



(Knowledge for development)
KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS

2019/2020 ACADEMIC YEAR

SPECIAL/SUPPLEMENTARY EXAMINATION

FOURTH YEAR FIRST SEMESTER

FOR THE DEGREE OF BACHELOR OF EDUCATION ARTS

COURSE CODE: GEO 421

COURSE TITLE: CLIMATOLOGY

DATE: 05 – 02 – 2021

TIME: 8 – 10AM

INSTRUCTIONS TO CANDIDATES

1. Answer Question ONE (Q1) Compulsory
2. Answer any other TWO (2) Questions
3. Use illustration where appropriate

This paper consists of 2 printed pages. Please Turn Over.

QUESTION 1

- a. Account for the latitudinal differences in insolation reception across the globe. (9 marks)
- b. Describe the two mechanisms responsible for horizontal and vertical energy transfer in the atmosphere (6 marks)
- c. Explain any three processes responsible for cloud formation (9 marks)
- d. Explain any three functions of atmospheric air (6 marks)

QUESTION 2

Discuss the influence of the following on East African climatic regimes:

- a. The Inter-tropical Convergence Zone (ITCZ) (8 marks)
- b. Mountains (8 marks)
- c. The Lake Victoria (4 marks)

QUESTION 3

- a) Describe the mechanisms responsible for creation of global wind systems (10 marks)
- b) Describe how convectional rains are formed (10 marks)

QUESTION 4

- a) Explain the empirical climate classification methods (3 marks)
- b) Explain any four factors used in classifying climates (8 marks)
- c) Briefly explain any TWO main Köppen Climate Categories (4 marks)

QUESTION 5

Discuss the potential impacts of climate change on agriculture and food security in Africa. (20 marks)