



AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF REHABILITATIVE MEDICINE
BACHELOR OF SCIENCE IN PHYSIOTHERAPY
END OF JAN-APRIL 2025 SEMESTER EXAMINATIONS

UNIT CODE: PHT 223

UNIT NAME: SYSTEMIC PATHOLOGY (Special exam)

DATE: 10th April 2025

TIME: TWO HOURS

START: 11:15AM STOP: 1:15PM

INSTRUCTIONS

- 1. Attempt all questions as per the instructions in each section**
- 2. This exam is marked out of 70 marks**
- 3. This Examination comprises of Sections A, B and C**
- 4. It is the student's responsibility to report any page and number missing in this paper.**
- 5. Total number of pages are 6 including the cover page.**
- 6. Read through the instructions carefully before starting.**
- 7. Any aspect of cheating detected during and or after the exam administration will lead to nullification of your exam.**
- 8. Do not write on this question paper, use the provided booklet to write your answers**

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

1. Which of the following is not true about scoliosis. (1 mark)
 - a. Spinal orthoses for curvatures between 25 and 45 degrees
 - b. Surgery for curvatures greater than 45 degrees
 - c. The appearance of a rounded back is absent
 - d. None of the above
2. During a case study presentation, a student reported a seventy-year-old man at a senior home presented with loss of muscle mass, history of increased falls, slow gait and difficulty accomplishing activities of daily living. What would be the hypothetical diagnosis following the subjective information given. (1 mark)
 - a. Sarcopenia
 - b. Myositis ossificans
 - c. Osteopetrosis
 - d. Pagets disease
3. What would be a suitable management approach of the above-mentioned condition. (1 mark)
 - a. Strength exercises
 - b. Corticosteroids
 - c. Androgen suppression
 - d. Surgery
4. Which of the following statements is not true about multiple sclerosis. (1 mark)
 - a. Is as a result of multiple lesions found throughout the brain and spinal cord.
 - b. progressive resistive exercises often result in a feeling of increased fatigue and weakness rather than a feeling of increased strength.
 - c. Coordination (ataxia) problems often accompany tremor.
 - d. None of the above
5. A senior citizen at a geriatric home was observed to have a shuffling gait and pin rolling tremors with trouble initiating voluntary movement. What is the likely cause. (1 mark)
 - a. Dopamine depletion
 - b. Bleeding into the sub arachnoid space
 - c. Conus medullaris syndrome
 - d. None of the above
6. Which of the following scales is used to assess cognitive functioning post traumatic brain injury. (1 mark)
 - a. Asia scale
 - b. Rancho los amigos
 - c. Both A and B
 - d. Oxford scale
7. Which is not a component of a Glasgow coma scale. (1 mark)
 - a. Eye opening
 - b. Motor response
 - c. Verbal response
 - d. Sensory status
8. The following are reasons for pain in Parkinson's disease. Which one is not. (1 mark)
 - a. Discomfort caused by extreme restlessness

- b. Nerve root pain
 - c. Pain from dystonia
 - d. Cauda equina
9. In intensive care following a traumatic spinal cord injury, physical therapists are concerned with the following except. (1 mark)
- a. Respiratory management
 - b. Increasing ROM
 - C. Prevention of pressure ulcers
 - D. Gait retraining
10. Which of the following statements is not true about a patient with traumatic spinal cord injury.
- a. C4 injury presenting with paraplegia
 - b. A sensation score of 2 is normal
 - c. The patient scores a B on the ASIA shows some sensory functions have been preserved below the level of injury
 - d. Grade B on the ASIA scale shows an incomplete injury
11. Define hysterectomy. (1 mark)
- a. Surgical removal of the cervix
 - b. Surgical removal of the fallopian tube
 - c. Surgical removal of the ovary
 - d. Surgical removal of the uterus
12. A 69-year-old man during his annual assessment mentioned that he had experiencing changes in his renal and urological system. Which is not likely to a be a change he has observed in the past few years as a result of aging. (1 mark)
- a. Overactive bladder
 - b. Nocturia
 - c. Delayed initiation of stream
 - d. Flattening of rugae
13. Why are women predisposed to UTI's more than males. (1 mark)
- a. Shorter urethra in females
 - b. Proximity in of vagina to rectum
 - c. Sexual activity
 - d. Shorter urethra in males hence ease of ridding bacteria
14. A man in his mid-life presented with referred low back pain. Upon conducting an ultrasound, it was established that he had renal calculi. Where is obstruction as a result of the calculi not possible to happen. (1 mark)
- a. The ureteropelvic junction,
 - b. Where the ureter crosses over the iliac vessels,
 - c. The ureterovesical junction.
 - d. Within the bladder
15. During the final qualifying exam, a physiotherapy student presented a patient with noticeable albumin levels increase in the urine and decrease in the blood as per his reports, noticeable edema, increased levels of creatinine and BUN and azotemia. What is the patient suffering from. (1mark)
- a. Renal calculi
 - b. Chronic kidney disease

- c. Diabetes insipidus
 - d. Diabetes mellitus
16. What stage of the disease is the above-mentioned patient likely to be in. (1 mark)
- a. Formation phase of renal calculi
 - b. Stage 3 of CKD
 - c. Stage 2 of type 2 diabetes mellitus
 - d. None of the above
17. A patient with chronic kidney disease is likely to have the following comorbidities except. (1 mark)
- a. Hypertension
 - b. Diabetes mellitus
 - c. Diabetes insipidus with rehydration
 - d. Glomerulonephritis
18. A cancer patient with renal carcinoma is undergoing staging was found to be a stage 4. Which of the following elements are not components of TNM staging. (1 mark)
- a. Tumor size
 - b. Time left to live
 - c. Nodal involvement
 - d. Metastasis
19. Which of the following TNM scores likely correlate with the findings of the above patient.
- a. T4 N3 M1
 - b. T2 N1 Mx
 - c. T4 N0 M0
 - d. T1 Nx Mx
20. The endocrine system does not. (1 mark)
- a. Coordinate the male and female reproductive systems
 - b. Maintain optimal internal environment throughout the life span
 - c. Stimulate sequential growth and development during childhood and adolescence
 - d. Respond slowly and effects are short-lived
21. Arteriosclerosis can be divided into: (1 mark)
- a. Atherosclerosis, involving the middle layer of the arteries with destruction of muscle and elastic fibers and formation of calcium deposits
 - b. Mönckeberg arteriosclerosis, in which plaques of fatty deposits form in the inner layer or intima of the arteries
 - c. Arteriolosclerosis or arteriolar sclerosis, characterized by thickening of the walls of small arteries (arterioles)
 - d. All of the above
22. The following are modifiable risk factors for which Intervention has been Shown to Reduce Incidence of CAD except. (1 mark)
- a. Elevated LDL cholesterol level
 - b. Hypertension
 - c. Cigarette smoking
 - d. Female gender after menopause
23. A teacher was seen clutching his chest as he reached for the nearest seat. He said he felt temporary pain that started suddenly in the chest radiating to the left shoulder and

- down the ulnar border of the arm to the fingers which was relieved by resting. What was the reason for the temporary chest pain. (1 mark)
- Asthma
 - Angina pectoris
 - Heart attack
 - Gastroesophageal reflux
24. Regarding physiotherapy management of pressure ulcers, which statement is incorrect. (1 mark)
- It's okay to massage over reddened areas
 - Redistributing pressure on the skin must be accompanied by adequate fluid and nutrition intake.
 - Elevate the head of the bed to no greater than 30 degrees when the client is supine
 - The high-risk client will need frequent position changes, at least every 2 hours in bed
25. A couple that has been seeking to understand the reasons for their inability to procreate had tests ordered by a doctor. It was established that white cells were present in the husband's urine, the prostate had enlarged however there were no symptoms readily discernible by the patient. What is the likely cause. (1 mark)
- Bening prostatic hyperplasia
 - Erectile dysfunction
 - Category IV prostatitis
 - Category I prostatitis
26. A toddler is said to have suffered a brachial plexus palsy at birth affecting C8 to T1. What is the toddler likely to be suffering from. (1 mark)
- Klumpkes palsy
 - Bell's palsy
 - Whole arm palsy
 - Erbs palsy
27. Which is of the following is a physiotherapy management approach for erbs palsy. (1 mark)
- Passive ROM exercises in the direction away from limited movement
 - Forearm supination
 - Shoulder external rotation
 - Shoulder abduction
28. Which is not a likely outcome post spinal cord injury. (1 mark)
- Pressure ulcers
 - Bowel and bladder incontinence
 - Sexual dysfunction
 - Right sided neglect
29. Define oophorectomy. (1 mark)
- Surgical removal of the cervix
 - Surgical removal of the fallopian tube
 - Surgical removal of the ovary
 - Surgical removal of the uterus

30. After her second delivery, a mother reported feeling heaviness in the pelvis with prolonged periods of standing which eased when she sat down. She also reported difficulty in emptying the bladder and urinary incontinence. (1 mark)
- Incontinence
 - Neurogenic bladder
 - Cystocele prolapse
 - Paraparesis

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

31. A patient previously diagnosed with scarlet fever is said to have erythematous changes in the scrotum unilaterally and groin pain. What was the likely mode of transmission leading to the development of current symptoms. (1 mark)
32. List 4 management approaches a physical therapist would take with a patient with lymphedema. (4 marks)
33. Define premature ovarian failure. (1 mark)
34. An anemic patient undergoing blood transfusion developed transfusion-related lung injury. List 3 symptoms he presented with. (3 marks)
35. Why is a post-menopausal woman predisposed to atherosclerosis. (1 marks)
36. What modifiable risk factors can the above mentioned post-menopausal woman address to reduce the risk of coronary artery disease. (4 marks)
37. Categorize lymphedema according to severity and their characteristics. (6 marks)

SECTION C. Long essay question. Answer two of the following questions (20 Marks)

38. A. Outline the categories of chronic obstructive pulmonary disease and respective measurements. (8 marks)
B. Pulmonary edema develops as a result of: (2 marks)
39. A. Use an illustration to depict the difference between subdural and epidural hematoma. (2 marks)
B. State and explain two possible aphasias a stroke patient is likely to incur. (2 marks)
C. Outline clinical manifestations of traumatic brain injury. (6 marks)
40. A. Classify cerebral palsy according to type of tone abnormality. (4 marks)
b. Classify cerebral palsy according to topography. (6 marks)