



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

UNIT CODE: PHT 311 UNIT NAME: CLINICAL REASONING (SPECIAL EXAM)

**DATE: Day/ Date/ AUGUST
TIME: TWO HOURS
START: 0:00 STOP : 0:00**

INSTRUCTIONS (physical exams)

- 1. Do not write on this question paper**
(Marks and questions distribution as per program curriculum.)

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

Section A. Multiple choice questions. Attempt all (30 Marks)

1. Effective clinical reasoning in physiotherapy requires:
 - A. Strong knowledge of anatomy and physiology.
 - B. The ability to accurately interpret diagnostic tests.
 - C. A combination of knowledge, skills, and attitudes.**
 - D. Proficiency in manual therapy techniques.

2. Which of the following is a primary advantage of clinical reasoning in physiotherapy?
 - A. Increased reliance on standardized protocols
 - B. Improved patient outcomes through individualized treatment plans**
 - C. Reduced need for patient history and physical examination
 - D. Decreased decision-making time

3. What is the primary goal of "problem identification" in critical thinking?
 - A. Identifying the patient's chief complaint.
 - B. Determining the underlying cause of the patient's condition.**
 - C. Assigning a diagnosis to the patient.
 - D. Developing a treatment plan.

4. Which of the following is NOT a core domain of clinical reasoning in physiotherapy?
 - A. Diagnostic reasoning**
 - B. Clinical reasoning concept
 - C. Evidence based history and examination
 - D. Problem identification and management

5. An accurate illness script helps the physiotherapist to:
 - A. Focus solely on the patient's physical symptoms.
 - B. Develop a standardized treatment plan for all patients with the same condition.
 - C. Understand the patient's experience of their condition and tailor treatment accordingly.**
 - D. Predict the exact outcome of physiotherapy treatment.

6. Which of the following is NOT a component of critical thinking?
 - A. Open-mindedness
 - B. Emotional reasoning**
 - C. Reflection
 - D. Evaluation of evidence

7. Which of the following is NOT a bias associated with clinical reasoning?
 - A. Publication bias**
 - B. Availability bias
 - C. Recency bias
 - D. Confirmation bias

8. The model of clinical reasoning that emphasizes understanding the patient's story and experiences is:
- A. Procedural reasoning
 - B. Hypothetico-deductive reasoning
 - C. Narrative reasoning**
 - D. Conditional reasoning
9. Which of the following is an example of a specific critical thinking competency in physiotherapy?
- A) The ability to evaluate evidence-based research.
 - B) The skill of logical reasoning and problem-solving.
 - C) The capacity to critically analyze a patient's subjective report.**
 - D) The knowledge of different philosophical theories.
10. Which of the following models of clinical reasoning primarily involves generating and testing hypotheses about a patient's condition?
- A. Narrative reasoning
 - B. Hypothetico-deductive reasoning**
 - C. Procedural reasoning
 - D. Conditional reasoning
11. The process of involving the patient in decision-making about their care is known as:
- A. Informed consent
 - B. Shared decision-making**
 - C. Patient education
 - D. Therapeutic alliance
12. Which of the following best describes pattern recognition in clinical reasoning?
- A. A systematic approach to problem-solving in physiotherapy.
 - B. The ability to identify specific signs and symptoms associated with a particular condition.**
 - C. A process of generating hypotheses about a patient's condition.
 - D. The use of standardized assessment tools to gather information about a patient.
13. Which of the following is NOT a key component of pattern recognition?
- A. Knowledge of common musculoskeletal conditions.
 - B. Ability to differentiate between similar conditions.
 - C. Use of standardized assessment tools.**
 - D. Clinical experience and expertise.
14. Risk assessment tools can be used to:
- A. Identify patients at high risk for specific conditions or complications**
 - B. Determine the exact cause of a patient's symptoms
 - C. Predict the exact outcome of a treatment
 - D. Eliminate all risk factors for a patient

15. Why is it important to consider patient tolerance when conducting physical examinations?
- A. **To avoid aggravating the patient's condition.**
 - B. To establish rapport with the patient.
 - C. To complete the examination as quickly as possible.
 - D. To minimize the need for further examinations.
16. One of the key benefits of using the SCRIPT framework in clinical reasoning is:
- A. Increased reliance on standardized treatment protocols
 - B. **Improved ability to identify and address patient-specific factors**
 - C. Decreased need for collaboration with other healthcare providers
 - D. Reduced treatment time
17. Which of the following is NOT an advantage of a well-developed problem list in clinical reasoning?
- A. Facilitates clear communication among healthcare providers.
 - B. Helps prioritize interventions based on problem severity.
 - C. **Increases the risk of overlooking important patient information.**
 - D. Provides a framework for goal setting and outcome measurement.
18. Which of the following is primary a cause of diagnostic errors?
- A. **A complex interplay of factors, including human error and system failures**
 - B. Primarily due to negligence on the part of healthcare providers
 - C. Solely attributable to technological limitations
 - D. Ineffective communication between healthcare providers
19. A 52-year-old woman walks into a physiotherapy clinic complaining of sharp pain in her right knee, particularly when going down stairs. She reports no recent injuries but has a history of working as a mail carrier for 20 years. The physiotherapist observes the woman's gait and notices a slight limp favoring the right leg. Based on pattern recognition, the physiotherapist develops several initial hypotheses about the woman's knee pain. Which of the following is LEAST likely on the physiotherapist's initial list of hypotheses?
- A. Patellofemoral Pain Syndrome
 - B. Osteoarthritis of the knee
 - C. Ligament sprain in the knee
 - D. **Plantar fasciitis**
20. Which of the following best describes the "Severity" component of the SINSS model which is part of the SCRIPT framework?
- A. The location of the pain or discomfort
 - B. **The intensity of the pain or discomfort on a scale of 0-10**
 - C. The duration of the pain or discomfort
 - D. The type of pain or discomfort
21. A patient describes their knee pain as sharp, shooting, and electric-like. Which component of the SINSS model does this information relate to?
- A. Severity

- B. Irritability
 - C. Nature**
 - D. Stage
22. What is the most effective strategy for reducing diagnostic errors in physiotherapy?
- A. Increasing the number of diagnostic tests ordered
 - B. Relying solely on the patient's subjective report
 - C. Continuous professional development and reflective practice**
 - D. Ignoring red flags in patient history
23. How does a culture of open communication and collaboration contribute to reduction in diagnostic errors diagnostic performance in physiotherapy?
- A. It discourages clinicians from seeking second opinions.
 - B. It creates a blame-free environment for reporting and learning from errors.**
 - C. It increases hierarchical structures within the physiotherapy team.
 - D. It reduces the need for interdisciplinary collaboration.
24. How does a problem list contribute to accurate and up-to-date medical records?
- A. It provides a chronological record of the patient's progress.**
 - B. It summarizes the patient's medical history in a concise format.
 - C. It identifies potential risk factors for future health problems.
 - D. It documents the patient's response to treatment.
25. The following steps in no specific order are used when making initial diagnosis using the hypothetico- deductive reasoning approach. Which one is NOT?
- A. Observation and Initial Hypothesis
 - B. Deduction and Prediction
 - C. Referral of the patient to other personnel**
 - D. Testing the Hypothesis
26. Mary is a 65-year-old retired teacher who has been experiencing a progressive decline in her health. She first noticed weakness in her right arm and leg several months ago, which has steadily worsened over the past few weeks. This weakness has significantly impacted her daily activities, making it difficult to perform tasks like dressing, cooking, and writing. In addition to the weakness, she has been struggling with slurred speech and difficulty swallowing. These symptoms have been present since the onset of the weakness and have caused concern about her nutrition and communication. Recently, she has also noticed difficulty remembering things and concentrating. This cognitive impairment has been developing over the past few months and is affecting her daily tasks and social interactions. Furthermore, she has reported intermittent blurred or double vision, which has occurred over the past few weeks. These visual disturbances have affected her daily activities and safety. Mary has a history of hypertension and high cholesterol. She has also experienced occasional headaches and dizziness. She has no history of trauma or previous neurological events. Concerned about her deteriorating condition, Mary sought medical attention and the physiotherapist is contemplating referring her to a neurologist. From the options below, which statement best reflects the patient's problem list, as a physiotherapist would develop prioritizing from most to the least important at the time of referral?

- A. Right Arm and Leg Weakness, difficulty Speaking and Swallowing, Cognitive Changes, and Visual Disturbances
- B. Difficulty Speaking and Swallowing, Right Arm and Leg Weakness, Visual Disturbances, and Cognitive Changes**
- C. Cognitive Changes, Difficulty Speaking and Swallowing, Visual Disturbances and Right arm and leg weakness
- D. Right arm and leg weakness, cognitive changes, difficulty speaking and swallowing and visual disturbances
27. A 40-year-old construction worker presents with a history of left shoulder pain for the past 3 weeks. The pain is worse with overhead activities and at night. There is no history of trauma or previous shoulder pain. Which of the following is the most likely diagnosis?
- A. Cervical spondylosis
- B. Adhesive capsulitis
- C. Shoulder impingement syndrome**
- D. Osteoarthritis of the shoulder
28. Alex is a 45-year-old construction worker who has been experiencing chronic musculoskeletal pain for several years. His primary complaints include persistent low back pain, right shoulder pain, and recently developed knee pain. His low back pain began approximately 5 years ago and has been intermittent, worsening with activities like prolonged standing, lifting, or bending. He suspects it may be related to a herniated disc or degenerative disc disease. His right shoulder pain has been present for 2 years and is constant, particularly when he performs overhead tasks. He believes this could be due to rotator cuff tendinitis or impingement. More recently, he has developed knee pain that is sharp and occurs during weight-bearing activities like walking or running. This pain has limited his range of motion and may be indicative of patellofemoral pain syndrome or a meniscus tear. Alex has a history of unhealthy habits, including smoking and excessive alcohol consumption. He is also overweight and leads a sedentary lifestyle. Despite trying over-the-counter pain relievers and heat therapy, his symptoms have persisted. He is seeking help from a physiotherapist to manage his pain, improve his function, and prevent future injuries. Which of the following represents an ideal patient problem list prioritizing stating from the most important problem to the least?
- A. Low back pain, knee pain and shoulder pain**
- B. Shoulder pain, knee pain and low back pain
- C. Knee pain, low back pain and shoulder pain
- D. Low back pain, shoulder pain and knee pain
29. Which of the following is NOT a benefit of clinical decision making?
- A. Improved patient outcomes
- B. Improved healthcare efficiency
- C. Provides a platform for professional development
- D. Clinical decision-making guarantees error-free decisions.**

30. Which of the following best describes the core components of clinical reasoning?
- A. Patient history, physical examination, and diagnosis.
 - B. Information gathering, interpretation, and decision-making.
 - C. Problem identification, goal setting, and intervention planning.
 - D. All of the above.

Section B. Attempt all the questions (20 Marks)

31. Define a hypothesis (2 Marks)
32. Outline the significance of clinical reasoning in the management of patients (4 Marks)
33. What is the difference between overconfidence biasness and availability biasness (4 Marks)
34. Explain dialectical model of clinical reasoning (4 Marks)
35. The Systematic Clinical Reasoning in Physical Therapy (SCRIPT) tool used in clinical reasoning has six constructs in section two that assist the physiotherapist determine the extent and vigor of the examination to be carried out. They are abbreviated as SINSS. List and discuss these constructs (6 Marks)

Section C. Choose one of the following questions and attempt it (20 Marks)

36. Discuss the four different ways of development of a hypothesis in clinical reasoning (20 Marks)
37. Effective communication is imperative in clinical interactions with patients. Discuss the three communication techniques necessary to promote patient centered management (20 Marks)