



**AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCE
DEPARTMENT OF REHABILITATION MEDICINE
BACHELOR OF SCIENCE IN PHYSIOTHERAPY
END OF SEPT-DECEMBER 2024 TRIMESTER EXAMINATIONS
MAIN EXAM**

UNIT CODE: PHT 226 UNIT NAME: PT in GENERAL SURGERY
DATE: Friday/ 06/ December
TIME: TWO HOURS
START: 11.15AM STOP : 1.15PM

INSTRUCTIONS

1. Do not write on this question paper

1. This exam is marked out of 70 marks
2. This Examination comprises 3 Sections
3. This exam will take 2 Hours
4. Late submission of the answers will not be accepted
5. No movement is allowed during the examination
6. Idling of your machine for 5 min or more will lead to lock out from the exam
7. Any aspect of cheating detected during and or after the exam administration will lead to nullification of your exam
8. In case you have any questions call the invigilator for this exam or the Head of Department

For adverse incidences please write an email to: amiu.examinations@amref.ac.ke

Section A (30 marks)

1. A patient was rushed to a hospital having fractured her femur distally while cycling on a static bicycle. Upon further investigations, the patient was found to have hyperparathyroidism. Which of the following statements is true.
 - a. The patient was hypercalcemic due to increased bone resorption.
 - b. The patient experienced increased phosphate reabsorption.
 - c. The patient decreased myosin and actin action due to reduced calcium.
 - d. None of the above.
2. An ultramarathoner seen panting heavily and hyperventilating was given a plastic bag to blow in and out. What could be the possible reason for undertaking this measure.
 - a. Possible PH imbalance resulting in respiratory acidosis.
 - b. Possible PH imbalance resulting in respiratory alkalosis.
 - c. The runner was developing pneumothorax.
 - d. Possible PH imbalance leading to metabolic acidosis.
3. A patient being managed for pleural effusion had a dry chest tube fixed to drain contents of the pleural cavity. What should the nurse do:
 - a. Ensure excessive bubbling observed in the water seal chamber stops completely till there isn't a single bubble.
 - b. Ensure the water in the suction control chamber is on the 20th cm mark.
 - c. Put the chest tube on top of the patient's bed to avoid being accidentally kicked and toppled over.
 - d. None of the above.
4. Which of the following is true about a patient whose p wave on the ECG is asymmetrical.
 - a. Atrial enlargement due to mitral stenosis.
 - b. Increased ventricular contraction due to increased atrial pressure in mitral stenosis as per the frank-sterling mechanism.
 - c. Indication for left coronary artery stenting.
 - d. Acute attack by streptococcus pharyngitis.
5. During a routine checkup, a patient reported chest pains with activities such as walking up a flight of stairs to his apartment on the third floor which disappears with rest. This is known as:
 - a. Unstable angina.

- b. Stable angina.
 - c. Intermittent claudication.
 - d. Heart failure.
6. Keeping the patient in question 5 in mind, what test is the physician likely to start with.
- a. Stress test
 - b. Balloon angioplasty
 - c. Refer to physiotherapy for exercise.
 - d. Give nitroglycerine.
7. A solution similar in concentration to plasma that will cause no cell damage is;
- a. Hypotonic
 - b. Isotonic
 - c. Hypertonic solution
 - d. Interstitial fluid
8. During wound healing, a scar that did not go beyond the margins of the circumference of the wound was observed due to granulation tissue accumulation. Which type of wound closure had occurred?
- a. keloid
 - b. primary intention
 - c. tertiary intention
 - d. secondary intention
9. which of the following statements is true.
- a. Anesthesia is used to numb the body before a surgical procedure
 - b. Pharmacokinetics is the study of what the drug does to the body
 - c. Pharmacodynamics is the study of how the drug is absorbed in the body.
 - d. None of the above.
10. Which of the following statements is true
- a. Hypophosphatemia presents with Chvostek sign.
 - b. Hypercalcemia presents with trousseaus sign.
 - c. Polyfilament sutures have high memory.
 - d. Polyfilaments have an increased proclivity to inflammation.
11. A patient being treated for hypokalemia ended up having refractory hypokalemia. What could be the reason.
- a. Hypomagnesemia

- b. Increased potassium supplements
 - c. Increased muscle cramps and twitches.
 - d. None of the above
12. A patient being assessed for coronary artery disease reported to his physician of right shoulder pain radiating down to the side of the right arm which is present at night without exertion. Which statement is correct about the patient.
- a. The patient is exhibiting symptoms of unstable angina.
 - b. The patient is experiencing paroxysmal nocturnal dyspnea.
 - c. The patient is experiencing orthopnea.
 - d. The patient is experiencing shoulder pathology unrelated to the heart.
13. If the said patient in question 12 is to undergo coronary artery bypass, which vein and artery is unlikely to be used grafting.
- a. Mammary artery
 - b. Saphenous vein
 - c. Cerebral artery
 - d. All of the above
14. Which of the following is not a risk factor for pulmonary aspiration.
- a. Advanced age
 - b. Suppressed cough reflex
 - c. Conditions of impaired consciousness
 - d. Inflamed mucosa leading hemoptysis
15. Which of the following statements is true.
- a. The pericardium is found in the anterior inferior mediastinum.
 - b. A pericardial window can be created in transposition of great arteries to allow for systemic blood to receive oxygenated blood.
 - c. Malignant cardiac tumors do not exhibit gender preference
 - d. Benign tumors tend to occur after the fourth decade of life.
16. Which TNM classification has the poorest prognosis?
- a. T0N0M0
 - b. T4N3M1
 - c. T4N1M0
 - d. T3N1M0
17. "N" in the TNM staging stands for:
- a. Necrosis

- b. Normal
 - c. Node
 - d. Number
18. Which of the following statements is true regarding effusions:
- a. Transudates contain low levels of proteins.
 - b. Transudates are clear
 - c. Exudates are cloudy
 - d. All of the above
19. What are the potential complications of total parenteral nutrition:
- a. Sepsis
 - b. Intestinal atrophy
 - c. Metabolic complications
 - d. Social implications of dietary restrictions
20. Which of the following statements regarding organ transplantation is not true:
- a. Xenotransplants involve different species.
 - b. Auto transplants require immunosuppression to curtail rejection
 - c. Syngeneic transplants involve transfer of organ from one twin to the other
 - d. Allotransplants involve transfer of organs between same species
21. Which factor does not justify the role of pre-operative chemotherapy (1 mark)
- a. The primary tumor may be down staged enhancing resectability.
 - b. Patients are better able to tolerate chemotherapy before surgery and are more likely to complete the prescribed regimen than after surgery.
 - c. Systemic micro metastases are treated.
 - d. Reprogramming of energy metabolism.
22. A group of clinicians were conducting research to establish the prevalence of atrial septal defect. Which of the following types of ASD are they likely not to encounter in this region.
- a. Ostium secundum type
 - b. Ostium primum type
 - c. Sinus venous type
 - d. Trabecular septum type
23. According to timelines after transplantation, graft rejection can occur in the following ways except:
- a. Hyperacute

- b. Hypoacute
 - c. Chronic
 - d. Hypoacute
24. A surgeon performing thoracotomy is observed making an incision on the superior border of the rib. What could be the reason for this approach:
- a. To prevent large hypertrophic scars from happening
 - b. To avoid damaging the neurovascular bundle.
 - c. To prevent paradoxical breathing from happening
 - d. To prevent allergic reactions to anesthesia
25. Which of the following statements about congenital heart disorders is incorrect.
- a. AV canal VSD is also known as inlet VSD
 - b. Coarctation of the aorta (COA) is defined as a luminal narrowing in the aorta that causes an obstruction to blood flow
 - c. The most common surgical approach for Atrial Septal Defects requires standard cardiopulmonary bypass (CPB) technique through a midline sternotomy approach.
 - d. None of the above
26. Congenital heart disease:
- a. Can be cyanotic or acyanotic
 - b. Associated with opening snap at the bicuspid valve
 - c. Have a 3:1 preference to females
 - d. Do not affect oxygen saturation.
27. Which muscle is not incised in posterolateral thoracotomy.
- a. Trapezius
 - b. Latissimus dorsi
 - c. Serratus anterior
 - d. Subclavius
28. Which anions belong to the intracellular compartment.
- a. Chloride
 - b. Sulfate
 - c. Bicarbonate
 - d. Phosphate
29. Which of the following is untrue about fluid deficit in the body:
- a. Oliguria
 - b. Decreased skin turgor

- c. Weight loss
 - d. Distended neck veins
30. Thoracoscopy:
- a. Is a procedure used to look at the space outside of the lungs.
 - b. is a procedure a doctor uses to look inside the lungs.
 - c. a procedure a doctor uses to look inside the mediastinum
 - d. a procedure a doctor uses to look at the upper GI

Section B. Short Structured questions. Answer all the questions. (20 marks)

1. After confirmation by biopsy, a lung cancer patient, is set to undergo surgery. what are the surgical approach options likely to be undertaken. (4 marks)
2. State and define four types of biopsies. (4 marks)
3. A patient previously being managed for pleural effusion via chest tube drainage is experiencing recurrence. The choice of pleurodesis is arrived at. What are the two likely approaches? (2 marks)
4. Define Eisenmenger syndrome. (1 mark)
5. Which disorders contribute to the formation of tetralogy of fallot? (4 marks)
6. State and define three types of endoscopic approaches for the thoracic region. (3 marks)
7. Define molecular mimicry with regard to rheumatic fever. (1 mark)
8. What is pharmacokinetics. (1 mark)

Section C. Long Structured Question. Choose 2 of the questions (20 marks)

1. a. Outline the pathophysiology of coronary artery disorder. (8 marks)
b. state two approaches that could be used in managing coronary artery disorder. (2 marks)
2. a. outline the phases of wound healing. (6 marks)
b. State and define two ways wound closure occurs. (2 marks)
c. state and define two types of scars. (2 marks)
3. state and define four types of ventricular septal defect and the pathophysiology. (10 marks)

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