



FACULTY OF ALLIED HEALTH SCIENCES, UNIVERSITY OF RUHUNA

Department of Nursing

1st End Semester Examination – 2026 – 2023/2024 (17th) Batch

**NUR 1122 – Physiology I – SEQ
New Curriculum**

Date: 24th July 2026

Time: 10.30 a.m. – 11.30 a.m.

Duration: 1 hour

Index Number:

Answer all questions using the space provided.

1. A 50-year-old man presented to the emergency department with palpitations and dizziness during vigorous exercise. The physician decides to assess the electrical activity and pumping function of his heart using an electrocardiogram (ECG).

- 1.1. Name the components of the cardiac electrical conduction system in the order in which the cardiac impulse travels through them. (05 marks)

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- 1.2. Using clearly labeled graphs, illustrate the action potential of:

- 1.2.1. a sinoatrial (SA) node pacemaker cell (15 marks)

1.2.2. a ventricular cardiac myocyte

(15 marks)

1.3. State five (05) physiological significances of the refractory period of the ventricular cardiac myocyte. (10 marks)

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1.4. Briefly explain the major events of one cardiac cycle, beginning with atrial systole. (20 marks)

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1.5. State five clinical indications for performing an ECG. (10 marks)

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1.6. The patient started breathing rapidly and deeply. The physician explains that the respiratory control system continuously regulates the rate and depth of breathing to maintain normal arterial blood gas levels. Describe the mechanisms involved in the control of respiration. (25 marks)

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New Curriculum

Index Number:

2.1. Describe the role of the vomiting centre and briefly explain the neural pathways that carry signals to the vomiting centre to initiate vomiting. (30 marks)

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