



ALUPE UNIVERSITY

COLLEGE

... Bastion of Knowledge ...

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OFFICE OF THE DEPUTY PRINCIPAL
ACADEMICS, RESEARCH AND STUDENT AFFAIRS

UNIVERSITY EXAMINATIONS

2021/2022 ACADEMIC YEAR

FOURTHYEAR FIRSTSEMESTER REGULAR EXAMINATION

**FOR THE DEGREE OF BACHELOR OF
EDUCATION (ARTS/BUSINESS STUDIES)**

COURSE CODE: GEO 310

COURSE TITLE: CLIMATOLOGY

DATE: 25/1/2022

TIME: 2-5PM

INSTRUCTION TO CANDIDATES

- SEE INSIDE

THIS PAPER CONSISTS OF 3 PRINTED PAGES

PLEASE TURN OVER

INSTRUCTIONS TO CANDIDATES

- i. Answer Question **ONE** and any other **TWO** questions.
- ii. Maps, sketches and diagrams should be used whenever they serve to illustrate the answer.
- iii. Do not write on the question paper.

Question One

- a) Define the following terms:
 - i. Climate (2 Marks)
 - ii. Weather (2 Marks)
 - iii. Climate change (2 Marks)
- b) Differentiate the scope of study of climatology and meteorology. (4 Marks)
- c) Explain briefly the following sub-fields of climatology:
 - i. Hydro climatology (2 Marks)
 - ii. Agro-climatology (2 Marks)
 - iii. Physical climatology (2 Marks)
 - iv. Dynamic climatology (2 Marks)
- d) Discuss how climate influence human and economic activities on the earth's surface. (12 Marks)

Question Two

- a) Using a diagram, describe global wind system caused by global circulation of the atmosphere. (8 Marks)
- b) Explain how the following factors influences general circulation of the atmosphere:
 - i. Pressure gradient (4 Marks)
 - ii. Earth rotation (4 Marks)
 - iii. Friction (4 Marks)

Question Three

- a) Discuss THREE major causes of climate variability around the world. (12 Marks)
- b) Describe the following theories of cloud formation:
 - i. Convective theory (4 Marks)
 - ii. Orographic uplift (4 Marks)

Question Four

- a) Discuss formation of major forms of precipitation. (12 Marks)
- b) Describe how rainfall is measured in a meteorological enclosure using a standard rain gauge. (8 Marks)

Question Five

Describe classification of world climate according to Koppen's empirical classification scheme. (20 Marks)
