



“Investing in Africa’s Future”

COLLEGE OF HEALTH, AGRICULTURE AND NATURAL SCIENCES

NESN 103: CLIMATE SCIENCE

END OF FIRST SEMESTER EXAMINATION

NOVEMBER 2025

LECTURER: MR. G. P. MITI

DURATION: 3 HRS

INSTRUCTIONS

Answer all questions in Section A and any **three** from Section B

Section A carries **40 marks** and each question in Section B carries **20 marks**.

SECTION A: ANSWER ALL QUESTIONS [40 MARKS]

Question 1

- a. What are the distinguishing characteristics of continental and maritime air masses? [5]
- b. With the aid of diagrams, describe the occurrence of;
 - i. orographic rainfall [10]
 - ii. cyclonic rainfall. [10]
- c. With the aid of a diagram, describe the following phenomena: [5]
 - i. Environmental lapse rate
 - ii. Dry adiabatic lapse rate
 - iii. Saturated adiabatic lapse rate
- d. What advice would you give to people living in areas affected by tropical storms. [5]
- e. Outline some common myths about lightning held by a community you know. [5]

SECTION B: ANSWER ANY THREE QUESTIONS [40 MARKS]

Question 2

Select one of the following events: Tropical storm, Hurricane, Tornado.

- a. Describe the genesis and progression of the selected event. [10]
- b. Describe its effects on human life in the areas where it occurs. [10]

Question 3

Explain why urban areas may have climates that are different from their surrounding rural areas. [20]

Question 4

Briefly explain the El Nino phenomenon and its effect on short term climate change in Southern African countries. [20]

Question 5

Describe the major indicators and impacts of climate change. [20]

Question 6

Explain the variations in amounts of insolation received in different parts of the earth's surface. [20]

END OF EXAMINATION PAPER