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KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATIONS, 2022/2023 ACADEMIC YEAR
END OF SEMESTER EXAMINATIONS
FOR THE DEGREE OF BACHELOR OF EDUCATION (ARTS)
KGE 2402-CLIMATOLOGY

Date: 5th December 2022
Time 11.30am-1.30pm

INSTRUCTION TO CANDIDATES:

➤ *Use sketches and diagrams wherever they serve to illustrate an answer*

ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

QUESTION ONE (30 MARKS)

- a) Differentiate between “weather change” and ‘climate change’. (4marks)
- b) Explain the formation of rain/precipitation. (4 marks)
- c) Describe air circulation patterns associated with:
 - (i) Low-pressure systems (3 marks)
 - (ii) High pressure systems. (3 marks)
- d) Explain three control factors of weather and climate. (6 marks)
- e) Examine three roles of water vapor in the atmosphere (6marks)
- f) Differentiate between condensation and evaporation. (4 marks)

QUESTION TWO (20 MARKS)

- a) Using diagrams, examine the concepts of:
 - i) Air stability. (5 marks)
 - ii) Air instability. (5marks)
- b) Describe the weather conditions at:
 - i) Cold fronts. (5 marks)
 - ii) Warm fronts. (5 marks)

QUESTION THREE (20 MARKS)

Evaluate the likely impacts of climate change on the following in Kenya:

- a) Water resources. (8marks)
- b) Agriculture. (6 marks)
- c) Disaster management (6 marks)

QUESTION FOUR (20 MARKS)

- a) Examine four sources of errors in the measurement of temperature in a meteorological station. (8 marks)
- b) Describe four instruments used in meteorological and climatological observation. (8 marks)
- c) Distinguish between saturated and unsaturated air. (4 marks)

QUESTION FIVE (20 MARKS)

- a) Discuss Köppen's classification of climate. (10marks)
- b) Discuss characteristics of three major world climate zones. (6marks)
- c) Explain two challenges encountered during climate data collection. (4 marks)