

Geography III

023

26/07/2021 08:30 AM – 11:30 AM



ADVANCED LEVEL NATIONAL EXAMINATIONS, 2020-2021

SUBJECT: GEOGRAPHY

PAPER III: PHYSICAL GEOGRAPHY

DURATION: 3 HOURS

COMBINATIONS: HISTORY-ECONOMICS- GEOGRAPHY (**HEG**)
MATHEMATICS –ECONOMICS- GEOGRAPHY (**MEG**)
MATHEMATICS –PHYSICS – GEOGRAPHY (**MPG**)
BIOLOGY-CHEMISTRY- GEOGRAPHY (**BCG**)
LITERATURE-ECONOMICS- GEOGRAPHY (**LEG**)
HISTORY- GEOGRAPHY- LITERATURE (**HGL**)

INSTRUCTIONS:

- 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.

(40 marks)

SECTION B: Attempt any **THREE** questions.

(30 marks)

SECTION C: Attempt any **TWO** questions.

(30 marks)

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

SECTION A: ATTEMPT ALL QUESTIONS (40marks)

- 1) Describe two characteristics of the weather conditions in the troposphere. **(2 marks)**
- 2) Explain how the following factors influence the occurrence of minerals:
 - a) Evaporation. **(2 marks)**
 - b) Vulcanicity. **(2 marks)**
- 3) Explain three factors that determine the rate of coastal erosion. **(3 marks)**
- 4) What happens to sedimentary rocks when heat and pressure act on them? **(2 marks)**
- 5) Describe the effects caused by tensional, compressional and shear forces. **(3 marks)**
- 6) Explain how fold mountains are formed. **(3 marks)**
- 7) Explain any three causes of Earth movements. **(3 marks)**

- 8) Describe the significance of plate movements. **(3 marks)**
- 9) Explain the following theories of fold mountains:
- a) Plate Tectonics Theory. **(2 marks)**
 - b) Contraction Theory. **(2 marks)**
- 10) Explain why alluvial soil is good for crop growth. **(2 marks)**
- 11) Differentiate between Alluvial fans and Arcuate delta. **(2 marks)**
- 12) Describe the influence of laterites on landform development and human activity. **(3 marks)**
- 13) Explain how the following factors influence the temperature and rainfall of an area.
- a) Continentality. **(2 marks)**
 - b) Aspect. **(2 marks)**
- 14) Describe two effects of landslides on drainage system in Rwanda. **(2 marks)**

SECTION B: ATTEMPT ANY THREE QUESTIONS (30 marks)

- 15)a) Explain the conditions under which temperature inversion occurs. **(2 marks)**
- b) With specific examples from Africa, explain the effects associated with the weather condition in (a) above. **(8 marks)**
- 16)a) Define the term condensation. **(2 marks)**
- c) With the aid of examples, explain the main causes of condensation of water vapour in the earth's atmosphere. **(8 marks)**
- 17)a) Explain what is meant by the term "soil catena" and show its significance to man. **(6 marks)**
- b) Explain the factors that influence the development of soil catena. **(4 marks)**
- 18)a) Explain the meaning of the following:
- (i) Soil texture. **(3 marks)**
 - (ii) Soil pH value. **(3 marks)**
- b) Explain the relevance of each to the soil and to man. **(4 marks)**
- 19)Assess the economic significance of extrusive volcanic features in East Africa. **(10 marks)**

SECTION C: ATTEMPT ANY TWO QUESTIONS (30 marks)

20) You are required to carry out a field study on features in glaciated low land area.

a) Describe four reasons why a working agenda is required. **(4 marks)**

b) Explain three erosional features that are likely to be observed during the field study. **(6 marks)**

c) Describe five follow-up activities that you would undertake after the field study. **(5 marks)**

21) a) Draw a sketch map of the area shown and on it mark and name:

(i) Stadium **(1 mark)**

(ii) Air strip. **(1 mark)**

(iii) The main drainage features. **(1 mark)**

b) Examine the relationship between relief and:

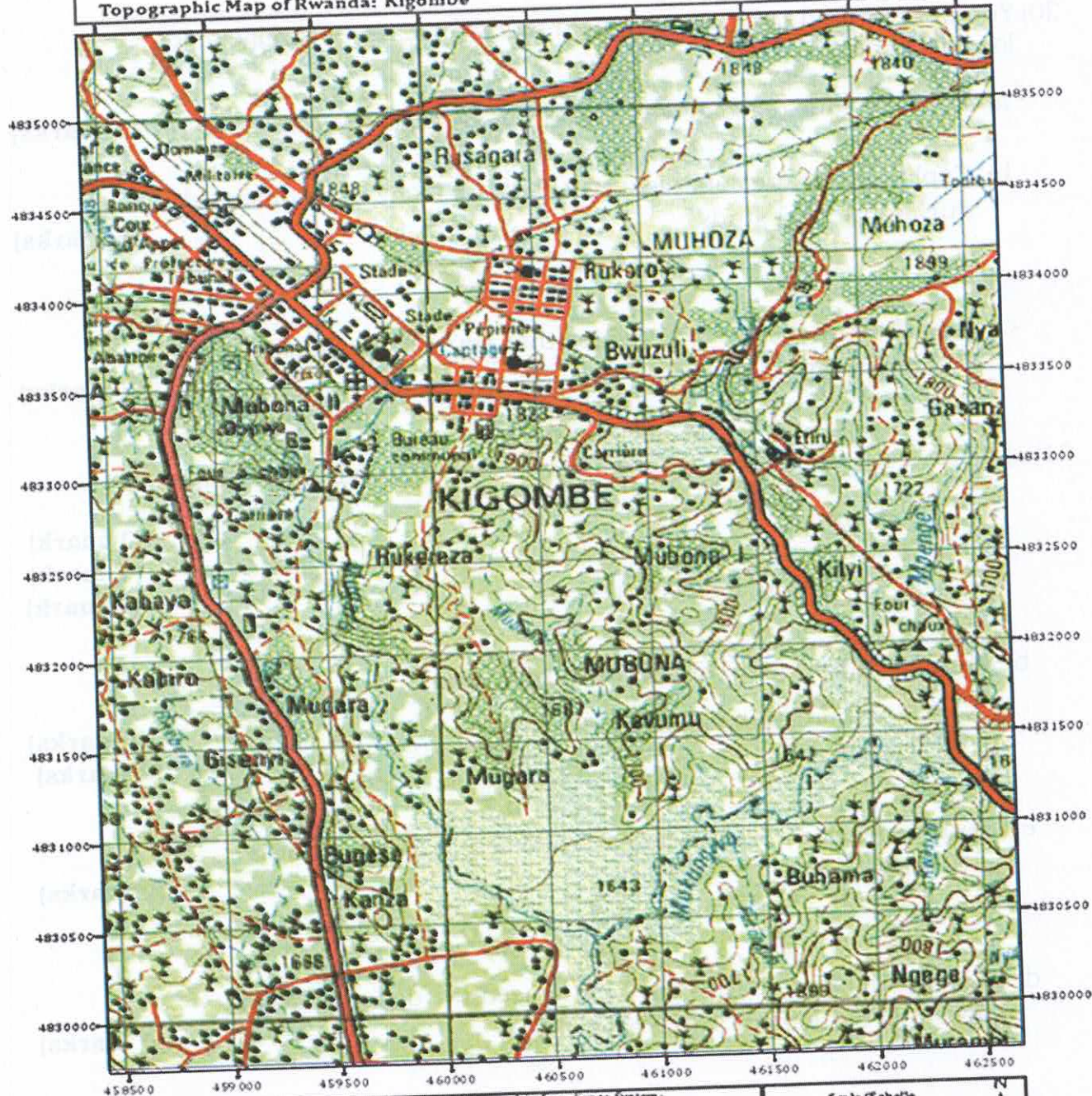
(i) Population settlement. **(2 marks)**

(ii) Drainage. **(2 marks)**

c) Identify and describe two major settlement patterns shown on the map. **(4 marks)**

d) Describe the factors that have influenced the distribution of population settlement in the area. **(4 marks)**

Topographic Map of Rwanda: Kigombe



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







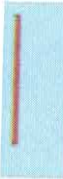





























Geographic Coordinate System:
Coordinate System : ITRF 2005
Projection : Transverse Mercator
Datum : ITRF 2005

Scale/Echelle
1:25,000



SCALE/ECHELLE 1:25,000



	Main tarmac road Route nationale asphaltée		Dense/nucleated settlement Habitat concentré		Natural forest, plantation Forêt naturelle, boisement
	Main murrum road Route nationale non asphaltée		Sparse, scattered Dispersé, remarquable		Savannah or pasture Savane ou pâturage
	Feeder road Route communal		Hospital, health centre, dispensary Hopital, centre de santé, dispensaire		Upland crops, valley crops Cultures des collines
	Track Piste carrossable		Sectorial bureau, 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 Banancier, 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, pyréthre, bambou
	Bridge, footbridge Pont en dur, pont en bois		Pond, marsh, a well Etang, mar, 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 frontière, antenne relais de radio		Mine 1 operational 2 derelict Mine 1 en activité 2 arrêtée

22) Study the photograph below and answer questions (a) and (b).



- a) (i) Name the mining methods shown in the photograph. **(1 mark)**
- (ii) Give one mineral that may be mined using the method shown in the photograph. **(1 marks)**
- b) (i) Using evidence from the photograph, give three indicators that show that the weather was hot when the photograph was taken. **(3 marks)**
- (ii) Describe how minerals are obtained using the mining method shown in the photograph. **(4 marks)**
- (iii) Citing evidence from the photograph, explain two ways in which the mining method shown has affected the environment. **(4 marks)**
- (iii) Apart from the method shown in the photograph, name two other mining methods. **(2 marks)**