

UNIVERSITY OF ESWATINI



SEMESTER 2 MAIN EXAMINATION PAPER, NOVEMBER 2021

BSc. & B. Ed. Sec. Sci

FACULTY OF SCIENCE AND ENGINEERING

DEPARTMENT OF GEOGRAPHY, ENVIRONMENTAL SCIENCE AND PLANNING

COURSE CODE: GEP426

PAPER TITLE: CLIMATE CHANGE

TIME ALLOWED: Three (3) Hours

ANSWER THREE QUESTIONS

2. QUESTION 1 IS COMPULSORY

3. ILLUSTRATE YOUR ANSWERS WITH
EXAMPLES AND CLEARLY DRAWN DIAGRAMS
WHERE APPROPRIATE

ALLOCATION OF MARKS: QUESTION 1 (COMPULSORY) CARRIES
40 MARKS WHILE THE REST CARRY 30
MARKS EACH

Candidates may complete the front cover of their answer book when instructed by the Chief Invigilator and sign their examination attendance card but must NOT write anything else until the start of the examination period is announced.

No electronic devices capable of storing and retrieving text, including dictionaries and any form of foreign material may be used while in the examination room

DO NOT Turn examination paper over until instructed to do so

GEP426: CLIMATE CHANGE – NOVEMBER 2021

SECTION A: COMPULSORY

QUESTION 1

- a) Define the following terms used in climate change studies:
- i). Climate adaptability (5 marks)
 - ii). Carbon sequestration (5 marks)
- b) What are greenhouse gases and why is it important to study them? (10 marks)
- c) 'Climate change impacts on many things; one such impact is on weather events'. Using examples from Southern Africa, describe the impacts of climate change on extreme weather events. (20 marks)
- (40 Marks)**

SECTION B: ANSWER ANY TWO QUESTIONS

QUESTION 2

- a) Explain how oxygen isotopes are used to infer paleo-climate? (15 marks)
- b) Using examples differentiate between global warming, climate variability and climate change. (15 marks)
- (30 Marks)**

QUESTION 3

You have been requested by your local member of parliament who is a member of the parliament portfolio committee for climate change, to assist him with a proposal on why it is important for the country to monitor and keep detailed records of climate data. Discuss in detail the key suggestions you will provide in your report.

(30 Marks)

QUESTION 4

- a) Discuss in detail at least three methods used by scientists to determine past climates. (10 marks)
- b) The Kingdom of Eswatini recently passed a law that limits the age of grey import cars from Asia, mainly because of their contribution to the country's carbon footprint. Discuss in detail, three (3) other instruments the country could use to reduce the carbon footprint from vehicles. (20 marks)
- (30 Marks)**

QUESTION 5

Discuss in detail the natural causes of climate change on Earth.

(30 Marks)