

# Geography III

## 023

01/08/2022

8:30 AM – 11:30 AM



## ADVANCED LEVEL NATIONAL EXAMINATIONS, 2021-2022

### SUBJECT: GEOGRAPHY III

#### 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. **(55 marks)**

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

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

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

**SECTION A: ATTEMPT ALL QUESTIONS (55 marks)**

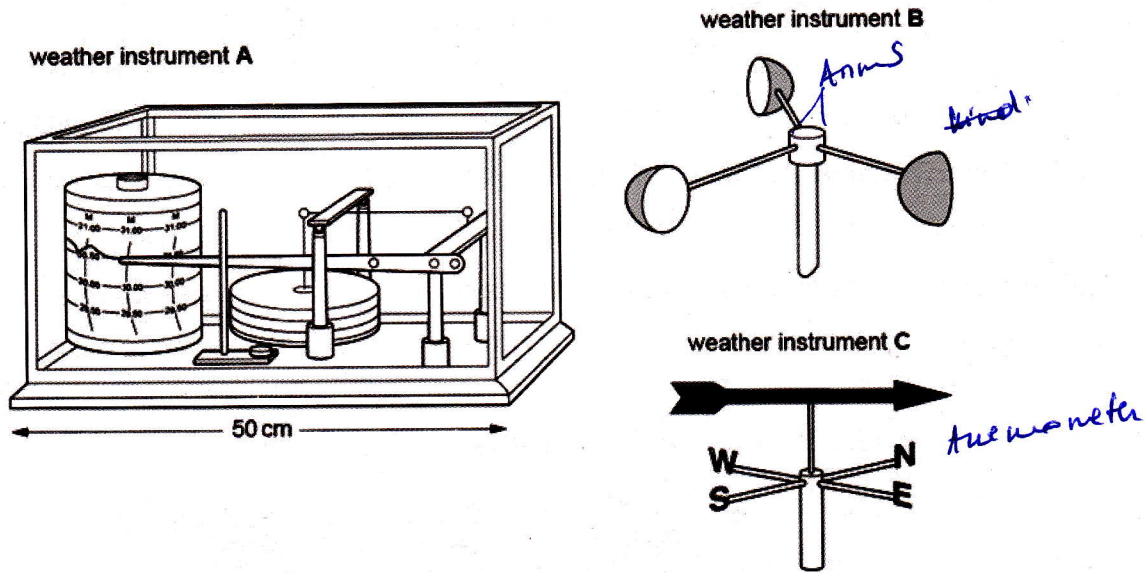
- 1) Define the term fieldwork. **(2 marks)**
- 2) a) Outline elements of a good map. **(3 marks)**  
b) With clear illustrations, describe the characteristics of the two major classifications of map projections. **(2 marks)**
- 3) a) Write short notes on any two types of weathering. **(2 marks)**  
b) Name any three processes of physical weathering. **(3 marks)**
- 4) State three factors that influence mass wasting. **(3 marks)**
- 5) Outline three ways in which river erosion works. **(3 marks)**
- 6) Write down the meaning of equinox and explain its types. **(3 marks)**  
*Abolition*
- 7) a) Write short notes on two major types of waves. **(4 marks)**  
b) Explain any two landforms produced by depositional waves. **(2 marks)**
- 8) Basing on any four evidences, prove that the earth is spherical in shape. **(4 marks)**
- 9) With the help of a well labelled diagram, indicate types of moraines formed by a glacier. **(3 marks)**
- 10) a) What does the term folding mean? **(1 mark)**  
b) With relevant examples discuss the impact of folding on drainage system. **(4 marks)**
- 11) Explain three types of rocks. **(3 marks)**
- 12) Draw and interpret rock and debris falls. **(4 marks)**
- 13) Name three conditions necessary for the growth of coral polyps. **(3 marks)**
- 14) Distinguish between vulcanicity and volcanicity. **(4 marks)**
- 15) State two characteristics of faulted lakes. **(2 marks)**



**SECTION B: ATTEMPT ANY THREE QUESTIONS (30 marks)**

16) Discuss factors that affect soil fertility. (10 marks)

17) The figure below shows three weather instruments (A, B and C).



*Effect of factors*  
*Factor*

- a) Name the weather instruments marked A, B and C. (3 marks)
  - b) How does the weather instrument A work? (3 marks)
  - c) State the uses of the weather instruments marked B and C. (2 marks)
  - d) Where are the weather instruments B and C placed at a weather station? Give a reason for your answer. (2 marks)
- 
- 18) a) Define the term climate change. (2 marks)
  - is exchange element pattern in period time*
  - b) Explain the causes of desertification in the world. (8 marks)
  - 19) a) Explain the factors responsible for the distribution of vegetation in Rwanda. (5 marks)
  - b) Identify the characteristics of a coniferous forest. (5 marks)
  - 20) a) What does the term Karst scenery mean? (2 marks)
  - b) State three factors that influence the development of a karst land form. (3 marks)

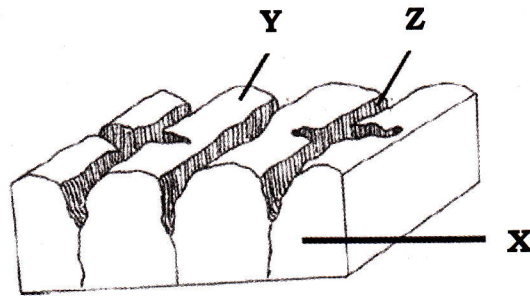
*homack c*

*Air  
ice*

*Extrusive wave  
intrusive wave  
→ Satisfactory / Normative*

c) The diagram below shows a feature in a Karst landscape.

Study it and answer the questions that follow.

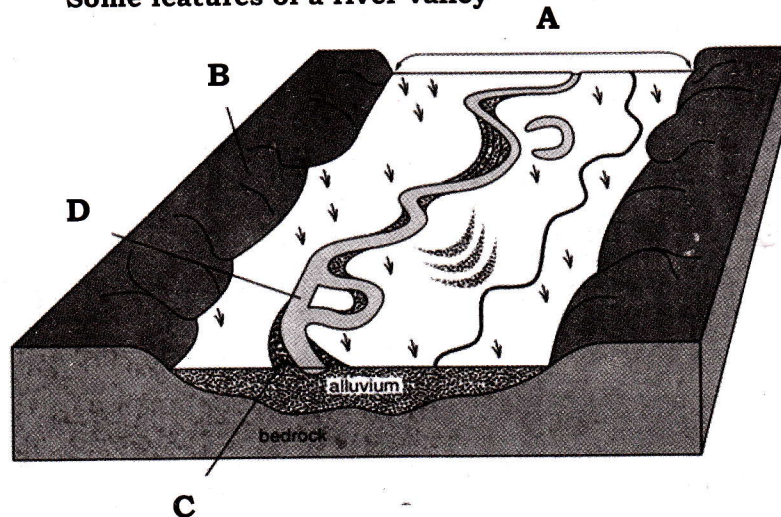


i) Name the parts marked **X**, **Y** and **Z**. **(3 marks)**

ii) Describe how the features marked **Y** and **Z** are formed. **(2 marks)**

21) The diagram below shows a plate boundary. Study it and answer the questions that follow.

Some features of a river valley



a) Identify the features marked: **A**, **B**, **C** and **D**. **(4 marks)**

b) Describe any three features you have identified in (a) and explain how each was formed. **(6 marks)**



**SECTION C: ATTEMPT ONLY ONE QUESTION (15 marks)**

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

$\frac{1}{5000}$

- a) (i) Give four figure and six figure grid references of Gatumba road junction. *minimum maximum 1 six figure* **(2 marks)**
- (ii) Calculate the vertical exaggeration of the cross section. Use a scale of 1 cm to represent 25 meters. **(2 marks)**
- (iii) Calculate the distance in kilometers of the main river in the western part of the map extract. **(1 mark)**
- b) Describe the drainage system of the area covered by the map extract. **(4 marks)**
- c) (i) Apart from trading, name two other economic activities that appear in the area of Ngororero covered by the map extract. **(2 marks)**
- (ii) Using evidences from the map extract, explain four factors that favour trading in the area covered by the map extract. **(4 marks)**

$$\frac{1:25000}{1:5000} = 5$$

$$\frac{1:25000 \times 6}{1:5000} = 30$$

1cm  
25meters

$$\frac{1:25000}{1:5000}$$

$$1:25000 \times$$

25meters →

*banking is motion making ice crust*



**Topographic Map of Rwanda: Ngororero**



Source:  
 Topographic map of Rwanda in 43 sheets  
 at 1/50000 scale was produced by IGN in 1989.  
 The harcopy maps were scanned and  
 georeferenced by NISR in 2006

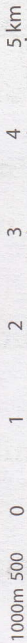
Geographic Coordinate System:  
 Coordinate System : ITRF 2005  
 Projection : Transverse Mercator  
 Datum : ITRF 2005

Scale/Echelle  
 1:25,000

0 0.5 1 Km



**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 Dispenca, 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 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, cane 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	 Poand, marsh, a well Eiang, marc, puits	 Terraces Talus
 Contours Courbe de niveau	 Lake, swamp Lac, marais	 Rock, cliff Rocher, abrupt
 Contours, contour intervals, depression Coube de niveau, intercalaires, cavette	 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 frontier, antenne relais de radio	 Mine 1 operational 2 derelict Mine 1 en activité 2 arrêtée



mass wasting -7

23) Study the photograph below and answer the questions that follow.



- a) (i) What type of photograph is this? **(1 mark)**  
(ii) What type of farming is shown in the photograph? **(1 mark)**  
(iii) Identify three physical features depicted in the photograph. **(3 marks)**
- b) (i) State three characteristics of the type of farming shown above. **(3 marks)**  
(ii) Explain three factors that favour the type of farming shown in the photograph. **(3 marks)**  
(iii) Explain four ways in which the government of Kenya assists nomadic pastoralists to improve the quality of their livestock. **(4 marks)**

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