greatest percentage of blood is found in the: -

- A. Heart.
- B. Aorta.
- C. Veins.
- D. Capillaries.

20. The muscle spindle is not innervated by: -

- A.  $A\alpha$
- B.  $A\lambda$
- C. Ia fiber
- D. II fiber

**SECTION II: SHORT ANSWER QUESTIONS**

**(30 MARKS)**

1. State five functions of kidney (5 Marks)
2. Give four examples of white blood cells (4 Marks)
3. State four neurotransmitters of basal ganglia (4 Marks)
4. Explain four functions of digestive system (4 Marks)
5. Explain the role of insulin and glucagon in the homeostasis of glucose (4 Marks)
6. Highlight the four (4) components of pancreatic juice (4 Marks)
7. Explain various phases of cardiac cycle (5 Marks)

**SECTION III: LONG ANSWER QUESTION –**

**(20 MARKS)**

1. Describe long term and short term blood pressure control

(20 Marks)

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