

Geography and Environment I

005

01/08/2022 08:30 AM – 11:30 AM



ORDINARY LEVEL NATIONAL EXAMINATIONS, 2021-2022

SUBJECT: GEOGRAPHY AND ENVIRONMENT I

PAPER I: PHYSICAL GEOGRAPHY

DURATION: 3 HOURS

INSTRUCTIONS:

1) Write your names and index number on the answer booklet as written on your registration form and **DO NOT** write your names and index number on additional answer sheets if provided.

2) Do not open this question paper until you are told to do so.

3) This paper consists of **THREE** sections **A, B** and **C**

SECTION A: This section is compulsory. **(55 marks)**

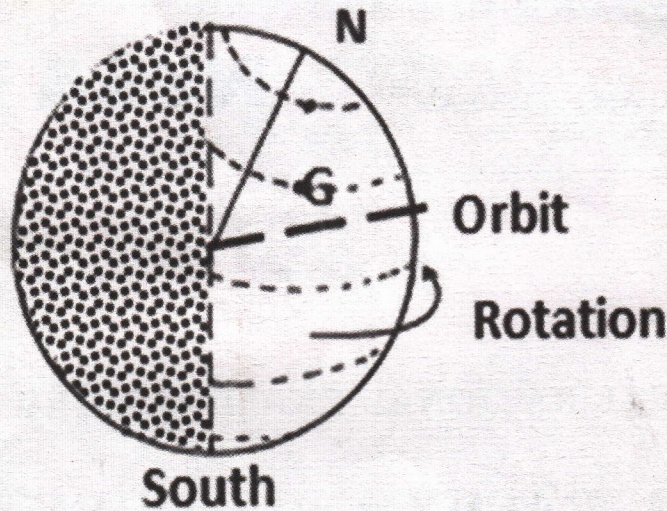
SECTION B: Attempt any **THREE** questions. **(30 marks)**

SECTION C: Attempt any **ONE** question. **(15 marks)**

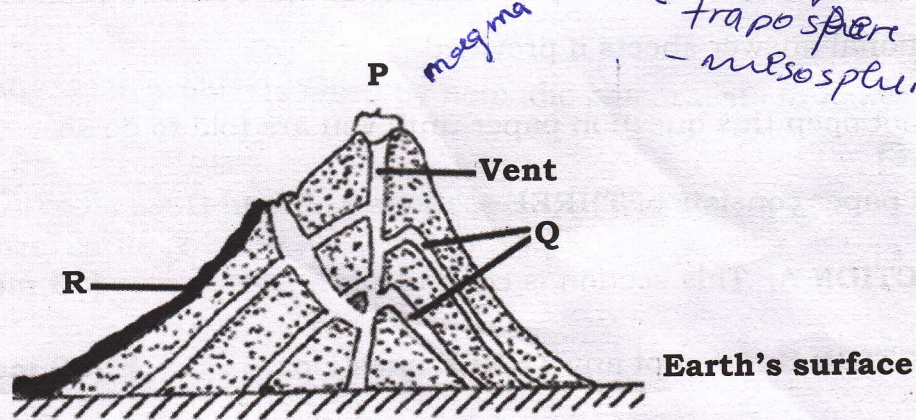
4) Use only a **blue** or **black** pen.

SECTION A: ATTEMPT ALL QUESTIONS (55 marks)

1) The diagram below represents the earth's rotation on its axis. Study it and then answer the questions that follow.



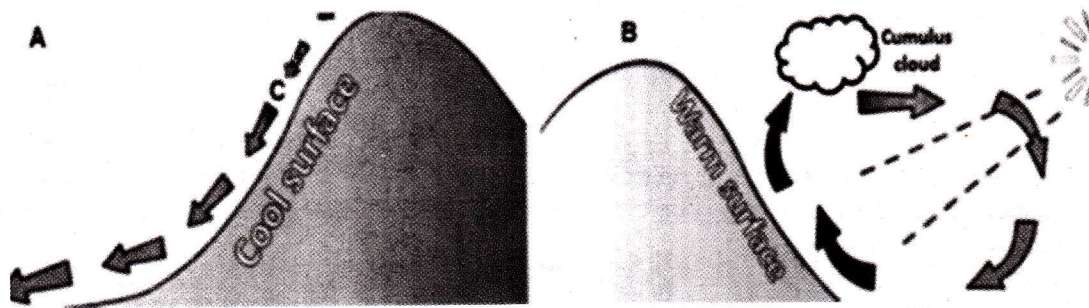
- a) i) Name the latitude marked **G** (1 mark)
- ii) What is the angle of inclination of the earth's axis from its orbit? (1 mark)
→ equator
- b) Examine the effects of the earth's revolution. (2 marks)
- darkness - nightness
- 2) When the local time is 2:00 pm at longitude 45°E, what is the longitude of a place whose local time is 10:30 am? (2 marks)
- 3) Name three countries through which river Nile flows. (3 marks)
- Tanzania - Uganda - Congo A.P.C
- 4) Name any three layers of the earth's atmosphere. (3 marks)
- 5) The diagram below shows a composite volcano. (3 marks)



- a) Name the features marked **P**, **Q** and **R**. (3 marks)
P = magma
- b) Differentiate between hot springs and geysers. (2 marks)
h =

6) Give and explain names of local winds labelled **A** and **B** in the figure below.

(4 marks)



7) a) What is climate? *refers to the average weather condition over long period of time* (1 mark)
 b) Identify characteristics of tundra climate. (4 marks)

8) What is water cycle? Explain with a diagram. (4 marks)

9) Draw a sketch map of Rwanda and locate the following: (4 marks)

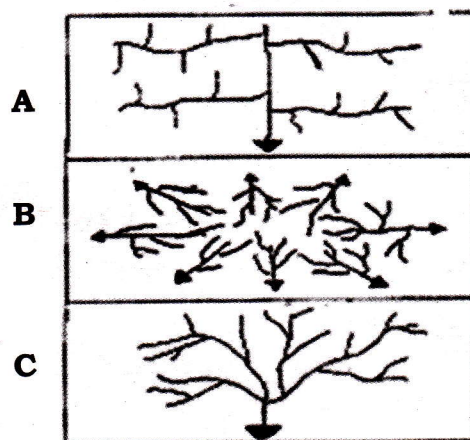
- a) Akagera savannah
- b) Birunga rain forest
- c) Nyungwe rain forest
- d) Gishwati rain forest

10) Identify the main forms of continental relief. (3 marks)

11) Briefly describe the relief of Rwanda. *- hills - swamps - river valley - land slope* (3 marks)

12) a) What is vegetation? *(1) The combination of plants in the earth's surface cover* (1 mark)
 b) State any three characteristics of tropical rain forest. (3 marks)

13) a) Study the diagram below and name each of the three river patterns labelled **A**, **B** and **C**. (3 marks)



*(15) - pollution
 - soil erosion
 - drought*

b) Explain each of the river patterns named in (a) above. (3 marks)

14) Explain the term biological weathering. (2 marks)

15) Outline three effects of environmental degradation. (3 marks)

SECTION B: ATTEMPT ANY THREE QUESTIONS (30 marks)

16) a) Explain how the following factors influence the distribution of vegetation:

i) Relief *or physical appearance for land use* (2 marks)

ii) Soils. *The upper layer on the earth by which plant root grow.* (2 marks)

b) Explain the importance of vegetation. (6 marks)

- Vegetation provide food - vegetation provide charcoal
- vegetation as source of medicine - vegetation as raw material

17) a) Identify the major causes of climate change in Rwanda. (4 marks)

Afforestation - industries -

b) Explain three ways used in environmental conservation. (6 marks)

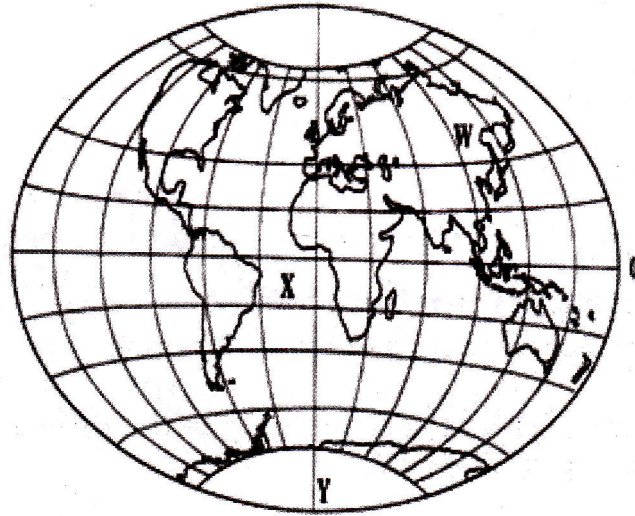
Ukurinda.

18) a) Differentiate a soil profile from a soil catena. (2 marks)

b) By the aid of a well labelled diagram, describe a soil profile.

(8 marks)

19) Study the map below and answer the questions that follow.



a) Name: (3 marks)

i) The continent marked **W**

ii) The ocean marked **X**

iii) The line of longitude marked **Y**.

b) Give any two evidences to show that the earth rotates from west to east.

(2 marks)

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c) State two effects of the rotation of the earth on its axis. **(2 marks)**

d) Describe the structure of the earth's crust. **(3 marks)**

20) a) List any five characteristics of tropical climate. **(5 marks)**

b) Assess the influence of climate on human activities in the world. **(5 marks)**

SECTION C: ANSWER ONLY ONE QUESTION. (15 marks)

21) Study the map extract of Nkumba 1: 25000 (Rwanda) and answer the questions that follow.

a) Describe the relief of the area covered by the map. **(4 marks)**

b) With evidence from the map, identify social services available in the area covered by the map extract. **(3 marks)**

c) State four economic uses of the main physical feature in the south of the area covered by the map. **(4 marks)**

d) Explain four factors which have influenced the distribution of settlement in the area covered by the map. **(4 marks)**

Topographic Map of Rwanda: Nkumba



Source:
 Topographic map of Rwanda in 43 sheets
 at 1/50000 scale was produced by IGN in 1999.
 The barcode maps were scanned and
 georeferenced by NISR in 2006

Geographic Coordinate System:
 Coordinate System : ITRF 2005
 Projection : Transverse Mercator
 Datum : ITRF 2005

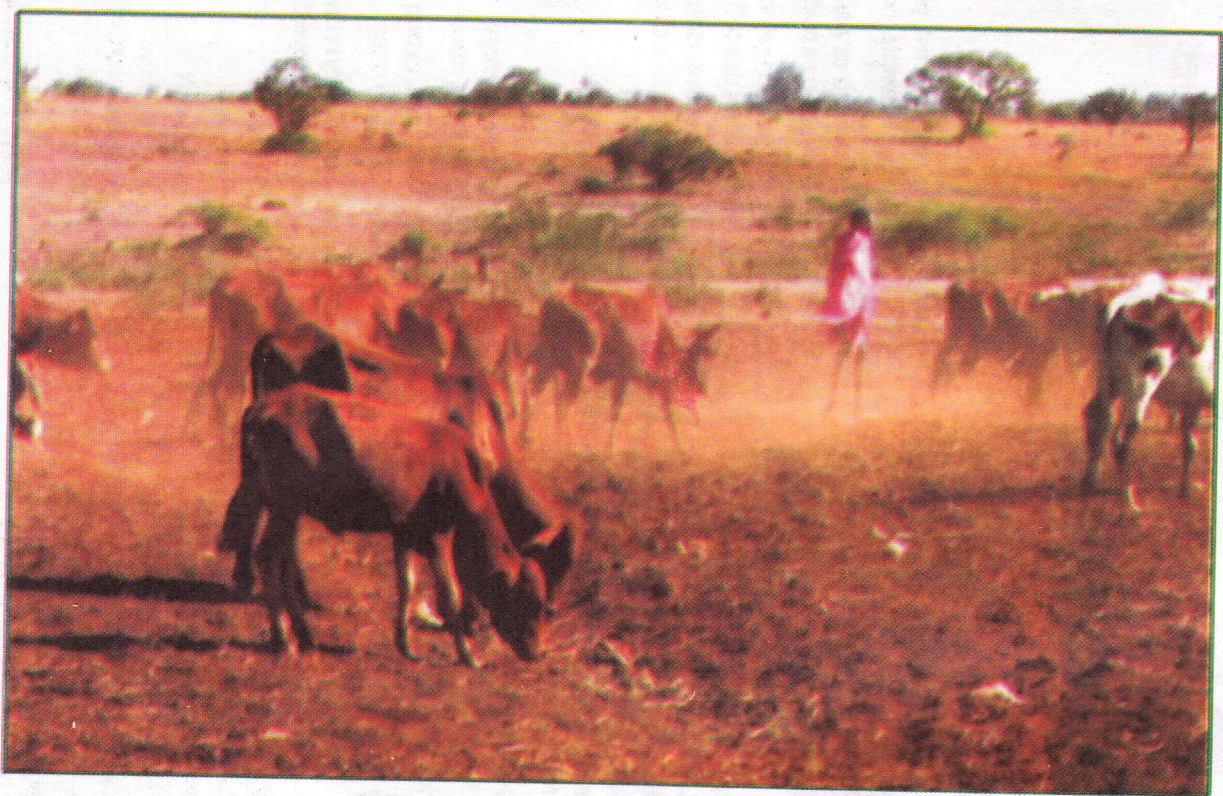
Scale/Echelle
 1:25,000

SCALE/ECHELLE 1:25,000



	Main tarmac road Route national asphaltée		Dense/nucleated settlement Habitat concentré		Natural forest, plantation Forêt naturelle, boisement
	Main murrum road Route national non asphaltée		Sparse, scattered Dispense, remarquable		Savannah or pasture Savane ou pasturage
	Feeder road Route communal		Hospital, health centre, dispensary Hopital, centre de santé, dispensaire		Upland crops, valley crops Cultures des collines
	Track Piste carrossable		Sectorial bazaar, school, dipping tank Bureau de secteur, école, dipping tank		Rangeland, cash crop Prairie, cultures industrielles
	Path Sentier		Religious edifices: church, temple, mosque Edifices religieux: église, temple, mosquée		Papyrus Papyrus
	Boulevard/road lined with trees Route bordée d'arbres		Border post, market Poste de douane, marché		Bananas, sugar cane, coffee Bananier, canne à sucre, café
	Road under construction Route en construction		International airport, aerodrome/air strip Aéroport international, aérodrome		Rice, tea, cotton Riz, thé, coton
	Power/electric line Ligne de transport d'énergie électrique		River Rivière		Quinine, pyrethrum, bamboo Quinquina, pyrèthre, bambou
	Bridge, footbridge Pont en dur, pont en bois		Pond, marsh, a well Etang, marc, puits		Terraces Talus
	Contours Courbe de niveau		Lake, swamp Lac, marais		Rock, cliff Rocher, abrupt
	Contours, contour intervals, depression Coube de niveau, intercalaires, cuvette		Falls, dam Chutes, barrage		Trigonometrical pillar Détail particulier
	Quarry, factory and/or industrial complex Carrière, usine et/ou complexe industriel		Border pillar, radio booster station Borne frontiere, antenne relais de radio		Mine 1 operational 2 derelict Mine 1 en activité 2 arrêtée

22) Study the photograph below which shows cattle rearing in Kenya and then answer the questions that follow.



- a) i) Identify the type of photograph. **(1 mark)**
 - ii) Describe the features shown in the photograph. **(3 marks)**
- b) i) State two evidences which show that the area was experiencing drought when the photograph was taken. **(2 marks)**
 - ii) Give three reasons why nomadic pastoralists keep large herds. **(3 marks)**
- c) Explain any three problems faced by nomadic pastoralists in Kenya. **(3 marks)**
- d) Explain three measures taken by the government of Kenya to improve beef cattle farming. **(3 marks)**

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