



**AMREF INTERNATIONAL UNIVERSITY  
SCHOOL OF MEDICAL SCIENCE  
DEPARTMENT OF REHABILITATION MEDICINE  
BACHELOR OF SCIENCE IN PHYSIOTHERAPY  
END OF MAY-AUGUST 2025 TRIMESTER EXAMINATIONS**

**UNIT CODE: PHT 227    UNIT NAME: General surgery**

**DATE:    4<sup>th</sup> August 2025**

**TIME:        TWO HOURS**

**START: 6PM                      STOP : 8PM**

**INSTRUCTIONS (Online examinations)**

1. This exam is marked out of 70 marks
2. This Examination comprises 3 Sections
3. This online exam shall take 2 Hours
4. Late submission of the answers will not be accepted
5. Ensure your web-camera is on at all times during the examination period
6. No movement is allowed during the examination
7. Idling of your machine for 5 min or more will lead to lock out from the exam
8. The Learning Management System (LMS) has inbuilt integrity checks to detect cheating
9. Any aspect of cheating detected during and or after the exam administration will lead to nullification of your exam
10. In case you have any questions call the invigilator for this exam on Tel. 0705833434 and or the Head of Department on Tel 0720491032
11. For adverse incidences please write an email to: [amiu.examinations@amref.ac.ke](mailto:amiu.examinations@amref.ac.ke)

**SECTION A. Multiple choice questions. Answer all the questions (30 Marks)**

1. The following statements are true about the human total body weight with regard to water content. Which one is not,
  - a. The intracellular fluid compartment constitutes 15% intravascular plasma
  - b. The intracellular compartment constitutes 15 % interstitial fluid
  - c. The extracellular fluid compartment constitutes 40% of the total body weight
  - d. The synovial fluid is categorized under transcellular fluid compartment
2. Which cation is predominantly found in the extracellular fluid compartment
  - a. Bicarbonate
  - b. Chloride
  - c. Phosphate
  - d. None of the above
3. A patient presenting with the following symptoms is likely to be experiencing:  
Azotemia, oliguria, orthostatic hypotension, tachycardia
  - a. Stroke
  - b. Coronary artery disease
  - c. volume overload
  - d. Volume deficit
4. Why would a patient diagnosed with hyperparathyroidism easily fracture their bones.
  - a. Hypocalcemia
  - b. Increased bone resorption
  - c. Bone infection
  - d. None of the above
5. Which of the following statements is true about hyponatremia
  - a. Positive Chvostek sign
  - b. Negative trousseaus sign
  - c. Increased ADH secretion can cause it
  - d. All of the above
6. A decrease in bicarbonate to carbon dioxide ratio (20:1) as a result of decrease in bicarbonate is referred to as;
  - a. Respiratory alkalosis
  - b. Respiratory acidosis
  - c. Metabolic alkalosis

- d. Metabolic acidosis
7. An increase in bicarbonate to carbon dioxide ratio (20:1) as a result of decrease in carbon dioxide is referred to as;
- a. Respiratory alkalosis
  - b. Respiratory acidosis
  - c. Metabolic alkalosis
  - d. Metabolic acidosis
8. What is a likely compensatory response by the body of a patient with asthma undergoing respiratory acidosis;
- a. Increased breathing rate by the lungs
  - b. Death
  - c. Increased reabsorption of bicarbonates
  - d. Increased excretion of bicarbonates
9. Which of the following patients is likely to experience metabolic acidosis.
- a. Overdosing on antacids
  - b. Vomiting
  - c. Diarrhea
  - d. Patient on antiemetics
10. Which of the following is not an indication for nasoenteric feeding,
- a. Avoid stimulating pancreatic secretions
  - b. Need to bypass the stomach due to blockage
  - c. Severe malabsorption
  - d. None of the above
11. A patient with a mass in the lung tissue is undergoing endoscopy. Which is a likely approach to be applied; (1 mark)
- a. Thoracoscopy
  - b. Bronchoscopy
  - c. Mediastinoscopy
  - d. Laparoscopy
12. Before the above-mentioned patient undergoing endoscopy, he underwent the following preparation procedures except; (1 mark)
- a. Fasting 6-8 hours
  - b. Medical review for bleeding risks
  - c. Consenting to the procedure

- d. Feeding on very light snacks
13. A diabetic patient experiencing wound failure due to sepsis is undergoing below knee amputation after the administration of a neuromuscular blocker. Which of the following statements is true about neuromuscular blockers. (1 mark)
- a. Depolarizers reversibly bind to the postsynaptic terminal in the neuromuscular junction and prevent acetylcholine from depolarizing the muscle
  - b. Non-depolarizers act on sodium channels to block transmission of neural impulses
  - c. All of the above
  - d. None of the above
14. Which of the following is not a sign of central nervous system toxicity as a result of anesthetics. (1 mark)
- a. Tinnitus
  - b. Slurred speech
  - c. Coma
  - d. Heart block
15. A mother who underwent caesarean section was administered tranexamic acid. What is the possible reason for this. (1 mark)
- a. preventing clot breakdown
  - b. source of the vitamin K-dependent factors
  - c. prevent thrombocytopenia
  - d. none of the above
16. what is an abnormal presentation in the water seal chamber (1 mark)
- a. continuous bubbling
  - b. no bubbling
  - c. intermittent bubbling
  - d. fluid falling with inspiration and rising with expiration
17. A patient said to have Malignant tumor arising from glandular epithelial cells of the lung is likely having a diagnosis of, (1 mark)
- a. Adenocarcinoma
  - b. Squamous cell carcinoma
  - c. Large cell carcinoma
  - d. None of the above
18. Which of the following is not a regional presentation of a bronchogenic carcinoma, (1 mark)
- a. Dyspnea

- b. Hoarseness
  - c. Dysphagia
  - d. Pleural effusion
19. Regarding graft rejection, which of the following statements is untrue, (1 mark)
- a. Hyperacute rejection occurs within hours
  - b. Sub-acute rejection occurs within days to weeks
  - c. Chronic rejection occurs within months to years
  - d. None of the above
20. If a patient is said to have cancer induced by physical agents, which is not a likely physical agent that might have contributed to the onset. (1 mark)
- a. UV rays
  - b. X rays
  - c. Radioactive isotopes
  - d. Genotoxins
21. If the above-mentioned cancer patient is on chest tube drainage, what is the likely color of the fluid collected. (1 mark)
- a. Bloody
  - b. Milky
  - c. Green
  - d. Turbid
22. An infant diagnosed with transposition of great arteries will need which type of management approach; (1 mark)
- a. prostaglandins
  - b. balloon dilatation
  - c. arterial switch
  - d. all of the above
23. which of the following factors will not lead to prolonged/delayed ductal patency (1 mark)
- a. removal of placenta, a source of prostaglandins
  - b. catecholamines
  - c. smooth muscle contraction
  - d. VSD
24. Regarding mitral stenosis, which statement is not true. (1 mark)
- a. Stage A-Patients with diastolic valve doming with a significant decreased exercise tolerance and/or dyspnea on exertion

- b. Patients may develop pulmonary arterial hypertension in response to the increased pulmonary venous pressure.
  - c. Paroxysmal nocturnal dyspnea is one of the signs of MS
  - d. Balloon commissurotomy is an option for consideration in the management of MS
25. Which is not a risk factor for atherosclerosis. (1 mark)
- a. A BMI target of less than 25 kg/m<sup>2</sup>
  - b. LDL cholesterol levels less than 200 mg/dL
  - c. blood pressure of under 140/90 mmHg
  - d. none of the above
26. which statement is false regarding atherosclerosis. (1 mark)
- a. ST depression; ischemia (reversible-nitroglycerine)
  - b. ST depression=injury to muscle
  - c. A stress ECG is frequently used as a screening tool
  - d. Coronary angiography is the primary diagnostic tool
27. A patient is presenting with the following symptoms; luminal narrowing in the aorta that causes an obstruction to blood flow located distal to the left subclavian artery. The narrowing could be proximal (preductal) to the ductus arteriosus or distal to insertion of the ductus arteriosus. What is the likely diagnosis;
- a. Patent ductus arteriosus
  - b. Aortic coarctation
  - c. Transposition of great arteries
  - d. Atrial septal defect
28. A patient presenting with the following symptom is likely to be suffering from which condition, Murmurs around the aorta, Rib notching, significant upper and lower limb blood pressure difference
- a. Ventricular septal defect
  - b. Atrial septal defect
  - c. Patent ductus arteriosus
  - d. Aortic coarctation
29. Which of the following statements is true about squamous cell carcinoma, (1 mark)
- a. Dysplasia is a premalignant lesion characterized by disordered growth and maturation of epithelial cells.
  - b. Squamous metaplasia is a reversible adaptive change characterized by replacement of normal ciliated columnar epithelium of the resp. Tract with stratified squamous epithelium

- c. Not strongly associated to tobacco smoking
  - d. None of the above
30. nasogastric tubes, (1 mark)
- a. Increase the risk of aspiration pneumonia
  - b. Not indicated for patients with gastric motility issues
  - c. Bypasses stomach in gastric outlet obstruction
  - d. Indicated for Severe malabsorption cases

**SECTION B. Short structured question. Answer all the question (20 Marks)**

31. What are physiotherapy considerations in cardiac rehabilitation of an open-heart surgery patient. (5 marks)
32. A neonate with tetralogy of fallot was said to be having the following misnomers in the heart, (4 marks)
33. Interpret T1N0MX. (1 mark)
34. Briefly discuss the different surgical approaches on the lung that would be undertaken in the event a mass has been discovered on a patient's lung. (4 marks)
35. What are complications a transplant recipient is predisposed to. (3 marks)
36. A patient undergoing under water seal drainage is said to have pleural effusion. What are the two types of pleural effusion. (2 marks)
37. Define Eisenmenger syndrome. (1 mark)

**SECTION C Long Structured questions. Attempt any of the two questions (20 Marks)**

38. Discuss the different types of thoracotomies (10 marks)
39. a. Discuss in detail the components and interpretation of TNM staging. (8 marks)
- b. List two hallmarks of cancer. (2 marks)
40. Discuss the pathophysiology of coronary artery disease. (10 marks)