

**Geography and
Environment I**

005

29/07/2024 8:30 AM – 11:30 PM



ORDINARY LEVEL NATIONAL EXAMINATIONS, 2023-2024

SUBJECT: GEOGRAPHY AND ENVIRONMENT I

PAPER I: PHYSICAL GEOGRAPHY

DURATION: 3 HOURS

Instructions to candidates:

- 1) Do not open this question paper until you are told to do so.
- 2) Write your names and index number as they appear on your registration form and **DO NOT** write your names and index number on additional answer sheets if provided.
- 3) This paper consists of **THREE** sections: **A, B** and **C**.
Section A: This section is compulsory. **(55 marks)**
Section B: Attempt any **TWO** questions. **(30 marks)**
Section C: This section is compulsory. **(15 marks)**
- 4) Use a **blue** or **black** pen.

Section A: Attempt all questions. (55 marks)

- 1) Complete the following sentences with one of the proposed terms to make them meaningful: **Linear scale, Ratio scale, Statement scale.** **(3 marks)**

- a)is a scale where the distance on a map is expressed as a fraction of the actual ground distance.
- b) A type of scale which is expressed in words is
- c) A type of a map scale where the relationship is shown by a short line or long line which is subdivided into smaller equal units is

- 2) What are Jovian planets of the solar system? **(2 marks)**

- a) Jupiter, Saturn, Uranus and Neptune.
- b) Jupiter, mercury, earth and Neptune.
- c) Mercury, Venus, Earth and Mars.
- d) Mercury, Venus, Uranus and Neptune.

- 3) Relief refers to the general physical appearance of the landscape. It includes all the physical features found on the earth's surface.

The following are the physical features except: **(2 marks)**

- a) Mountains.
- b) Swamps
- c) Lakes
- d) Stadiums

- 4) What is the biggest danger posed by global warming to people living in coastal areas? **(2 marks)**

- a) Increase the acidity of sea water.
- b) Increased precipitation.
- c) Rising of sea level and floods.
- d) Lack of carbon dioxide in the atmosphere.

- 5) The following are the major types of vegetation found in Africa except: **(2 marks)**
- a) Desert vegetation.
 - b) Tropical rain forest.
 - c) Forest vegetation.
 - d) Mountain vegetation.
- 6) In a class of Senior 3, a geography teacher called Mr. Shema was explaining how human activities such as deforestation and bush burning had negatively affected Ozone layer which led to Ozone layer depletion.
- i) Among the following atmospheric layers, which layer contains ozone layer? **(2 marks)**
- a) Troposphere.
 - b) Thermosphere.
 - c) Stratosphere.
 - d) Mesosphere.
- ii) How is the Ozone layer important to us? **(2 marks)**
- a) The ozone layer regulates temperatures in the lower atmosphere.
 - b) It filters the sun's insolation by removing dangerous rays.
 - c) It causes diseases like skin cancer.
 - d) A and B are correct answers.
- 7) Analyze the impact of relief features on:
- a) Settlement. **(3 marks)**
 - b) Agriculture **(3 marks)**
- 8) How do the following factors influence the vegetation of a place?
- a) Relief. **(3 marks)**
 - b) Human activities. **(3 marks)**

- 9) The following features are found along a river profile. Some of them belong to youthful stage whereas others belong to old stage. Using the table below classify them accordingly. Features: Meanders, waterfall, oxbow lake, rapids, V-shaped valley and U-shaped valley. **(6 marks)**

Features formed in the youthful stage of a river	Features formed in the old stage of a river

- 10) Among the following statements, select three which explain how the presence of vegetation influences the weathering of rocks. **(6 marks)**
- a) Vegetation cover can protect rocks from direct exposure to weathering agents.
 - b) Organic acids released by plants can chemically weather rock minerals.
 - c) Large tracts of forested areas have been cleared due to pastoralism.
 - d) Influence vegetation positively through afforestation, reforestation, agro-forestry, gazetted forested areas, and so on.
 - e) Plant roots can physically break down rocks through wedging.
 - f) The amount of sunshine determines the heat responsible for expansion of the rocks.
- 11) Determine the longitude of city **A** which is located in East of Greenwich Meridian where the time is 10:00am and City **B** which is located at 30° East where it is 8:00 am. **(4 marks)**
- a) 30° E
 - b) 120° E
 - c) 60° E
 - d) 90° E

12) Study the table below and use the data presented to answer the questions that follow.

Months	J	F	M	A	M	J	J	A	S	O	N	D
T°C	26.4	26.9	27.5	27.5	27.8	27.5	27.5	27.2	27.2	26.9	26.9	26.9
P(mm)	399	221	157	139	112	95	100	187	167	206	120	235

a) What is the total Annual Rainfall (TAR) ? **(2 marks)**

- i) 2138 mm
- ii) 2168 mm
- iii) 2148 mm
- iv) 2158 mm

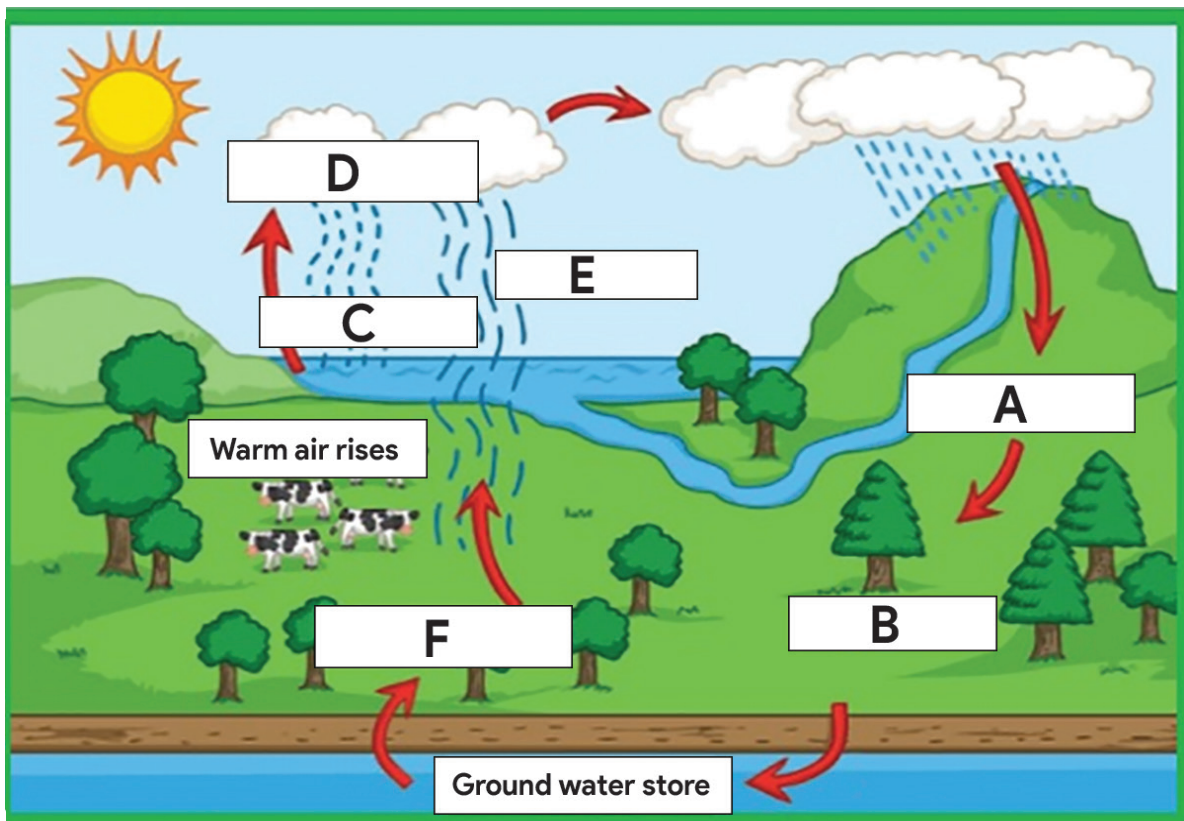
b) What is the annual Temperature Range(ATR) ? **(2 marks)**

- i) 1.2°C
- ii) 1.4°C
- iii) 1.8°C
- iv) 1.9°C

c) What is the Mean Annual Temperature(MAT) ? **(2 marks)**

- i) 28.18°C
- ii) 27.58°C
- iii) 27.18°C
- iv) 26.18°C

- 13) Study the diagram below which shows the water cycle and describe the processes for marked points: **A, B, C, D, E** and **F**. **(6 marks)**



- A:
- B:
- C:
- D:
- E:
- F:

Section B: Attempt any two questions. (30 marks)

- 14) Develop a plan which shows the measures that can be taken to control soil erosion in an area with a sensitive drainage pattern. **(15 marks)**
- 15) Analyze the economic and environmental benefits of soil conservation in Rwanda. **(15 marks)**
- 16) Basing on their characteristics and formation processes, compare and contrast igneous rocks with sedimentary rocks. **(15 marks)**

17) Suppose that you are a specialist in Rwanda Environmental Management Authority (REMA).

a) Suggest any three environmental problems that affect our country.

(3 marks)

b) Evaluate the possible measures to mitigate such problems for proper conservation of environmental resources for our future generations.

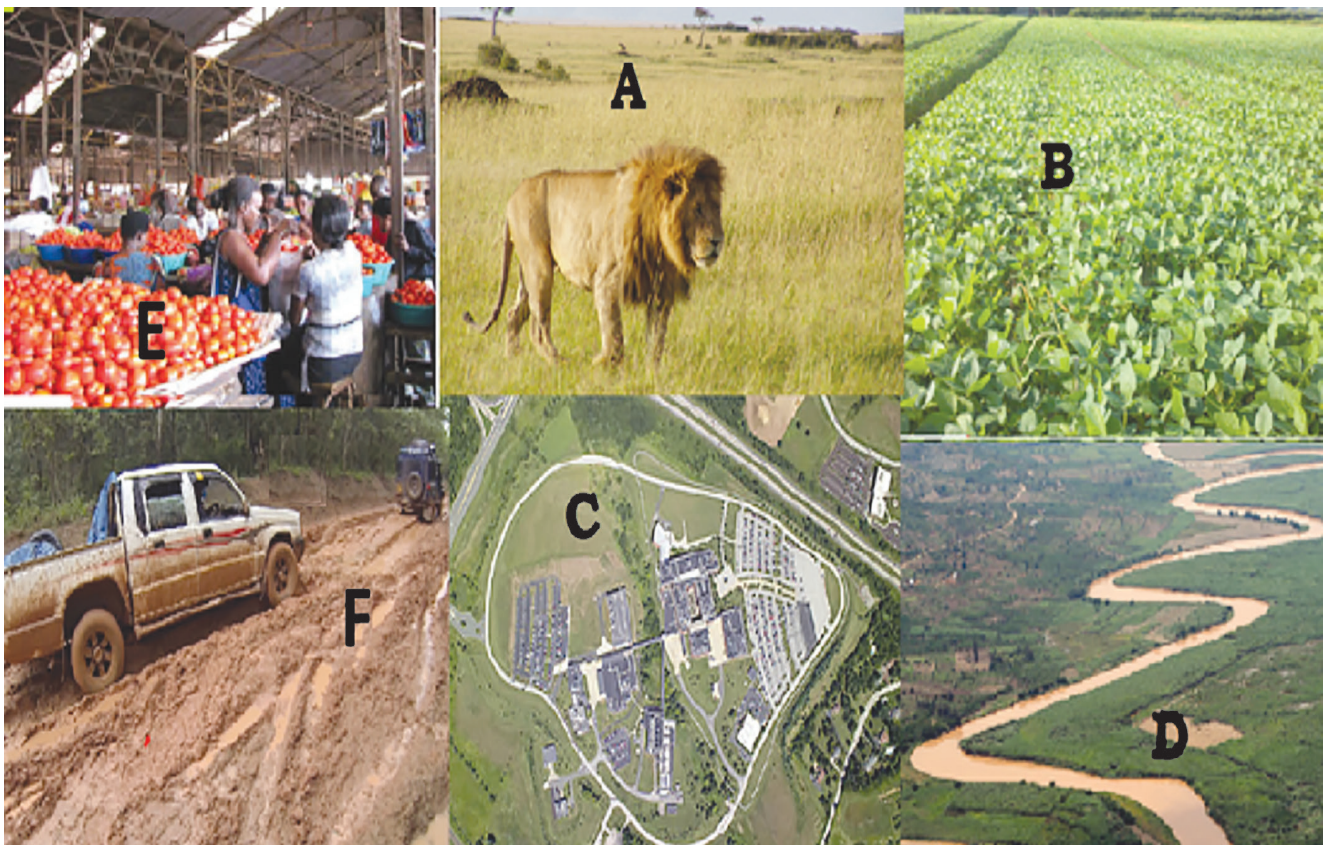
(12 marks)

Section C: This question on photographic interpretation is compulsory.

(15 marks)

18) Study the photographs below and then answer the questions that follow.

(15 marks)



a) Identify any dominant human activity that is likely to take place in each of the photos **A, B, C, D, E** and **F** above.

(6 marks)

b) Outline any two problems that are likely to be rampant in photo **F** above.

(2 marks)

c) Name the wild animal shown in photo **A** above.

(2 marks)

- d) In which district and national park was photo **A** taken from. **(2 marks)**
- e) Suggest any two landforms that are likely to be formed due to the physical process occurring in photo **D** above. **(2 marks)**

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