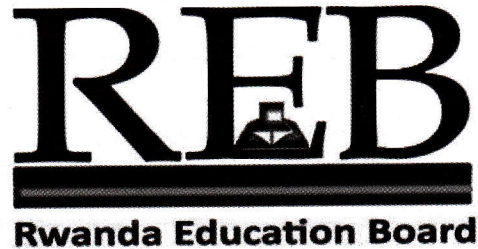


GEOGRAPHY AND ENVIRONMENT I

005

26/11/2018 8.30 AM - 11.30 AM



ORDINARY LEVEL NATIONAL EXAMINATIONS, 2018

SUBJECT: GEOGRAPHY AND ENVIRONMENT I

PAPER I: PHYSICAL GEOGRAPHY

DURATION: 3 HOURS

INSTRUCTIONS:

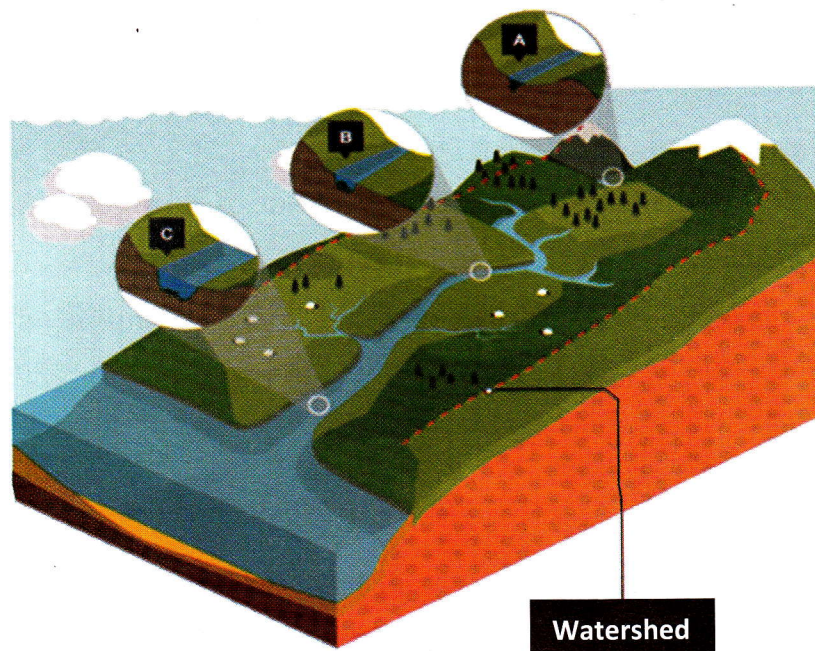
- 1) Write your names and index number on the answer booklet as written on your registration form and **DO NOT** write your names and index number on additional answer sheets of paper if provided.
- 2) Do not open this question paper until you are told to do so.
- 3) This paper has **Three** sections: **A, B** and **C**.
SECTION A: Attempt **all** questions. **(55 marks)**
SECTION B: Attempt any **THREE** questions. **(30 marks)**
SECTION C: Attempt **only one** question. **(15 marks)**
- 4) Use a **blue** or **black** pen.

SECTION A: ATTEMPT ALL QUESTIONS (55 Marks)

- 1) (a) What is “**temperature inversion**” and which layers of the atmosphere experience it? (2marks)
- (b) Which layer of the Earth's atmosphere that contains the ozone layer? (1mark)
- 2) Suppose that you stay at Town B located along longitude 30° W. If the time at Greenwich Meridian is 12.00 noon; what will be the time at point B? (3marks)
- 3) With the aid of a diagram, explain how the following drainage pattern systems are formed:
- (a) Dendritic Drainage Pattern. (3marks)
- (b) Trellis Drainage Pattern. (3marks)
- 4) (a) How does the climate affect people’s culture? (3marks)
- (b) How will climate change affect the ecosystem? (3marks)
- 5) Explain the natural causes of landslides in Rwanda. (4marks)
- 6) How does wind affect the temperature of an area? (3marks)
- 7) With the aid of a diagram, explain how land and sea breezes are formed. (4marks)
- 8) With the aid of a well labelled diagram, describe how frontal rainfall is formed. (5marks)
- 9) State the names of the layers of the earth’s atmosphere (from surface to outer space) and name their temperature trends and important features of each. (4marks)
- 10) Explain the effect of climate change on different living things. (3marks)
- 11) Describe the features in the middle course of a river. (3marks)

12) Describe the stages of the cross section of a river valley and channel marked by letters A, B and C in the diagram below.

(6marks)



13) (a) What happens when rocks undergo weathering?

(3marks)

(b) How does ice cause rocks to weather?

(2marks)

SECTION B: ATTEMPT ANY THREE QUESTIONS (30Marks)

14) (a) Describe the main triggers of mass wasting in Rwanda.

(3marks)

(b) Explain the effects of mass wasting on human activities in Rwanda.

(7marks)

15) Explain why rates of weathering may be faster in tropical areas compared to temperate areas.

(10marks)

16) (a) Describe the causes of temperature differences on the Earth.

(4marks)

(b) Explain the factors that influence the temperature of an area.

(6marks)

17) (a) Giving specific examples, explain the causes and effects of floods on human activities in Rwanda.

(7marks)

(b) Assume you are appointed the specialist of disasters in the Ministry of Disaster management and Refugee affairs in Rwanda; what measures would you put in place to overcome the effects of floods?

(3marks)

18) (a) Describe the characteristics of desert and semi-desert climates.

(6marks)

(b) Explain why deserts remain dry throughout the year.

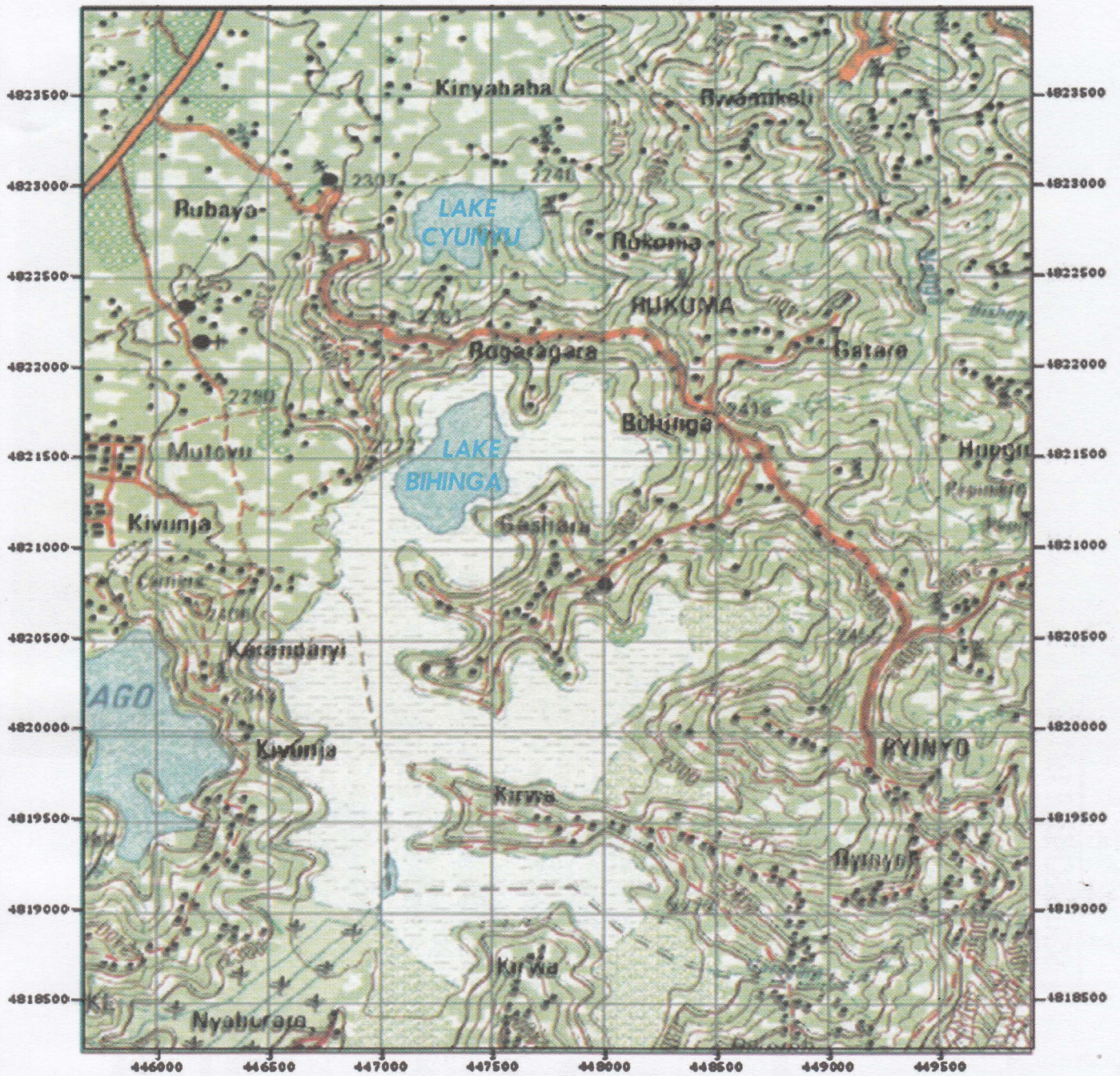
(4marks)

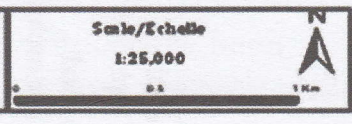
SECTION C: ATTEMPT ANY ONE QUESTION (15Marks)

19) (a) Draw a sketch map of Karago and on it, mark and label the following :

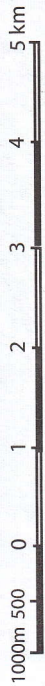
- (i) Contour line with high altitude. **(1mark)**
- (ii) Quarrying. **(1mark)**
- (b) Calculate the amplitude of the map extract of Karago in the answer for 19(a) above. **(1mark)**
- (c) Describe the relationship between relief and Settlement as shown on the map extract of Karago given on page 5. **(3marks)**
- (d) Explain how Lake Bihinga and Lake Cyunyu were formed. **(3marks)**
- (e) Explain the economic importance of Lake Bihinga and Lake Cyunyu to the people of Karago. **(6marks)**

Topographic Map of Rwanda: Karago



<p>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</p>	<p>Geographic Coordinate System: Coordinate System : ITRF 2005 Projection : Transverse Mercator Datum : ITRF 2005</p>	<p>Scale/Echelle 1:25,000</p> 
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SCALE/ECHELLE 1:25,000



	Main tarriac road Route national asphaltée		Dense/nucleated settlement Habitat concentré
	Main murrum road Route national non asphaltée		Sparse, scattered Dispence, remarquable
	Feeder road Route communal		Hospital, health centre, dispensary Hopitale, centre de santé, dispensaire
	Track Piste carrossable		Sectorial bureau, school, dipping tank Bureau de secteur, école, dipping tank
	Path Sentier		Religious edifices: church, temple, mosque Edifices religieux: église, temple, mosquée
	Boulevard/road lined with trees Route bordée d'arbres		Border post, market Poste de douane, marché
	Road under construction Route en construction		International airport, aerodrome/a/r strip Aéroport international, aérodrome
	Power/electric line Ligne de transport d'énergie électrique		River Rivière
	Bridge, footbridge Pont en dur, pont en bois		Pond, marsh, a well Etang, marc, puits
	Contours Courbe de niveau		Lake, swamp Lac, marais
	Contours, contour intervals, depression Coube de niveau, intercalaires, cavette		Falls, dam Chutes, barrage
	Quarry, factory and/or industrial complex Carrière, usine et/ou complexe industriel		Border pillar, radio booster station Borne frontière, antenne relais de radio

	Natural forest, plantation Forêt naturelle, boisement
	Savannah or pasture Savane ou pasturage
	Upland crops, valleys, crops Cultures des collines
	Rangeland, cash crop Prairie, cultures industrielles
	Papyrus Papyrus
	Bananas, sugar cane, coffee Bananier, canne à sucre, café
	Rice, tea, cotton Riz, thé, coton
	Quinine, pyrethrum, bamboo Quinquina, pyrèthre, bambou
	Terraces Talus
	Rock, cliff Rocher, abrupt
	Irrigonometrical pillar Détail particulier
	Mine 1 operational / derelict Mine 1 en activité 2 arrêtée

- 20) Study the photograph provided below and use it to answer the questions that follow.



- (a) Identify the type of pollution shown in the photograph. **(1mark)**
- (b) Explain the effects of this type of pollution on the environment. **(4marks)**
- (c) Explain why this type of pollution is common in large urban centres. **(4marks)**
- (d) Assume you are appointed the Minister of Environment in Rwanda, what measures should you put in place to promote conservation of the environment? **(4marks)**
- (e) Suggest an area in Rwanda where this photograph could have been taken and give evidence for your answer. **(2marks)**