



AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF REHABILITATION MEDICINE
BACHELOR OF SCIENCE IN PHYSIOTHERAPY

END OF TRIMESTER EXAMINATIONS SEPTEMBER TO DECEMBER 2025

UNIT CODE: PHT 115

UNIT NAME: Foundation of Physiotherapy

DATE: 8th DECEMBER 2025

TIME: 9am -11am

INSTRUCTIONS

- 1. All students will have two (2) hours to complete the examination**
- 2. This is an online exam, Attempt all questions as per the instruction**
- 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. Total number of pages is 6 including the cover.**
- 6. Read through the paper quickly before you start.**

Section A. Attempt all the questions (30 Marks)

1. The establishment of the "Society of Trained Masseuses" in 1894 was a significant event in the history of physiotherapy as it:
 - a) Marked the first use of electrical stimulation.
 - b) Represented a key step towards professional organization and standards.
 - c) Was when the term "physiotherapy" was first coined.
 - d) Shifted the focus from gymnastics to purely manual therapy.

2. A physiotherapist discovers they used an outdated technique in a patient's previous session. The value of **Integrity** would compel the therapist to:
 - a) Quietly switch to the new technique next time without mentioning it.
 - b) Document the error but not discuss it with the patient to avoid concern.

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- c) Inform the patient, explain the error, and correct the plan of care.
 - d) Focus on the positive outcomes of the session to overshadow the mistake.
3. In the Nagi Model, "reduced range of motion in the shoulder" following a fracture is classified as a(n):
 - a) Pathology
 - b) Impairment
 - c) Functional Limitation
 - d) Disability
4. According to the WHO's ICF model, "a patient's depression" following a major injury would be classified under:
 - a) Body Functions
 - b) Activities
 - c) Participation
 - d) Personal Factors
5. The element of patient management that involves identifying the specific cluster of signs and symptoms is the:
 - a) Examination
 - b) Evaluation
 - c) Diagnosis
 - d) Prognosis
6. Movement of the ankle that brings the sole of the foot towards the midline of the body is called:
 - a) Plantarflexion
 - b) Dorsiflexion
 - c) Eversion
 - d) Inversion
7. During a bicep curl, the controlled lowering of the weight involves a(n) _____ action of the biceps brachii.
 - a) Concentric
 - b) Eccentric
 - c) Isometric
 - d) Isokinetic
8. The bony landmark you would palpate to locate the hip joint for goniometry is the:
 - a) Anterior Superior Iliac Spine (ASIS)
 - b) Medial malleolus
 - c) Patella
 - d) Greater trochanter
9. When measuring shoulder flexion ROM with a goniometer, the stationary arm should be placed:
 - a) Parallel to the midline of the humerus
 - b) Parallel to the midline of the trunk
 - c) Parallel to the floor
 - d) Perpendicular to the ground

10. A Manual Muscle Test grade of "0/5" indicates:
 - a) No palpable or observable muscle contraction.
 - b) Movement with gravity eliminated.
 - c) Flicker of a contraction.
 - d) Movement against gravity but not resistance.
11. The primary purpose of performing "vital signs" assessment is to:
 - a) Diagnose the patient's specific musculoskeletal condition.
 - b) Screen for potential cardiovascular or pulmonary instability.
 - c) Measure the patient's flexibility.
 - d) Determine the patient's muscle strength.
12. When fitting a patient for axillary crutches, the correct handgrip position allows for approximately _____ degrees of elbow flexion.
 - a) 10-15
 - b) 20-30
 - c) 45-60
 - d) 90
13. The term "distal" refers to a structure that is:
 - a) Closer to the head.
 - b) Closer to the trunk.
 - c) Farther from the trunk.
 - d) Towards the front of the body.
14. Movement of the trunk to the side (lateral bending) occurs in the:
 - a) Sagittal plane around a medial-lateral axis.
 - b) Frontal plane around an anterior-posterior axis.
 - c) Transverse plane around a vertical axis.
 - d) Horizontal plane around a longitudinal axis.
15. The "Berg Balance Scale" is a specific example of a:
 - a) Muscle strength test.
 - b) Gait analysis tool.
 - c) Functional balance measure.
 - d) Range of motion assessment.
16. The NCMRR model includes "Societal Limitation," which is most similar to which component of the ICF model?
 - a) Body Functions and Structures
 - b) Activities
 - c) Participation
 - d) Environmental Factors
17. A physiotherapist who volunteers to run a falls prevention workshop at a local senior center is demonstrating the core value of:
 - a) Quality
 - b) Compassion
 - c) Social Responsibility
 - d) Accountability

18. In the ICF model, "the presence of a handrail" on a staircase for a patient with balance issues is a(n):
- Personal Facilitator
 - Activity Limitation
 - Environmental Facilitator
 - Body Function
19. The correct sequence of the patient management model is:
- Examination, Evaluation, Diagnosis, Prognosis, Intervention
 - Evaluation, Examination, Intervention, Diagnosis, Outcomes
 - Diagnosis, Prognosis, Examination, Intervention, Evaluation
 - Prognosis, Examination, Intervention, Evaluation, Diagnosis
20. The axis for rotation in the transverse plane is the:
- Anterior-Posterior axis
 - Medial-Lateral axis
 - Vertical axis
 - Horizontal axis
21. The suffix "-ectomy" in a medical term refers to:
- Inflammation.
 - Surgical removal.
 - Study of.
 - Pain.
22. A key difference between the Nagi model and the ICF model is the ICF's explicit inclusion of:
- Pathology
 - Functional Limitation
 - Contextual Factors (Environment/Personal)
 - Impairment
23. A patient performing a wall sit exercise is primarily using which type of muscle action?
- Concentric
 - Eccentric
 - Isometric
 - Isotonic
24. The bony point palpated on the medial aspect of the ankle is the:
- Lateral malleolus
 - Medial malleolus
 - Calcaneus
 - Navicular tuberosity
25. The primary goal of "prehabilitation" before surgery is to:
- Cure the underlying pathology.
 - Improve the patient's functional status to optimize post-operative outcomes.
 - Replace the need for surgery.
 - Focus solely on pain management.

26. A physiotherapist uses a validated outcome measure to track a patient's progress. This is a direct reflection of the core value of:
- Compassion
 - Accountability
 - Quality
 - Integrity
27. In the Nagi model, "inability to perform one's job as a waiter" due to a back injury is classified as:
- A Pathology
 - An Impairment
 - A Functional Limitation
 - A Disability
28. The goniometric measurement of a joint's movement when the therapist moves it is called:
- Active Range of Motion (AROM)
 - Passive Range of Motion (PROM)
 - Resistive Range of Motion (RROM)
 - Functional Range of Motion (FROM)
29. Which of the following is a principle of safe and effective use of a walking aid?
- The patient should lean heavily into the axilla of crutches.
 - The aid should be moved forward simultaneously with the injured leg.
 - The aid should be properly fitted to the patient's height and body structure.
 - A walker is always the best first choice.
30. The "systems review" during an examination typically includes a brief assessment of all the following EXCEPT:
- Cardiovascular and pulmonary systems
 - Cognitive status
 - Integumentary (skin) system
 - The patient's home insurance details

Section B: Short Answer Questions

1. Professional Identity and Core Values

A physiotherapist is treating a patient who is making very slow progress and becomes discouraged, wanting to stop treatment.

- Identify the TWO core values most relevant to this situation. (2 marks)
- Provide ONE specific behavioural indicator for EACH of the two values you identified in part (a) that the therapist should demonstrate. (2 marks)
- What is the ONE key element of the patient management model that the therapist must now revisit and update with the patient? (1 mark)

2. Disablement Model Application

A carpenter has persistent shoulder pain (Pathology: Rotator Cuff Tendinopathy).

- a) Using the Nagi Model, provide ONE specific example for each of the following stages for this carpenter: (3 marks)

Impairment:

Functional Limitation:

Disability:

b) Using the ICF Model, what would the "Inability to play with his children at the park" be classified as? (1 mark)

c) Using the ICF Model, what would "Lack of modified tools at his workplace" be classified as? (1 mark)

3. Kinesiology and Movement Analysis

A patient is performing a squat exercise.

a) During the descent phase of the squat, what type of muscle action is occurring in the Quadriceps? (1 mark)

b) During the ascent phase, what type of muscle action is occurring in the Quadriceps? (1 mark)

c) Name the ONE primary plane in which the majority of the squat movement occurs. (1 mark)

d) At the knee joint, what are the TWO primary movements occurring during the descent phase? (2 marks)

4. Essential Clinical Skills and Safety

A patient is being discharged from the hospital after a right total hip replacement (with posterior precautions) and will be using a quad cane.

a) When fitting the cane, at what anatomical landmark should the top of the handle align on the patient? (1 mark)

b) On which side (right or left) should the patient hold the cane? (1 mark)

c) Describe the gait pattern you would teach this patient (e.g., which moves first). (2 marks)

d) State ONE important hip precaution you must reinforce to ensure safety. (1 mark)

SECTION C: Essay Questions and select one question only (20 marks each)

1. The Evolution of a Profession: From Ling to the ICF

Trace the historical and philosophical journey of physiotherapy from its origins in 1813 to its current status as an autonomous, evidence-based profession. In your answer, you must:

- Describe key historical milestones and their impact on the profession's development. (6 marks)
- Explain how the adoption of the WHO's International Classification of Functioning, Disability and Health (ICF) model represents a fundamental shift from a biomedical to a biopsychosocial approach. Compare it briefly with the Nagi model to highlight this shift. (8 marks)

- c. Discuss how the core values of Quality and Social Responsibility are reflected in modern, patient-centred physiotherapy practice. (6 marks)

2. The Language of Movement: Analysis and Application

A thorough understanding of human movement (kinesiology) is the foundation of physiotherapy assessment and treatment.

- a. Define and provide a clinical example for each of the three primary planes of motion and their corresponding axes. (6 marks)
- b. Explain the physiological difference between concentric, eccentric, and isometric muscle actions. For each, provide a specific example from a common therapeutic exercise (e.g., a squat or a bicep curl). (6 marks)
- c. Choose a common functional task (e.g., rising from a chair, walking up a step, or reaching overhead). Describe the sequence of movements, the planes in which they occur, and the primary muscle actions involved, demonstrating a basic biomechanical analysis. (8 marks)

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