



**AMREF INTERNATIONAL UNIVERSITY**  
**SCHOOL OF MEDICAL SCIENCES**  
**DEPARTMENT OF REHABILITATION MEDICINE**  
**BACHELOR OF SCIENCE IN PHYSIOTHERAPY**  
**END SEMESTER EXAMINATION**

**UNIT CODE: PHT 222**

**UNIT NAME: DIFFERENTIAL DIAGNOSIS AND MEDICAL IMAGING (Main)**

**DATE: 16<sup>th</sup> April 2026**

**TIME: 9am-11am**

**INSTRUCTIONS**

- 1. All students will have 2 Hours to complete the examination**
- 2. This is physical exam, Attempt all questions as per the instructions.**
- 3. It is the student's responsibility to report any page and number missing in this paper.**
- 4. Check that the paper is complete**
- 5. Read through the paper quickly before you start.**

**Section A. Multiple choice question. Attempt all**

1. The following are goals of history taking except?
  - a. Rule out SERIOUS pathology
  - b. Establish initial hypothesis
  - c. Start differential diagnosis process
  - d. Determine severity, irritability, nature, stage and stability.
  - e. None of the above
2. Which one of the following is not an example of a red flag?
  - a. Fever
  - b. Unintentional weight loss
  - c. Night sweat
  - d. Nausea, vomiting, diarrhea
  - e. Pain that can be reproduced, made worse and alleviated by movement.
3. The following are pillars of evidence-based practice except?
  - a. Therapist's clinical expertise
  - b. Client's values and preferences
  - c. Best available research
  - d. Family history
4. Which one of the following is considered the strongest level of evidence?
  - a. Level I
  - b. Level II
  - c. Level III
  - d. Level IV
  - e. Level V

5. Which one of the following is considered the strongest level of evidence?
- a) Level I
  - b) Level II
  - c) Level III
  - d) Level IV
  - e) Level V
6. A physiotherapist needs to listen more keenly to the patient under which of the following situations during history taking and treatment?
- a. Not improving in our care
  - b. Presentation does not match referring diagnosis
  - c. Post operatively
  - d. All the above
7. Which one of the following is a key factor that creates a need for screening during history taking and clinical examination?
- a. Side effects of medications
  - b. Comorbidities
  - c. Visceral pain mechanisms
  - d. All of the above
8. Impairments can span from all the following conditions except?
- a. Chronic increase in tone
  - b. Normal muscle strength
  - c. Muscle imbalance
  - d. Reduction in joint range of motion
9. The following are risk factors under biodata except?
- a. Age
  - b. Gender
  - c. Family history
  - d. Occupation

10. The following are risk factors under bilateral symptoms except?
- Oedema
  - Numbness/tingling
  - Skin pigmentation/change
  - Clubbing
  - None of the above
11. All the following are examples of constitutional signs and symptoms except?
- Fever
  - Unintentional weight loss
  - Nausea, vomiting and diarrhea
  - Pain with weight bearing that is relieved by rest
  - Dizziness/syncope
12. Which one of the following is NOT a sign/symptom of a true musculoskeletal problem?
- Pain with weight bearing that is relieved by rest
  - Pain that can be provoked and made better by positioning
  - Constant pain that is not relieved by change in position
  - Pain that can be attributed to a known cause like poor posture.
13. The following are responsibilities of a physiotherapist except?
- Treat the problem as specific as possible
  - Screen for medical disease masquerading as a musculoskeletal problem
  - Identify signs and symptoms of systemic disease mimicking neuromuscular or musculoskeletal disease.
  - None of the above
14. Which one of the following statements BEST describes the scope of differential diagnosis in physiotherapy?
- Help physiotherapists recognize the areas that are beyond the scope of physical therapists' practice/expertise and provide a step-by-step method for physiotherapists to identify clients who need a referral to other health care professionals.
  - Make physiotherapy diagnosis only
  - Provide physiotherapy treatment only
  - Consultation and referral only
  - All of the above.
15. Clinical decision-making MUST be a product of the integration of?
- The therapist's clinical expertise
  - Client's values and preferences
  - The best available research evidence
  - All of the above

16. Which one of the following is the MOST likely reason for missing serious medical conditions?
- Lack of special investigation
  - Lack of adequate and thorough attention to clues in the history
  - Late presentation of the condition
  - Absence of family members
  - All of the above
17. Which percentage of patients with neuromusculoskeletal disease are likely to have a systemic disease?
- 1%
  - 50%
  - 80%
  - 100%
  - None of the above
18. Which one of the following circumstances should prompt you as a physiotherapist to listen to the client more with the view of differential diagnosis and possible referral?
- Pa
19. All the following are key factors creating need for medical screening except?
- Side effects of medications
  - Patient's comorbidities
  - Visceral pain mechanisms
  - None of the above
20. Which of the following could be the most likely reason why a patient with viscerogenic or systemic origin of neuromusculoskeletal symptoms get better with physiotherapy intervention?
- Placebo effect
  - Physiologic effects on movement on the disease state
  - Effects of the neuroendocrine-immune axis as the body tries to regain homeostasis
  - All of the above
21. The following are reasons for medical screening except/
- Direct access
  - Known cause of neuromusculoskeletal problem
  - Signed prescription
  - Disease progression
22. Which one of the following is not an example of a body impairment?
- Joint range of motion restriction
  - Muscle weakness
  - Complain of pain in a particular joint
  - Loss of proprioception in a joint.
  - Loss of balance

23. Which one of the following imaging modalities does not use radiation to produce an image?
- Plain X rays
  - Magnetic resonance imaging (MRI)
  - Fluoroscopy
  - Computed tomography (CT)
24. In which year was the first imaging modality discovered?
- 1895
  - 1995
  - 2005
  - 2025
25. The following are advantages of plain X rays except?
- Relatively inexpensive
  - Use of non-ionizing radiation
  - Widely available
  - Faster to obtain an image
  - Portability of the machines
26. Which one of the following is the MAJOR disadvantage of plain X ray?
- Limited range of densities it can demonstrate and use of ionizing radiation
  - Very expensive for the patient
  - Use of non-ionizing radiation
  - Safe for use in neonates
  - None of the above
27. Which percentage of patients with neuromusculoskeletal disease are likely to have a systemic disease?
- 1%
  - 50%
  - 80%
  - 100%
  - None of the above
28. The following are advantages of digital radiography except?
- Significant reduction in radiation exposure
  - Digital enhancement ensures all images are of an adequate quality
  - Elimination of storage problems associated with conventional radiography
  - Hard copy films are mandatory

29. The following can be side effects of contrast media in medical imaging except?
- Nausea and vomiting
  - Hypotension
  - Organ damage e.g acute kidney injury
  - Bronchospasms
  - Hallucinations
30. Which one of the following circumstances should prompt you as a physiotherapist to listen to the client more with the view of differential diagnosis and possible referral?
- Patient not improving with our physiotherapy interventions
  - Patient's presentation does not match referring diagnosis
  - Post-operative patients showing signs of worsening conditions
  - All of the above
  - None of the above

**SECTION B (ANSWER ALL QUESTIONS)**

- Discuss the differences between a sign and a symptom giving two examples of each (5 marks)
- List at least five body impairments that can be elicited during physical examination from a patient presenting with neuromusculoskeletal condition (5 marks)
- Discuss the formulation of a SMART goal giving one example of each as used in physiotherapy (5 marks)
- Differentiate between deterministic and stochastic biological effects of medical imaging giving one example of each (5 marks)

**SECTION C (ANSWER ANY TWO QUESTIONS OF YOUR CHOICE)**

- Discuss five reasons for medical screening as a physiotherapist (10 marks)
- Discuss the following terms giving at least one example of each (10 marks)
  - Primary prevention of a disease
  - Secondary prevention of a disease
  - Tertiary prevention of a disease
  - Health promotion and wellness
- Discuss the step-by-step approach in the interpretation of a medical image (10 marks)