

312/1
GEOGRAPHY
PAPER 1
JULY/AUGUST 2017
TIME: 2³/₄HOURS

SCHOOL BASED EXAMINATION – FORM 4 2017
KENYA CERTIFICATE OF SECONDARY EDUCATION

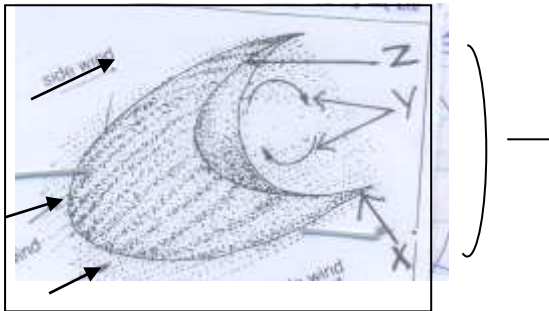
INSTRUCTIONS TO CANDIDATES.

- (a) This paper has **two** sections **A** and **B**.
- (b) Answer all the questions in section **A**.
- (c) Answer question **6** and any other **two** questions from section **B**.
- (d) All answers **must** be written in the answer booklet provided.
- (e) This paper consists of **4** printed pages.
- (f) Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing.
- (g) Candidates **must** answer all the questions in English.

SECTION A (25 marks)

Answer all questions in this section.

1. (a) Distinguish between absolute and relative humidity. (2 marks)
- (b) State **two** factors that influence humidity. (2 marks)
2. (a) What is an earthquake? (2 marks)
- (b) List **three** natural causes of earthquakes. (3 marks)
3. (a) Give **two** types of earth movement. (2 marks)
- (b) Define a glacier. (2 marks)
4. (a) Give **two** processes through which wind erodes the earth surface. (2 marks)
- (b) The diagram below represents a feature found in a desert landscape.



- (i) Name the feature. (1 mark)
- (ii) Identify the:-
 - (i) The part marked **X**. (1 mark)
 - (ii) Air current marked **Y**. (1 mark)
 - (iii) The slope marked **Z**. (1 mark)
 - (iv) The slope marked **K**. (1 mark)
5. (a) Name **three** types of faults. (3 marks)
- (b) Apart from compressional forces give **two** other forces that cause faulting. (2 marks)

SECTION B (75 marks)

Answer question 6 and any other two questions from this section.

6. Study the map of Kitale 1:50,000 sheet 75/3 provided and answer the following questions.
 - (a) (i) Name **two** natural features found in grid square 2823. (2 marks)
 - (ii) Determine the distance of road B 10/2 from Knights corner junction with Road C 637 to Kitale. (2 marks)
 - (iii) State **two** functions of Kitale town. (2 marks)
 - (iv) Convert the scale of map into statement scale. (2 marks)
- (b) Draw a rectangle 14 cm by 7 cm to represent a section of the map enclosed by Easting 24 and 31 and Northings 11 and 14. (1 mark)

On the rectangle, mark and name the following features:-

- (a) Culvert. (1 mark)
- (b) Papyrus swamp. (1 mark)
- (c) Municipality boundary. (1 mark)
- (d) River Koitobos. (1 mark)
- (e) All weather road – loose surface. (1 mark)

(c) Explain **three** factors which have influenced the distribution of settlements in the area covered by the map. (6 marks)

(d) Describe the relief of the area covered by the map. (5 marks)

7. (a) Name **four** components of soils. (4 marks)

(b) State **two** economic uses of soils. (2 marks)

(c) Explain how the following factors influence soil formation.

(i) Parent rocks. (2 marks)

(ii) Biotic factors. (2 marks)

(d) (i) Other than soil erosion, state three other ways in which soils may be degenerated. (3 marks)

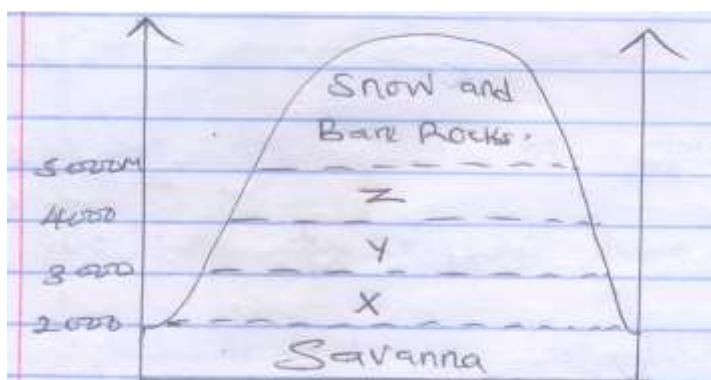
(ii) Briefly explain three effects of soil erosion to human activities. (6 marks)

(e) You intend to carry out field study on soil around your school.

(i) Name **three** equipments you will be required to carry and their purpose. (3 marks)

(ii) State **three** preparations you will be required to make before going out for the field study. (3 marks)

8. The diagram below shows mountain vegetation zone, use it to answer the questions that Follows.



(a)(i) Name vegetation zones marked:

X (1 mark)

Y (1 mark)

Z (1 mark)

(ii) State **two** reasons why the mountain top has no vegetation. (2 marks)

- (iii) Explain **three** factors that have led to the decline of natural grasslands in Kenya. (6 marks)
- (b) (i) State **five** characteristics of tropical rainforest. (5 marks)
- (ii) What ways are desert plants adapted to the desert climatic conditions? (5 marks)
- (c) You are to carry out field study on the forest vegetation around Mau region.
- (i) State **two** reasons why it is necessary to have a route map. (2 marks)
- (ii) Give **two** reasons why you need a tape measure. (2 marks)
9. (a) What is folding? (2 marks)
- (b) (i) Name **four** types of folds. (4 marks)
- (ii) Name **four** orogenies known in geological history. (4 marks)
- (c) With the aid of well labeled diagrams, use plate tectonics theory to explain the Formation of fold mountains. (6 marks)
- (d) Apart from fold mountains name three other features resulting from folding. (3 marks)
- (e) Explain **three** ways in which folding influence human activities. (6 marks)
- 10.(a) (i) Differentiate between river discharge and river regime. (2 marks)
- (ii) Explain **two** causes of river rejuvenation. (4 marks)
- (b) With the aid of well labeled diagrams describe the process of river capture. (6 marks)
- (c) Describe **three** ways through which a river transports its load. (6 marks)
- (d) You intend to carry out a field study on a river in its old stage.
- (i) Give **two** possible features you are likely to identify. (2 marks)
- (ii) Identify **two** possible problems you are likely to encounter. (2 marks)
- (iii) Give **three** methods of data collection you would use. (3 marks)

312/2
GEOGRAPHY
PAPER 2
JULY/AUGUST 2017
TIME: 2³/₄ HOURS

**SCHOOL BASED EXAMINATION – FORM 4 2017
KENYA CERTIFICATE OF SECONDARY EDUCATION**

INSTRUCTIONS TO CANDIDATES.

- (a) This paper has **two** sections **A** and **B**.
- (b) Answer all the questions in section **A**.
- (c) Answer question **6** and any other **two** questions from section **B**.
- (d) All answers **must** be written in the answer booklet provided.
- (e) This paper consists of **4** printed pages.
- (f) Candidates should check the question paper to ascertain that all pages are printed as indicated and that **no** questions are missing.
- (g) Candidates **must** answer all the questions in English.

SECTION A (25 marks)

Answer all questions in this section.

1. (a) Name **two** tourist attractions found in Kenya Rift valley. (2 marks)
- (b) State **three** factors that hinder domestic tourism in Kenya (3 marks)
2. (a) State **three** physical conditions necessary for cocoa growing in Ghana. (3 marks)
- (b) Apart from making of oil state **two** other uses of oil palm. (2 marks)
3. (a) State **two** formations in which minerals occur. (2 marks)
- (b) State **three** negative effects of mining on the environment. (3 marks)
4. (a) What is a population pyramid? (1 mark)
- (b) State **four** reasons why it is necessary for a country to carry out population census. (4 marks)
5. (a) Differentiate between fishing and fisheries. (2 marks)
- (b) State **three** physical factors influencing fishing. (3 marks)

SECTION B (75 marks)

Answer question 6 and any other two questions from this section.

6. (a) Use the following table to answer the questions that follow: a (i) and (ii)

Number of animals in location **X** on the Kenya highlands in 2014.

TYPE	NUMBER
GUERNSEY	8440
ARYSHIRE	7350
JERSEY	10830
FRIESIAN	14300
SAHIWAL	4280

- (i) Using a scale of 1 cm to represent 4000 animals represent the above data using a divided rectangle. (6 marks)
 - (ii) State **two** advantages of using a divided rectangle to represent data. (2 marks)
 - (b) (i) State **three** physical factors that favour dairy farming in the Kenya highlands. (3 marks)
 - (ii) Explain **three** ways in which dairy farming in Kenya is different from Dairy farming in Kenya is different from dairy farming in Denmark. (6 marks)
 - (c) Explain **four** measures taken by the government of Kenya to improve beef cattle farming. (8 marks)
7. (a) (i) Differentiate between primary and secondary industries. (2 marks)
- (ii) Name **four** agricultural non-food manufacturing industries in Kenya. (4 marks)

- (b) Give **five** reasons why the development of the Jua Kali industries is being encouraged in Kenya. (5 marks)
- (c) Explain **four** factors which influenced the location of iron and steel industry in the Ruhr region of Germany. (8 marks)
- (d) You intend to carry out a field study of an industry which is manufacturing goods for the local market as well as for export.
- (i) Give **two** reasons why content analysis may not be a suitable method of data Collection during a field study. (2 marks)
- (ii) What information would you collect to enable you achieve the objectives of your study? (4 marks)
8. (a) (i) Name **three** provinces in Canada where wheat is grown on large scale. (3 marks)
- (ii) State **four** physical conditions that favour wheat farming in Canada. (4 marks)
- (b) Compare wheat farming in Kenya and Canada under the following subheadings:-
- (i) Research. (2 marks)
- (ii) Government policy. (2 marks)
- (iii) Transport. (2 marks)
- (c) (i) Differentiate horticulture and market gardening. (2 marks)
- (ii) Explain **five** problems facing horticulture farming in Kenya. (10 marks)
9. (a) Name **two** indigenous softwood trees in Kenya. (2 marks)
- (b) Use the map of Kenya below to answer questions b(i) and (ii)



- (i) Name the forest reserves marked H, J and K. (3 marks)

- (ii) State **four** factors that favour the growth of natural forests in the area
Marked **L**. (4 marks)
- (c) Explain **three** measures being taken by the government of Kenya to control human encroachment of forested areas. (6 marks)
- (d) Give the difference between soft wood forests in Kenya and Canada under the following sub headings.
- (i) Tree harvesting. (2 marks)
- (ii) Marketing of forests products. (2 marks)
- (e) You plan to carry out a field study in a forest in your country.
- (i) Give **three** reasons why you need a route map for the study. (3 marks)
- (ii) State **two** problems you are likely to experience during the field study. (2 marks)
10. (a) Apart from windstorms name **three** other environmental hazards associated with climatic conditions. (3 marks)
- (b) (i) State **three** problems caused by windstorms in Kenya. (3 marks)
- (ii) Outline the causes of water pollution. (5 marks)
- (c) Explain **four** methods used to control floods in Kenya. (8 marks)
- (d) Explain the significance of conserving the environment. (6 marks)

SCHOOL BASED EXAMINATION – FORM 4 2017
GEOGRAPHY 312/1 MARKING SCHEME PAPER 1

SECTION A (25 mks)

1.(a) **Difference between absolute and relative humidity.**

Absolute humidity is the actual amount of water vapour / moisture in a given mass of air at a particular temperature while relative humidity is the maximum amount of moisture that this mass of air can hold at the same temperature. ✓✓(2 mks)

(The difference must come out to score)

(b) **Factors that influence humidity.**(2 mks)

- Temperature.
- Air pressure.
- Supply of moisture.
- Latitude.

(Mark the first two)

2. (a) An earthquake is a sudden and rapid movement of the earth's crust. (2 mks)

(b) **Natural causes of earthquakes.**(3 mks)

- Tectonic movements.
- Vulcanicity.
- Gravitational pressure.
- Isostatic adjustment.
- Energy release in the mantle. (Mark the first three)

3. (a) **Types of earth movement.**

- Vertical movement – epeirogenic ✓ (1 mk)
- Horizontal movement – Orogenic ✓ (1 mk)

(b) A glacier is a mass of ice moving outward from an area of accumulation ✓✓ (2 mks)

4.(a) Processes through which the wind erode.

- Abrasion (1 mk)
- Deflation (1 mk)
- Attrition. (1 mk) (Mark the first two)

(b)(i) The feature is a barchans ✓ (1 mk)

- (ii) X – Horns ✓ (1 mk)
- Y – Eddy currents (1 mk)
- Z – Steep lee ward slope ✓ (1 mk)
- K – Gentle windward slope. ✓ (1 mk)

5. (a) **Types of faults.**

- Normal fault.
- Reverse fault.
- Shear / tear fault.
- Thrust faults.
- Anticlinal faults.

(Mark the first 3 max (3 mks)

(b) **Other forces that can cause faulting.**

- Tensional force. (1 mk)
- Shear / tear forces (1 mk)

SECTION B (75 mks)

6. (a)(i) **Name two natural features found in grid square 2823** (2 mks. 2 x 1 = 2 mks)

- Scrub
- Hill
- Scattered trees. (Mark the first two)

(ii) **Determine the distance of road B 10/2 from Knights corner junction with Road C 637 to To Kitale** (2 mks 1 x 2 = 2 mks)

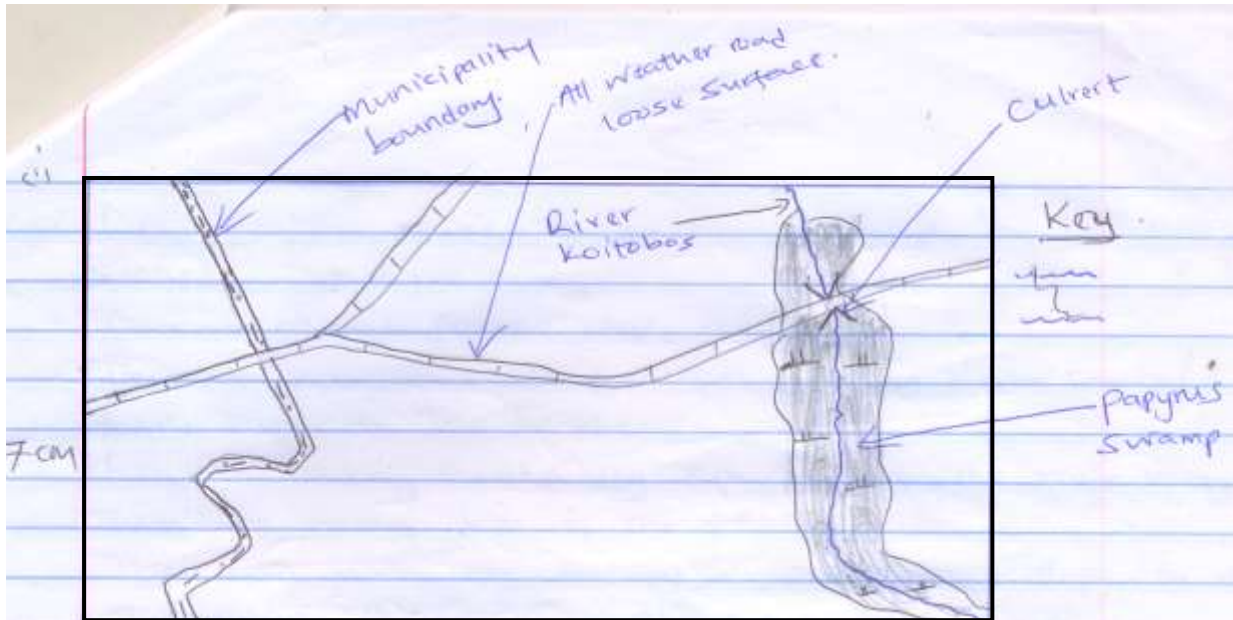
9.6 + 0.1 km

- (iii) **Functions of Kitale town.** (2 x 1 = 2 mks)
 - Administration / centre – Presence of D.C office.
 - Recreational / centre – Presence of sports clubs.
 - Social and religious centre – Presence of churches.
 - Commercial centre – Presence of shops and markets.
- (iv) **Convert the scale of map into statement scale** (1 x 2 = 2mks)

Map scale 1 : 50,000
 1 cm represents 50,000 cm
 100,000
 = 0.5 km
 1 cm represent 0.5 km.

- (b) **Rectangle 14 cm by 7 cm to represent a section of the map enclosed by Easting 24 and 31 and Northings 11 and 14** (1 mk) 1 x 1 = 1 mk

- Culvert 1 mk
 - Papyrus swamp 1 mk
 - Municipality boundary 1 mk
 - River Koitobos 1 mk
 - All weather road – loose surface 1 mk
- (5 x 1 = 5 mks)



14 cm

- (c) **Explain three factors which have influenced the distribution of settlements in the area Covered by the map.** (6 mks) 3 x 2 = 6 mks
- The hilly area along the forest have few or no settlement because the land is steep / rugged which makes construction costly / difficult.
 - There are no settlements in the forest because it is a forest reserve where human activities are prohibited.
 - Kitale municipality is the most densely settled because it has a dense road network for ease of movement and social amenities.
 - There are cluster of settlements in the plantations since the land is set aside for farming.
 - There are no settlements on the seasonal and papyrus swamps because they are poorly drained / marshy which discourage human activities.
 - There are many settlements in the South East and central parts of the area covered by the map because the land is gently sloping which makes construction easy.

(Mark the first two)

(d) **Describe the relief of the area covered by the map.** (5 mks) $5 \times 1 = 5$ mks

- There are many narrow rivers valleys.
- There are numerous steep slopes in the North East / gentle slopes to the East.
- There are many interlocking spurs along the river valleys.
- There are many hills in the North East.
- The area with the swamp is flat / gentle slope in the West.
- The main ridge is along the forest 2362.
- The highest altitude is 2362 m and the lowest is 1820 m above sea level.
- There are some broad valleys in the Eastern part of the area.
- The Southern part of the map is gentle slopy.

(Mark the first five)

7.(a) **Name four components of soils** (4 mks) $4 \times 1 = 4$ mks

- Water
- Air
- Organic matter / humus
- Living organisms
- Mineral matters.

(Mark the first four)

(b) **Two economic uses of soil.** 2 mks $2 \times 1 = 2$ mks

- Soils are used in building and construction.
- Soils are used in agriculture.
- Soils are used as raw materials for pottery / ceramics / tiles.
- Some soils are mixed with herbs and sold for medicinal purposes.
- Some soils types are sources of valuable minerals.
- Some soils are directly used as food. (salts)

(Mark the first two)

(c) **How the following factors influence soils.**

(i) **Parent rocks** $2 \times 1 = 2$ mks)

- Soft rocks weather fast but hard rocks are resistant and weathered slowly delaying the soil forming process.
- Parent rock determine the soil texture.
- The type of minerals in the parent rock is transformed to the soil during formation.
- Soil colour is determined by the colour of the parent rock. (Mark the first two)

(ii) **Biotic factor.** ($2 \times 1 = 2$ mks)

- Micro – organisms mix and aerate the soil.
- The roots of plants penetrate the soil enabling it to become processed soil.
- Penetrating plant roots / ploughing / digging / burrowing animal break up the rocks into small process farming soil.

(d)(i) **The other ways in which soils may be degenerated.** (3 mks) ($3 \times 1 = 3$ mks)

- Soil water logging.
- Burning and shifting cultivation.
- Deforestation.
- Overcropping.
- Overgrazing.
- Monoculture.
- Wrong fertilizer application. (Mark the first three)

(ii) **Three effects of soil erosion to human activities.** (6 mks) $3 \times 2 = 6$ mks.

- Deposited sand on river beds, can be harvested for building and construction.
- Soil erosion loosens productive top soil lowering agriculture potential of land.
- Rich alluvium soils deposited support agriculture.
- Destruction of vegetation cover may lead to acidity and desertification.
- Eroded sediments from farmlands and damp sites can be pollutants.
- Sediments may fill water reservoirs.
- Soil erosion may destroy structures. (Mark the first three)

- (e)(i) **Three equipments to be carried and their purpose.** (3 x 1 = 3 mks)
 - Polythene bag for carrying soil samples.
 - Jembe for scooping soil.
 - Umbrella for sheltering from strong sunshine.
 (Mark the first three)
- (ii) **Preparation required before going to field study.** (3 x 1 = 3 mks)
 - Carry out literature review (content analysis)
 - Carry out pre-visit.
 - Divide themselves into workable groups.
 - Prepare objectives for the study. (Mark the first three)
- 8.(a)(i) **Name the vegetation zones marked XYZ.** (3 mks) 3 x 1
 X – Tropical rainforest / equatorial forest / rain forest. Y – Bamboo
 Z – Health and moorland.
- (ii) **State two reasons why the mountain top has no vegetation.** (2 mks) 2 x 1 = 2 mks
 - High attitudes cause very low temperatures.
 - Strong winds uproot vegetation.
 - Thin soil support little vegetation.
 - Snow cover prevents vegetation development. (Mark the first two)
- (iii) **Explain three factors that have led to the decline of natural grassland in Kenya.**
 (6 mks) 3 x 2 = 6 mks
 - The frequent outbreak of bush fires destroys the grass retarding its regeneration.
 - The increasing of human population is encroaching into the grasslands replacing them with settlement.
 - Pests such as army worms / locusts destroy grass and vegetation degenerates into a semi desert type.
 - Wild / domestic animal overgraze and cause stunted growth of grass.
 - Prolonged drought retard growth / destroy grass. (Mark the first three)
- (b)(i) **State five characterizes of tropical rain forest.** (5 mks) 5 x 1 = 5 mks
 - The trees are tall, straight trunks with few branches.
 - The trees form canopies.
 - Most trees have broad leaves.
 - The trees take long to mature.
 - The vegetation has little undergrowth.
 - There are climbers i.e Lianas. (Mark the first five)
- (ii) **Ways desert plants are adapted to the desert climatic conditions.** 5 mks 5 x 1 = 5 mks
 - Some plants have succulent stems to store water.
 - Some plants have hardy, waxy and slimy leaves and sunken stomata to reduce rate of transpiration.
 - Some plants have reduced leaves / small / thorny leaves to reduce rate of transpiration.
 - Some plants have deep tap roots to reach and tap water deep from the underground.
 - Some plants are drought resistant and shed off their leaves to survive the long dry season.
 - Some plants are salt – tolerant and can survive in the saline soils.
 - Some plants have short life cycle with dormant seeds which can only sprout during occasional rains. (Mark the first five)
- (c)(i) **Importance of route map during field study.** 2 x 1 = 2 mks
 - Identifying the direction you would take.
 - Estimating the distance to be covered.
 - Estimating the time likely to take.
 - Planning schedule of activities.
 - Identifying location of different tree types.
 (Mark the first two)
- (ii) **Reasons why you need a tape measure.** (2 x 1 = 2 mks)
 - To measure height of trees.
 - To measure the width and length identified area of the forest / area of section identified.

9.(a)(i) Folding: The process of coastal distortion which causes the rocks to bend upwards or downwards. ✓✓ (2 mks)

(b) **Type of folds.**

- Simple symmetrical folds.
- Asymmetrical folds.
- Overfolds.
- Isoclinal folds.
- Recumbent folds.
- The nappe / overthrust folds.
- Anticlinorium and synclinorium complex. (mark first four @ 1 m) max four marks)

(ii) **Orogenies in Geographical history.**

- Charnian orogeny ✓
- Calendonian orogeny ✓
- Hercynian orogeny ✓
- Alpine orogeny ✓ (4 x 1 = 4 mks)

(b) **Formation of fold mountains.**



Sediments compressed form fold mounts.

—————> Compressional forces. <—————

Total 6 mks

(d) **Other features formed due to folding.**

- Inter montane plateau ✓
- Inter – montane basins ✓
- Ridge and valley landscape. ✓
- Rolling plains. (mark first three @ 1 mk = 3 mks)

(e) - Heavy rainfall on the windward side of fold mountains support agriculture.

- The heavy rainfall and snow make fold mountains to be source of rivers providing water for Irrigation, domestic and industrial use.
 - The cold descending winds in the mountaineous landscape sometimes destroys crops.
 - The process of folding can bring valuable minerals near the surface making the easier for mining/ or burry them making them inaccessible.
 - Mountainous landscape provides unique scenery making it attractive to tourist. Promotes tourism.
- First 3 well explained points @ 2 mks

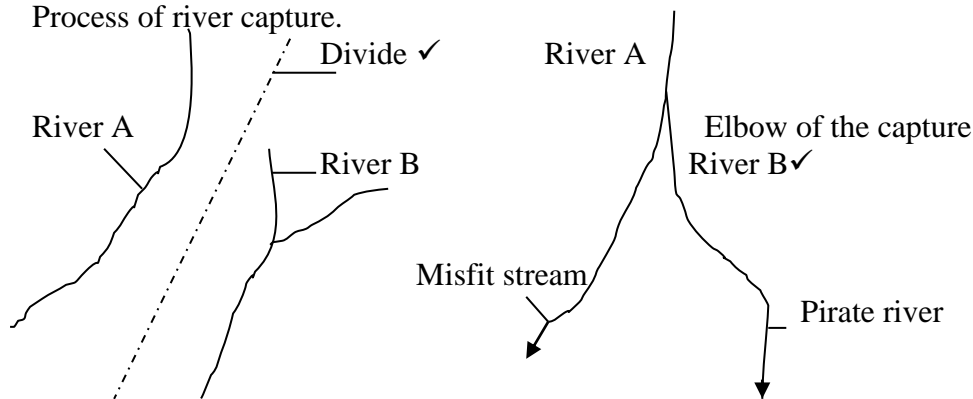
10. (a)(i) **Difference between river discharge and river regime.**

River discharge refers to the amount of water flowing down a river channel while river regime refer to the seasonal variation in the volume of water in a river channel. ✓✓(2 mks)

(ii) **Causes of river rejuvenation.**

- Increase in rivers discharge: This may due to ✓✓ increase in precipitation or as a result of River capture.
- A change in rock resistance: When a river start flowing over a relatively softer rock. ✓✓

(b) Process of river capture.



- Two rivers flowing almost parallel to each other and separated by a river divide.
- River B is at lower level than river A and erodes through headward erosion.
- It eventually joins the valley of the weaker river A. ✓
- The head waters of the river A are diverted into the valley of river B. ✓
- This is known as river capture. ✓

(c) **Ways through which a river transports its load.**

- Suspension: ✓ Light insoluble materials ✓ are transported downstream when floating on the water.
- Saltation: ✓ Large / heavier materials are transported through a series of jumps by being Lifted by the force of the moving water, pushed for a short distance and then landing back on the river bed by gravity. ✓
- Traction. ✓ Heavy materials are pushed and rolled along the river bed by the force of the Water. ✓
- Solution: ✓ Soluble load is dissolved in water and transported in solution form. ✓

Mark first three 3 x 2 = 6 mks

(d) **Features found in the old stage of a river.**

- Meanders. - Ox bow lakes. - Braided channel. - Alluvial fans.
- Natural levees. - Deltas. - Flood plains.

(mark first 2 @ 1 mk)

(e) **Possible problems.**

- Flooded river channel.
- Attack by aquatic animals e.g crocodile.
- Adverse weather conditions.
- Slipping into the river channel.

(any first two relevant problems @ 1 mk)

Possible methods of data collection.

- Taking photographs.
- Observation.
- Interviewing the natives.
- Collection of samples.

Any first three relevant methods. @ 3 mks

SCHOOL BASED EXAMINATION – FORM 4 2017
GEOGRAPHY 312/2 MARKING SCHEME PAPER 2

SECTION A (25 mks)

1. (a) **Name two tourist attraction found in Kenyan Rift Valley.**
- Lakes e.g Nakuru, Baringo, Naivasha, Elementaita.
 - Flamingoes / birds.
 - People's culture.
 - Mining sites e.g Kariandusi.
 - Nakuru National park.
 - Hot springs / geysers / fumaroles / geothermal.
 - Menengai crater.
 - Water falls – Thomson falls.
 - Wildlife.
 - Pre-historic sites e.g Kapenguria.
 - Sport tourism e.g sport fishing, marathon.
- (b) **State three factors that hinder domestic tourism in Kenya.**
- Negative attitude towards local tourism by the citizens.
 - High cost of accommodation in the lodges and hotels discourages many people.
 - Poor transport and communication network of roads leading to the parks and other attractive sites.
 - Preferential treatment gives to the foreign tourists discourage locals.
 - Inadequate knowledge on the tourist attractive sites.
2. (a) **State three physical conditions necessary for cocoa growing in Ghana.**
- High temperatures 24⁰C – 30⁰C.
 - High rainfall of about 1200 – 1500 mm and well distributed through out the year.
 - Deep and well drained loam soil.
 - High relative humidity (70 – 80)
 - Undulating land / gentle sloping land.
 - Shade from strong sun rays.
 - Shelter from strong winds.
- (First 3 x 1 = 3 mks)
- (b) **Apart from making of oil, state two other uses of oil palm.**
- Palm oil is used for making cosmetics, soaps, candles and margarine.
 - Stems are used as poles for building.
 - Leaves are used for roofing.
 - Leaves are used to make baskets / hats / brooms.
 - Shell / fibre are used as fuel.
 - Sap from stem is used to make wine.
 - Crushed nut / kernels are used as animal feeds.
- (first 2 x 1 = 2 mks)
3. (a) **State two formations in which minerals occurs.**
- Veins and lodes.
 - Layers and seams.
 - Weathering products.
 - Alluvial or placer deposits.
- (first 2 x 1 = 2 mks)
- (b) **State three negative effects of mining on the environment.**
- Mining causes land deleriction / ugly land / badlands.
 - Mining causes pollution of environment air, water, soil and also noise.
 - Mining causes loss of bio-diversity – animals migrate, vegetation cleared.
 - Leads to soil erosion since land remains bare.
 - Mining may lead to landslides.
 - Mining may lower the water table of a given place.

4.(a) **What is a population pyramid?**

Population pyramid is a graphical representation of population in terms of sex (gender) and age as it shows proportions of males to females in each age group. (1 mk)

(b) **State four reasons why it is necessary for a country to carry out population census.**

- To help in the distribution of resources.
- To make estimate of populations growth e.g through migration.
- To identify the rates of deaths and births.
- To help government in creating more administrative units.
- It may reveal the occupation of people which helps in establishing the level of employment and estimation of the level of taxation.

(first 4 x 1 = 4 mks)

5.(a) **Differentiate between fishing and fishery.**

Fishing is the exploitation of water resources such as fish, seals, whales, crabs, lobsters prawns, oysters and sea weeds while fisheries are waterbodies that contain fish and other related resources e.g rivers reservoirs, lakes, oceans, ponds and seas.

(2 mks)

(b) **State three physical factors influencing fishing.**

- Presence of plankton.
- Presence of ocean currents.
- Nature of the coastline.
- Temperature of the water.

(first 3 x 1 = 3 mks)

SECTION B

6. Use the following table to answer questions that follow:

Number of animals in location X on the Kenya highlands in 2014.

(a) Title: Number of animals in location X ✓ 1 mk

Scale 1 cm represents 4000 animals.

Working

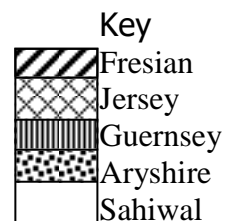
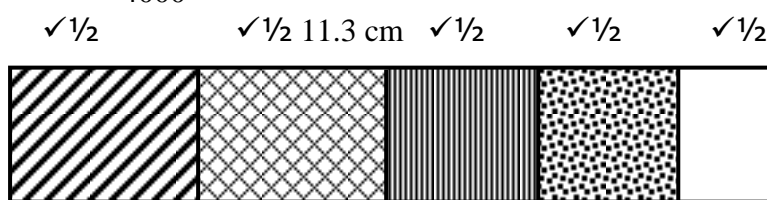
(i) Fresian $\frac{14300}{4000} \approx 3.6$ ✓ 1/2

(ii) Jersey $\frac{10830}{4000} \approx 2.7$ ✓ 1/2

(iii) Guernsey $\frac{8440}{4000} \approx 2.1$ ✓ 1/2

(iv) Aryshire $\frac{7350}{4000} \approx 1.8$ ✓ 1/2

(v) Sahiwal $\frac{4280}{4000} = 1.1$ ✓ 1/2



<u>Graph</u>	Title	- 1 mk
	Calculations	- 2 1/2 mks
	Divided rectangle	- 2 1/2 mks
	Total	= 6 mks

(ii) **State two advantages of using a divided rectangle to represent data.**

- They give a clear visual impression of individual components.
- They allow easy comparison.
- They can be used to represent a wide range of data.
- They are easy to draw.
- They are easy to read / interpret.

(first 2 x 1 = 2 mks)

(b)(i) **State three physical factors that favour dairy farming in the Kenya highlands.**

- Sufficient and reliable rainfall ensures continuous growth of fodder and constant supply of water for animals.
- Availability of well drained fertile soils ensure growth of good quality feeds.
- Low temperatures of between 16⁰C – 20⁰C are conducive for the survival of the exotic breed.
- Humid conditions favour breeding of dairy animal.

(iii) **Explain three ways in which dairy farming in Kenya is different from dairy farming in Denmark.**

- In Kenya cattle mainly depend on naturally growing grass / pasture where as in Denmark The cattle is fed on fodder and commercial feeds.
- In Kenya mechanization is limited where as in Denmark mechanization is widely used.
- In Kenya most farmers practice mixed farming while in Denmark dairy farming is highly specialized.
- In Kenya most of the dairy products are consumed by the domestic market whereas in Denmark the products are mainly exported.
- In Kenya dairy production is affected by variation's in climate were as in Denmark dairy farming is least affected by variations in climate.
- In Kenya animals graze out doors throughout the year whereas in Denmark animals are kept indoors during winter.
- In Kenya dairy co-operative movement is less developed where as in Denmark cooperative movement is highly developed.
- In Kenya artificial insemination / Extension services is limited to a few farms whereas in Denmark artificial insemination / extension services are widely used.
- In Kenya research is limited whereas in Denmark research is extensive.
- In Kenya dairy farming is mainly practiced in the high lands whereas in Denmark it is Found throughout the country.

First 3 x 2 = 6 mks)

(i) (i) **Explain four measures taken by the government of Kenya to improve beef cattle farming.**

- It encourages research / the cross breeding of traditional cattle breeds with exotic ones. This improved the quality of the animals / cross breeds are more resistant to diseases than pure exotic breeds.
- It strengthens community education to teach beef cattle farmers better livestock managements.
- It sets up demonstration ranches for farmers to learn new trends in livestock managements.
- It has constructed roads to make services accessible to farmers / make transportation of animals to markets easier.
- It encourages the replacement of the coarse grass with nutritious pasture to improve the Quality of animals.
- It has sunk bore holes / dug wells / constructed dams to provide water for the animals.
- It has revived Kenya Meat Commission. (K.M.C) a government parastatal that buys animals from farmers for slaughter.

(first 4 x 2 = 8 mks)

7.(a)(i) **Differentiate between primary and secondary industries.**

Primary industries are involved in the exploitation of natural resources to provide raw materials to the secondary industries while secondary industries change raw materials into finished goods which are ready for consumption. (2 mks)

(ii) **Name four agricultural non-food manufacturing industries in Kenya.**

- Tobacco processing.
- Soap manufacturing.
- Leather tanning.
- Sisal extraction.
- Textile manufacturing / cotton ginning.
- Pyrethrum extraction.
- Foodwear manufacture.
- Saw milling / pulp and paper making.

(first 4 x 1 = 4 mks)

(b) **Give five reasons why the development of the Jua Kali industries is being encouraged in Kenya.**

- It requires less capital to establish since it is made up of small –scale units.
- It creates employment for the growing labour force / raise to standard of living of the people.
- It does not require expensive machinery since production is manual.
- It facilitates decentralization of industries since it spread easily thus checking rural urban migration.
- It produces relatively cheap products that are affordable by many thus improving the quality of living.
- It uses locally available / scrap metals recycled raw materials thus reducing the cost of imports / conserves the environment.
- It empowers the people to initiate projects thus reducing reliance / dependence on the government, donors, self sufficiency.
- It produces products mainly for the local market thus the country save foreign exchange/ Earn foreign exchange.

(first 5 x 1 = 5 mks)

(c) **Explain four factors which influenced the location of iron and steel industry in the Ruhr Region of Germany.**

- Availability of coal. The ready supply of coal which is a basic raw material has led to the Development of the iron and steel industry.
- Presence of navigable River Rhine which provide cheap transport for the bulk raw materials and finished products.
- Availability of limestone. The Ruhr region is advantaged because limestone is found within the locality.
- Availability of iron ore. It is readily available within the Ruhr valley and the Sieg field. It is also imported from Sweden and France.
- The Ruhr region is centrally located in Europe. It has direct connection with all parts of Europe by water, railway, air and road.
- Availability of ready market from Western Europe and local market.
- Presence of other industries in the region such as food and textile industries provided industrial inertia.
- Availability of capital. Rich merchants and companies provided the capital required for the establishment of the industry.

(first 4 x 2 = 8 mks)

(d) **You intend to carry out a field study of an industry which is manufacturing goods for the local market as well as for export.**

(i) **Give two reasons why content analysis may not be a suitable method of data collection During a field study.**

- It is difficult to verify the accuracy of available data.
- The data may be outdated therefore irrelevant to current trends.

(first 1 x 2 = 2 mks)

(ii) **What information would you collect to enable you achieve the objectives of your study?**

- Sources of raw materials for the industry.
- Sources of water supply and power for the industry.
- Type of goods made at the industry.
- Where the products of the industry are sold.
- The means of transporting raw materials and people to the industry.
- The number of people employed in the industry.
- The type of skills the work force possesses.
- The source of labour.

(first 4 x 1 = 4 mks)

8.(a)(i) **Name three provinces in Canada where wheat is grown on large scale.**

- Alberta.
- Manitoba.
- Saskatchewan.

(first 3 x 1 = 3 mks)

(ii) **State four physical conditions that favour wheat farming in Canada.**

- Availability of extensive land / undulating landscape.
- Well drained soils.
- Moderate temperatures / averaging 15⁰ C.
- Sunny summer conditions towards and during harvesting.
- Moderate rainfall of about 560 mm.

(first 4 x 1 = 4 mks)

(b) **Compare wheat farming in Kenya and Canada under the following headings.**

(i) **Research.**

In Kenya, little research is being undertaken on wheat farming while in Canada there is advance research on wheat farming which produces high yielding seeds. (2 mks)

(ii) **Government policy.**

In Kenya there is no government policy on subsidies / incentives to wheat farmers while in Canada the government subsidizes the farmers in case of crop failure. (2 mks)

(iii) **Transport.**

In Kenya there is poor road / railway network in wheat growing areas while in Canada there is elaborate railway / road / water network in wheat growing areas. (2 mks)

(c)(i) **Differentiate horticulture and market gardening.**

Horticulture refers to the practice of cultivating fruits, vegetables and flowers for commercial purposes while market gardening is the intensive cultivation of vegetables and fruits for sale in the nearest urban centre. (2 mks)

(ii) **Explain five problems facing horticulture farming in Kenya.**

- High freights charges by airlines operating in Kenya make the produce expensive.
- The products face stiff competitions from other world producers such as Israel and South Africa.
- Inadequate refrigeration facilities among farmers causes a lot of wastage.
- The poor roads make delivery of products to airport difficult.
- Marketing system is not well organized this make selling of products difficult for farmers.
- Small scale farmers lack sufficient capital to enable them buy farm inputs like fertilizers, pesticides and quality seeds.
- Pests and diseases often destroy horticultural crops such as French beans and tomatoes. This reduce the value of some crops reduce the yield hence farmers incur losses.
- Recently the Europeans union imposed new market access conditions on Kenya's flowers which involves costly inspection at the various entry points.
- Some large horticultural companies exploit their workers. Working for long hours with less pay. Some times leading to unrests.

(first 5 x 2 = 10 mks)

- 9.(a) **Name two indigenous softwood trees in Kenya.**
 - Podo. - African pencil.
 - Cedar. (2 x 1 = 2 mks)
- (b) **Using the map of Kenya below to answer questions (b)(o) Name the forests reserves marked H, J and K.**
 H – Mt. Elgon. (1 mk) J – Mt. Kenya. (1 mk)
 K – Arabuko Sokoke. (1 mk)
- (ii) **State four factors that favour the growth of natural forests in the area marked L.**
 - The area receives high rainfall / 1000 – 1500 mm per year which encourages the growth of trees.
 - The area has deep well drained volcanic soils that allow the roots to penetrate deep into the ground.
 - The area has moderate to high temperatures 14^o C – 36^o C. This allows growth of a variety of trees.
 - The area is a gazetted forest hence settlement / cultivation is prohibited.
 - Some areas are steep / rugged which discourages settlement and allow for forest growth.
 - Enforcement of laws to allow reestablishment of forests.
- (c) **Explain three measures being taken by the government of Kenya to control human Encroachment on forested areas.**
 - Evicting people who have encroached forested areas in order to rehabilitate the forests
 - Educating the public / creating awareness on the importance of conserving forest to gain their support.
 - Enacting / enforcing laws to prohibit cutting of trees within the gazette areas.
 - Gazettement of forested areas to delimit the areas and reduce encroachment by the public.
 - Employing forest guard to patrol forest reserves to ensure that fires and illegal activities are reported.
 - Encouraging people to use other sources of energy in order to reduce the demand for wood fuel.
 - Fencing off forested areas to keep away any intruders into the forests.
 - Encourage people to practice agro-forestry to avoid dependence on forests.
 (first 3 x 2 = 6 mks)
- (d) **Give the difference between softwood forest in Kenya and Canada under the following Subheading.**
- (i) **Tree harvesting.**
 - In Kenya harvesting of trees is done throughout the year while in Canada harvesting is done in winter and early spring.
 - In Kenya harvesting is done selectively while in Canada clear / indiscriminate cutting of trees is done.
- (ii) **Marketing of forest products.**
 In Kenya forest products are mainly sold locally where as forest products in Canada are mainly exported.
- (e) **You plan to carry out a field study in a forest in your county.**
- (i) **Give three reasons why you need a route map for the study.**
 - It helps to avoid getting lost during the study.
 - It helps to identify the main features of study and their location.
 - It enhances faster movement during the study.
- (ii) **State two problems you are likely to experience during the field study.**
 - Field study may be hindered by weather conditions e/g sudden rains. This may interrupt the working schedule as data collection may be stopped.
 - The vehicle may experience a mechanical breakdown or it may get stuck in the mud. This may slow down the study.
 - Some areas of study may be inaccessible due to poor roads, steep slopes or due to presence of thick vegetation of water logged ground.
 - Insecurity e.g due to dangers posed by attack from wild animals.

10.(a) **Apart from windstorms, name three other environmental hazards associated with climatic conditions.** (3 mks)

- Lightning / thunderstorm.
- Floods.
- Drought / desertification.
- Landslides.

(first 3 x 1 = 3 mks)

(b)(i) **Problems caused by windstorms in Kenya.**

- Windstorms destroy trees and crops.
- They blow off roofs of houses.
- They disrupt transport and communication lines.
- They spread bush fire.
- They cause strong sea storms.
- They accelerate erosion.

(first 3 x 1 = 3 mks)

(ii) **Causes of water pollution.**

- Oil leakage from ship / trucks.
- Industrial effluents when discharged into rivers / lakes.
- Washing away into river / lakes chemicals fertilizers / pesticides / insecticides.
- Dumping of solid wastes into water courses/
- Washing / bathing in rivers / lakes.
- Surface run off / soil erosion into water bodies.

(first 5 x 1 = 5 mks)

(c) **Explain four methods used to control floods in Kenya.**

- Dykes are constructed along river banks / levees on rivers to increase the heights in order to prevent water from overflowing.
- Dredging of river channels to deepen and widen them to make it possible for them to accommodate excess water to the amount of water discharged.
- Utilising excess water for irrigation as in Mwea Irrigation Scheme and Perkerra Scheme.
- Re-directing of a river to control its wild flow.
- Construction of dams along major flooding rivers such as along upper river Tana.

(first 4 x 2 = 8 mks)

(d) **Explain the significance of conserving the environment.**

- To ensure effective utilization of the available resources in order to avoid wastage / depletion.
- To sustain resources needed by human kind for / economic benefits.
- To reduce pollution which causes diseases to animals / plants resulting into good health/ prolonged life / reduced global warming.
- To protect the endangered plants / animal species. Preserving them for posterity.
- To preserve the scenic value / beauty of landscape / wildlife to promote tourism.
- To protect the water catchment areas / wetlands in order to preserve water sources / maintain water cycle.

(first 3 x 2 = 6 mks)

