

UNIVERSITY EXAMINATIONS

1ST SEMESTER 2022/2023 ACADEMIC YEAR

SECOND YEAR EXAMINATION FOR THE DEGREE OF
BACHELOR OF SCIENCE (GEOGRAPHY)

**GEOG 213: ATMOSPHERIC SYSTEMS AND GLOBAL
CLIMATE**

STREAM: R

TIME: 2 HRS

DAY: THURS [8.30AM – 10.30AM] DATE: 08/11/2022

THIS QUESTION PAPER CONSISTS OF TWO (2) PAGES

PLEASE DO NOT OPEN UNTIL THE INVIGILATOR SAYS SO.

INSTRUCTIONS: Answer question ONE and any other TWO**QUESTION ONE**

- (a) Distinguish between the following terminologies:
- (i) Isohyets and isotherms (2 marks)
 - (ii) Weather and climate (2 marks)
 - (iii) Elevation and aspect (2 marks)
- (b) Using illustrations, explain the formation of convectional precipitation. (4 marks)
- (c) Discuss five practical application of meteorology. (10 marks)
- (d) Explain any three factors which regulates general atmospheric circulation. (6 marks)
- (e) Describe two processes that are necessary to occur in order to attain a dew point. (4 marks)

QUESTION TWO

- (a) Discuss five factors affecting the climate of rift valley region. (10 marks)
- (b) With examples, discuss any five negative effects of climate change on the agricultural sector. (10 marks)

QUESTION THREE

- (a) Explain three major effects of ozone layer depletion (6 marks)
- (b) Outline the Köppen classification system and indicate its weaknesses (8 marks)
- (c) Using relevant examples, outline five adaptation strategies to combat global warming. (5 marks)

QUESTION FOUR

- (a) Discuss five factors which influence atmospheric humidity of a given location (10 marks)
- (b) Using a diagram, clearly illustrate the hydrological cycle of Mau water tower (10 marks)

QUESTION FIVE

- (a) Explain three factors influencing atmospheric pressure (8 marks)
- (b) Outline four types of planetary pressure belts found within the Earth's atmospheric system. (12 marks)