

Name _____ Index No. _____

Candidate's Signature _____

Date _____

312/1
GEOGRAPHY
PAPER 1
JULY / AUGUST 2014
2 ¾ HOURS

KIBWEZI DISTRICT FORM 4 INTER-SCHOOLS EXAMINATION 2014
Kenya Certificate of Secondary Education
GEOGRAPHY
PAPER 1
2 ¾ HOURS

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 questions must be written in the answer booklet provided.
- (e) This paper consists of four printed pages.
- (f) Candidates should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.

This paper consists of 4 printed pages

Turn Over

SECTION A

Answer all the questions in this section.

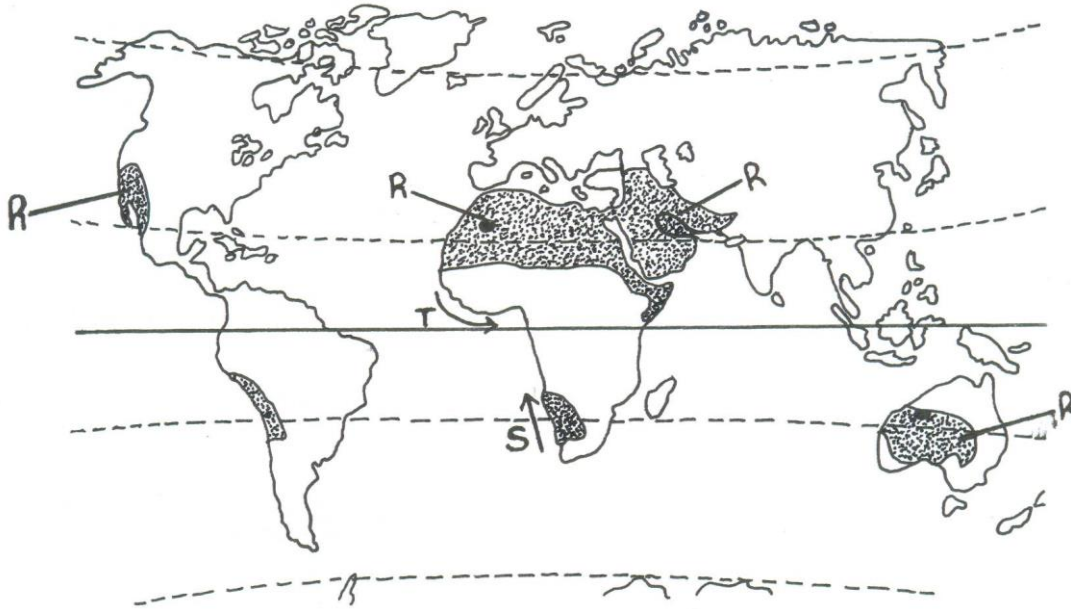
1. (a) (i) Give the two dates in a year during which the number of hours of darkness is equal in both the North and South pole. (2 marks)
(ii) Describe how the atmosphere is heated through conduction. (3 marks)
2. (a) Define hydrological cycle. (2 marks)
(b) Differentiate between infiltration and percolation. (2 marks)
(c) State one way in which the hydrological cycle is of significance. (1 mark)
3. (a) Define the term “faulting.” (2 marks)
(b) Apart from the rift valley, name three other relief features that were formed as a result of faulting. (3 marks)
4. (a) State three causes of glacial deposition. (3 marks)
(b) Name two features resulting from glacial erosion in highlands. (2 marks)
5. (a) What is natural vegetation? (2 marks)
(b) State three characteristics of the Mediterranean type of vegetation. (3 marks)

SECTION B

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

6. Study the map of Karatina 1 : 50,000 provided and answer the following questions.
 - (a) (i) Convert the ratio scale of the map extract into a statement scale. (1 mark)
(ii) Calculate the area of the forest in Kirinyaga District.
(Give your answer in km²) (2 marks)
(iii) Name the other district represented on this map extract apart from Kirinyaga. (1 mark)
 - (b) Explain three factors that have influenced settlement in the area covered by the map. (6 marks)
 - (c) (i) Enlarge the part of the map bounded by the Eastings 83 and 86 and Northings 45 and 47 by a scale factor of 2. On the enlarged map mark and label (4 marks)
 - (i) Forest
 - (ii) River Sagana
 - (iii) Church
 - (ii) Describe the relief of the area covered by the map. (5 marks)
 - (d) (i) Citing evidence from the map, give two reasons why the area covered by the map is suitable for coffee growing. (4 marks)
(ii) Apart from agriculture, name two other economic activities carried out in the area covered by the map. (2 marks)

7. Use the map below to answer questions (a) and (b).



- (a) Name:
- (i) The type of climate found in the shaded area marked R. (1 mark)
- (b) (i) Name the ocean currents marked S and T. (2 marks)
(ii) Describe the influence of current T to the surrounding area. (3 marks)
- (c) Describe the characteristic of the type of climate found in the shaded area marked R. (8 marks)
- (d) Explain how the following factors influence climate.
(i) Configuration of the coastline. (4 marks)
(ii) Development of urban centres. (2 marks)
- (e) You are required to carry out a field study to determine the relationship between climate and vegetation in your district.
(i) Give two reasons why sampling would be appropriate for this field study. (2 marks)
(ii) State three methods you would use to record data during the field study. (3 marks)
8. (a) Name two types of sub-merged highland coasts. (2 marks)
- (b) Explain how the following factors determine the effectiveness of wave transportation along a coast.
(i) Nature of materials transported by waves. (2 marks)
(ii) Nature of the coastline. (2 marks)
- (c) Describe three process involved in wave erosion. (6 marks)
- (d) (i) State four conditions that favour the growth of coral. (4 marks)
(ii) Explain two ways in which coral contribute to the economic development in Kenya. (4 marks)

- (e) You are planning to carry out a field study on the depositional features along the coast of Kenya.
- (i) State three objectives you would formulate for your study. (3 marks)
 - (ii) State two activities you would carry out during the field study. (2 marks)
9. (a) (i) Describe how lava-dammed lake are formed. (4 marks)
- (ii) Explain how lakes influence the climate of the surrounding areas. (6 marks)
- (b) Explain why some lakes in the rift valley of Kenya have fresh water. (4 marks)
- (c) State five economic uses of lakes. (5 marks)
- (d) Explain ways in which human activities have affected lakes negatively in Kenya. (6 marks)
10. (a) Explain how the following factors influence the existence of groundwater.
- (i) Slope. (2 marks)
 - (ii) Level of saturation of the ground. (2 marks)
- (b) State three sources of underground water. (3 marks)
- (c) (i) State three conditions necessary for the development of a karst landscape. (3 marks)
- (ii) Name two surface features that form in limestone areas. (2 marks)
- (iii) Describe how a limestone pillar is formed. (7 marks)
- (c) Explain three ways in which limestone landscapes influence human activities. (6 marks)

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PAPER 1

MARKING SCHEME

1. (a) (i) Give the two dates in a year during which the number of hours of darkness is equal in both the North and South pole. (2 marks)
- 21st March
- 23rd September
Each 1 mk (2 x 1 = 2 marks)
- (ii) Describe how the atmosphere is heated through convection. (3 marks)
Air in contact with earth is heated ✓ and becomes less dense, the heated air then rises to higher levels transferring heat ✓ with it to the upper atmosphere. (3 marks)
2. (a) Define hydrological cycle. (2 marks)
Is the endless interchange of water between the sea, the atmosphere and the land ✓✓
Double ticks (2 marks)
- (b) Differentiate between infiltration and percolation.
Infiltration refers to seepage into the ground of water through pores, joints and cracks found between rock particles while percolation is the downward and side way movement of infiltrated water by gravity inside the ground. ✓✓
Double ticks ✓✓ (2 marks)
- (c) State one way in which the hydrological cycle is of significance. (1 mark)
- Water is important for life to exist on the earth.
- The moisture in the atmosphere is important in absorbing terrestrial radiation.
- Hydrological cycle is significant in maintaining atmospheric energy.
Any 1st 1 (1 x 1)
3. (a) Define the term faulting (2 marks)
Is the cracking or fracturing of crustal rocks caused by tectonic forces ✓✓
Double ticks ✓✓ (2 marks)
- (b) A part from the rift valley, name three other relief features that were formed as a result of faulting. (3 marks)
- Block / horst mountain
- Tilt block
- Fault scarp

Any 1st three (3 x 1) marks

This paper consists of 8 printed pages

Turn Over

4. (a) State three causes of glacial deposition (3 marks)
- Excess amount of moraine.
 - Melting caused by excessive weight of ice.
 - Climate change resulting in warming of the atmosphere.
 - Gentle slopes or flat land.
 - Friction between the moving ice and the ground.
- Any 1st three (3 x 1)
- (b) Name two features resulting from glacial erosion in highlands. (2 marks)
- Cirque (corrie)
 - Rock basin
 - Arete
 - Pyramidal peak
 - Hanging valley
 - Glacial trough
- Any 1st two (2 x 1) marks
5. (a) What is natural vegetation. (2 marks)
- Are plants that develop without interference and modification by human activities. ✓✓ (2 marks)
- (b) State three characteristics of the Mediterranean type of vegetation. (3 marks)
- Some plants are evergreen.
 - Vegetation is adapted to the long hot and dry summers.
 - Woody shrubs are common in very dry areas.
 - Some plants have thick barks.
 - Some plants have long roots.
 - Some trees are deciduous.
 - Some trees have small spiny leaves while others have thick skinned leaves.
 - Grasses dry up during summer and germinate during winter.
 - Some plants have large and fleshy bulbous roots.
- Any first 3 (3 x 1)

SECTION B

6. (a) (i) Convert the ratio scale of the map extract into a statement scale.
- 1cm represents 0.5km
- (ii) Calculate the area of the forest in Kirinyaga District. Give your answer in km².
- $$\begin{aligned} \text{Area} &= 10 + \frac{41}{2} \\ &= 10 + 20.5 \\ &= 30.5 \pm 0.5\text{km}^2 \text{ (} 30\text{km}^2 \text{ or } 30.5\text{km}^2 \text{ or } 31\text{km}^2 \text{)} \end{aligned}$$
- (iii) Name the other district represented on this map extract apart from Kirinyaga.
- Nyeri District
- (b) Explain three factors that have influenced settlement in the area covered by the map.
- Forest
- There are very few settlements in the forested areas.
- Relief
- There are no settlements on very steep slopes. Many settlements are found on gently sloping land especially on the southern part of the area.

Drainage

- There are no settlement very near to the rivers. There are no settlements in the papyrus swamp.

Urban centres

- There are nucleated settlements in the urban centres e.g in Karatina Town

Transport network

- There are liner pattern of settlements along the roads.

Any other

Factor – 1

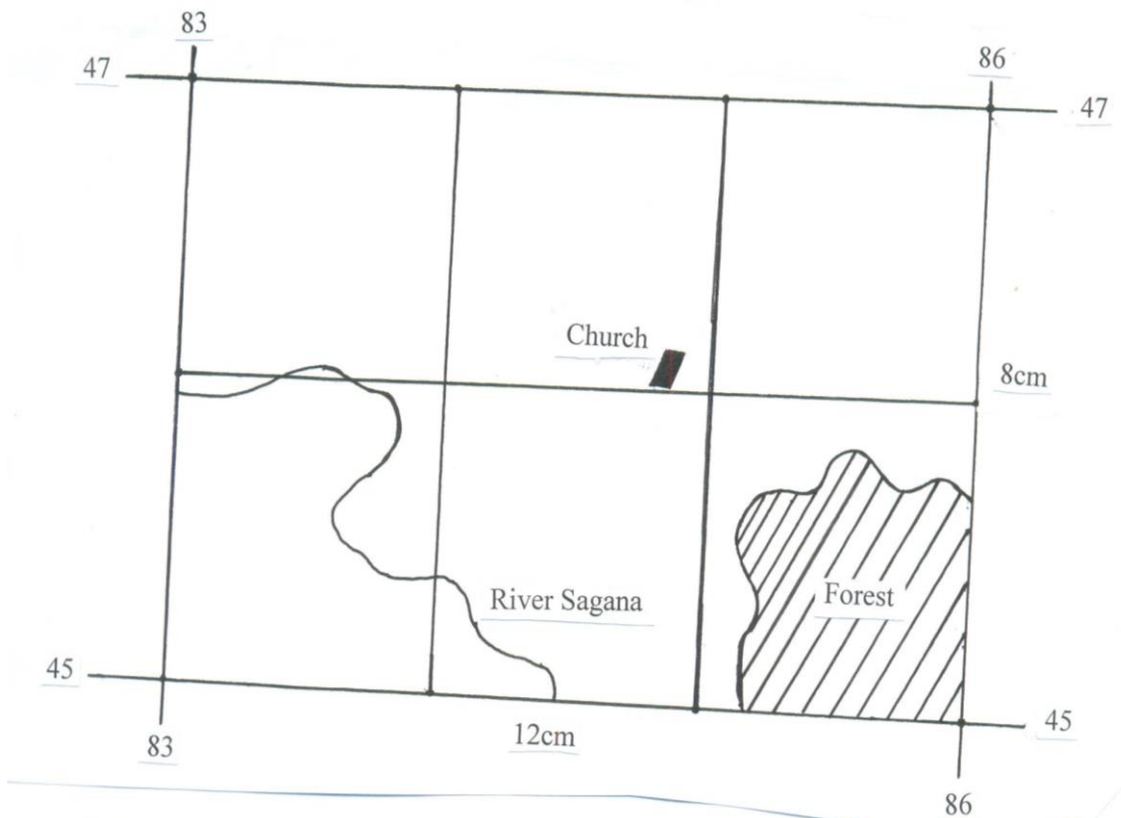
Explanation 1 (2 x 3 = 6 marks)

(c) (i) Enlarge part of the map bounded by the Eastings 83 and 86, and Northings 45 and 47 by a scale factor of 2. On the enlarged map and label

(i) Forest

(ii) River Sagana

(iii) Church



Rectangle	1
Forest	1
Church	1
River Sagana	1
Total	= 4 marks

(ii) Describe the relief of the area covered by the map.

- The area is a highland region.
- The highest altitude of the land is approximately 10,050 feet above the sea level.
- There are hills e.g in grid square 0450.

- There are steep slopes especially in the river valleys.
- The landscape is dissected by rivers and their tributaries.
- The general slope of the land is from North to South.

Any other

Any first five (5 x 1 = 5 marks)

(d) (i) Citing evidence from the map, give two reasons why the area covered by the map is suitable for coffee growing.

- High rainfall – evidenced by permanent rivers and forests.
- Volcanic soils – Evidenced by Mt. Kenya.
- Coffee processing – evidenced by coffee factories
- Presence of market – evidenced by many settlements.
- Presence of labour – evidenced by many settlements.
- Good transport network – evidenced by all weather roads and all weather road; bound surface, loose surface etc.

Any other

Any first two (2 x 2 = 4 marks)

(ii) A part from agriculture, name two other economic activities carried out in the area covered by the map.

- Trade
- Transport
- Forestry
- Fishing

Any first two (2 x 1 = 2 marks)

7. Use the map below to answer questions (a) and (b)

(a) Name

(i) The type of climate found in the shaded area marked R. (1 mark)

- Tropical desert climate (1 mark)

(b) (i) The ocean current marked S and T (2 marks)

S – Benguela (cold)

T – Guinea (warm)

Each 1 mk (2 x 1) marks

(ii) Describe the influence of current T to the surrounding area. (3 marks)

- Warm currents have warming effects to the adjacent land and sea. This generally results in raising temperatures over land.
- Onshore winds are warmed, pick moisture from the sea; this increases humidity on the land mass / onshore winds deposit rain on adjacent land.

(3 marks)

(c) Describe the characteristic of the type of climate found in the shaded area marked R (8 marks)

- Rainfall is low, approximately 250mm per annum.
- There are large diurnal ranges.
- Humidity is low and the evapotranspiration rate very high.
- Skies are cloudless.
- The rainfall is unreliable or sporadic.
- Flash floods and thunder storms are common when it rains.
- Temperatures at night falls below 0°C.

- No real defined rainy season.
 - The winds are warm and dry hence bring no rain.
 - Mean monthly temperatures are very high approximately 29⁰C.
- Any 8 (8 x 1)

(d) Explain how the following factors influence climate

(i) Configuration of the coastline. (4 marks)

Irregular coastlines receive more rainfall because the prevailing winds blow on-shore carrying moisture inland ✓✓

Regular coastline receive little rainfall because. The trade winds blow parallel to the coast. ✓✓
 Straight or regular coastlines result in less land area coming into contact with water. The rising of temperatures at night and lowering of temperatures during the day are not commonly experienced and reverse is true in irregular coastline ✓✓

Any two (2 x 2) marks

(ii) Development of urban centres (2 marks)

- Smoke from factories and vehicles can lead to formation of fog which reduces visibility and raise temperatures ✓✓
- Presence of buildings and planned roads within urban set-up change the direction of wind by making it blow along the streets.

(e) You are required to carry out a field study to determine the relationship between climate and vegetation in your district.

(i) Give two reasons why sampling would be appropriate for this study. (2 marks)

- It saves time
- Less expensive
- Reduces bias in data collection

Any 1st two (2 x 1) marks

(ii) State three methods you would use to record data during the field study. (3 marks)

- Taking notes.
- Tabulating by filling in samples.
- Mapping and field sketching.
- Photographing vegetation.
- Taking vegetation samples.
- Filling in questionnaires.

Any 1st three (3 x 1) marks

8. (a) Name two types of sub-merged coasts. (2 marks)

- Ria
- Fiord
- Longitudinal coasts

1st two (2 x 1) marks

(b) Explain how the following factors determine the effectiveness of wave transportation along a coast.

(i) Nature of materials transported by waves. (2 marks)

- Heavy boulders drop to the sea bed after breaking off from the cliffs. Larger stones which can't be lifted by waves are rolled up and down on the shore by waves. ✓✓
- Lighter particles such as those of sand can be carried over very long distances. ✓✓

- The dissolved load remains in water until it's precipitated or evaporated √√
Any one (1 x 2)

(ii) Nature of the coastline. (2 marks)

- Coastlines aligned obliquely to the direction of the breaking waves favour transportation of materials longshore. √√
- Coastlines that lie transversely to the path of the waves, the waves move the materials back and forth. √√

Any one 1 x 2

(c) Describe three process involved in wave erosion. (6 marks)

Solution √P. The sea water dissolves soluble minerals in the rocks which it is in contact with on the seabed as well as on the seabed √E.

Corrasion √P. Rock fragments carried by waves are hurled against the cliff face. Chipping off bits of rock from the cliff √E

Attrition √P. The materials carried by waves continue to hit against each other and in the process they are won out √E

Hydraulic action √P. Direct wave force against a cliff, shatter the rocks √E

P – Process (3 marks)

Any first three (2 x 3)

E – Explanation (3 marks)

NB: Process can score on its own but explanation can't.

(d) (i) State four conditions that favour the growth of coral (4 marks)

- The water should be shallow.
- The water must be clear and salty
- The sea water should be warm. (Temperatures should be between 20⁰C and 29⁰C)
- The water should be well oxygenated.
- There should be plentiful supply of plankton on which polyps feed.
- The polyps must be submerged.

1st four (4 x 1) marks

(ii) Explain two ways in which coral contribute to the economic development in Kenya (4 marks)

- Coral features attract tourists who bring foreign exchange into the country.
- Coral reefs provide breeding grounds for fish promoting fishing industry.
- Coral rocks provide limestone which is a raw material for the manufacture of cement / building houses.
- Some coral are extracted and sold as ornaments.

(e) You are planning to carry out a field study on the depositional features along the coast of Kenya.

(i) State three objectives you would formulate for your study. (3 marks)

- To investigate
- To identify ...
- To find out ...

NB: Objectives should start with the above stem and related to the topic of study

Mark any three relevant objectives

Any 1st three (3 x 1) marks

(ii) State two activities you would carry out during the field study. (2 marks)

- Observation.
- Making / taking notes.
- Taking photographs.

- Breaking coastal rocks.
- Drawing of sketches and maps.
- Filling in questionnaires.
- Collecting and labeling samples.
- Asking and answering questions.

Any 1st two (2 x 1) marks

9. (a) (i) Describe how lava-dammed lake are formed. (4 marks)

Lava from erupting volcano flows downhill into a river valley ✓; It cools and solidifies filling the valley ✓; It forms a wall of solid lava which may block a river ✓; water accumulates behind this barrier to form a lake ✓.

Each point 1 mark (4 x 1) marks

(ii) Explain how lakes influence the climate of the surrounding areas. (6 marks)

- Evaporation of lake water increases the relative humidity over the surrounding areas ✓✓
- The moisture from lakes when picked by winds may lead to increased precipitation over the land. ✓✓
- The presence of lake results in the development of pressure differences between land and lake breezes; the breezes may divert or reverse the prevailing wind.
- Winds from the lake to the land generally lower the temperatures over the land, making the land cooler. ✓✓

Any three (3 x 2) marks

(b) Explain why some lakes in the rift valley of Kenya have fresh water. (4 marks)

- Some have surface outlets like rivers through which excess salt deposits are carried out.
- Some lakes have underground outlets which drain excess salts.
- Some lakes experience low rates of evaporation.
- Some lakes are located in areas of high rainfall which keeps water fresh.
- Some lakes have regular influx of fresh water from rivers which dilute the salts.

Any four points (4 x 1) marks

(c) State five economic uses of lakes. (5 marks)

- Some lakes have attractive scenery which attract tourists.
- Some lakes provide water for irrigation in agricultural sector.
- Some lakes are a source of fish stimulating fishing activities.
- Some lakes are sources of minerals.
- Some lakes are harnessed to generate hydro-electric power.
- Some lakes provide water for domestic and industrial uses.

Any 1st five (5 x 1) marks

(d) Explain ways in which human activities have affected lakes negatively in Kenya. (6 marks)

- Destruction of vegetation in the water catchment areas interferes with hydrological cycle which may lead to lake drying up.
- Damming of feeder rivers for irrigation ✓✓ and H.E.P leads to lowering of the volume of the water reaching the lake ✓✓
- Deforestation and poor agricultural practices cause soil erosion. This leads to siltation which reduces the depth of the lake ✓✓
- Agrochemicals washed from the land may accumulate in the lake. These promotes weed blossoming in the lake ✓✓
- Disposal of industrial and domestic waste may cause death of aquatic life. ✓✓

(Doubled ticks) Any three (3 x 2) marks

10. (a) Explain how the following factors influence the existence of ground water.
- (i) Slope
- Infiltration is greater on flat areas since water is likely to remain in one place for a long time.
 - On steep slopes, a lot of water is lost through surface run-off with little infiltration to the ground ✓✓
- Any one (1 x 2) marks
- (ii) Level of saturation of the ground (2 marks)
- When the ground is very dry, the rate of water infiltration is high since all air spaces in it are wide open ✓✓
- double ticks (1 x 2) marks
- (b) State three sources of underground water. (3 marks)
- Rain water
 - Melt water
 - Magmatic water
 - Lake and sea water
- Any 1st three (3 x 1) marks
- (c) (i) State three conditions necessary for the development of a karst landscape. (3 marks)
- The rock should be hard and well jointed.
 - The surface rock and rock beneath should be thick limestone, dolomite or chalk.
 - The water table in the limestone rock should be deep below the surface.
 - The climate should be hot and humid.
- Any 1st three (3 x 1) marks
- (ii) Name two surface features that form in limestone areas. (2 marks)
- Grikes and clints.
 - Swallow holes / sink holes.
 - Dry / valleys
 - Uvala
 - Polje
 - Gorges
 - Dolines/Dolina
- Any 1st two (2 x 1) marks
- (iii) Describe how a limestone pillar is formed. (7 marks)
- Water on the surface percolates through the rocks of the roof a limestone cave.
 - As each drop hangs on the roof of the cave, some water evaporates depositing tiny crystals of calcium carbonate on the roof of the cave. This over time forms a column of limestone that grows from the roof downwards (stalactite).
 - Some of the water drips onto the floor of the cave. The water spreads out and begins to evaporate leaving behind crystals of calcium carbonate.
 - More water falls on the crystals, evaporates and deposits more crystals on top of the first lot directly below a stalactite.
- *This takes place repeatedly and the crystals grow upwards (Stalagmite) until they meet the stalactite forming a pillar like structure known as limestone pillar.
- Any point (7 x 1) marks
- NB: The point in Asterik must be mentioned for a candidate to score maximum marks 7
- (c) Explain three ways in which limestone landscapes influence human activities. (6 marks)
- Blocks of limestone rocks are used for building houses ✓✓
 - Limestone is a raw material for the manufacture of cement. ✓✓
 - The limestone landscape discourages settlement because of its rugged nature and scarcity of surface water ✓✓
 - The surface and underground features of karst scenery are beautiful hence attract tourists ✓✓

Any first three (3 x 2) marks

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Candidate's Signature _____

Date _____

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PAPER 2
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2 ¾ HOURS

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PAPER 2
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INSTRUCTIONS TO CANDIDATES

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Turn Over

SECTION A (25 MARKS)
Answer all questions in this section.

1. (a) Define mining. (2 marks)
(b) Give three ways in which minerals occur. (3 marks)
2. (a) Distinguish between forests and forestry. (2 marks)
(b) State three problems facing forestry in Kenya. (3 marks)
3. (a) Name two tea growing areas West of the Rift Valley in Kenya. (2 marks)
(b) State three physical conditions necessary for tea growing in Kenya. (3 marks)
4. (a) Give three reasons why road transport is commonly used in Africa than rail transport. (3 marks)
(b) Name two canals found in Africa and their respective countries. (2 marks)
5. (a) What is an industry? (2 marks)
(b) State three characteristics of cottage industry in India. (3 marks)

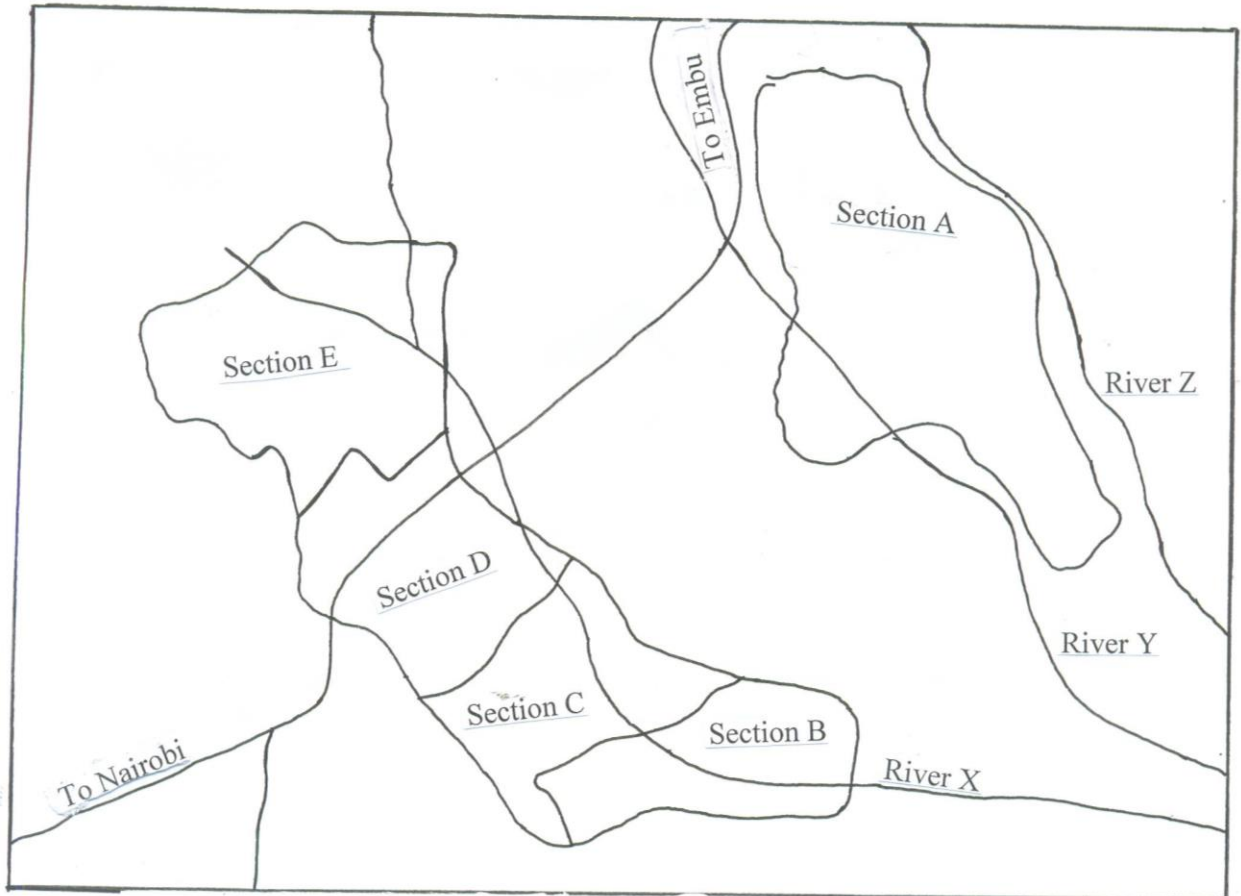
SECTION B (75 MARKS)
Answer question 6 and any other two questions.

6. (a) The table below shows East Africa's Beef Export in 000' tones from 1998 – 2001

Country	1998	1999	2000	2001
Kenya	30	41	36	25
Uganda	20	25	27	29
Tanzania	52	60	65	70

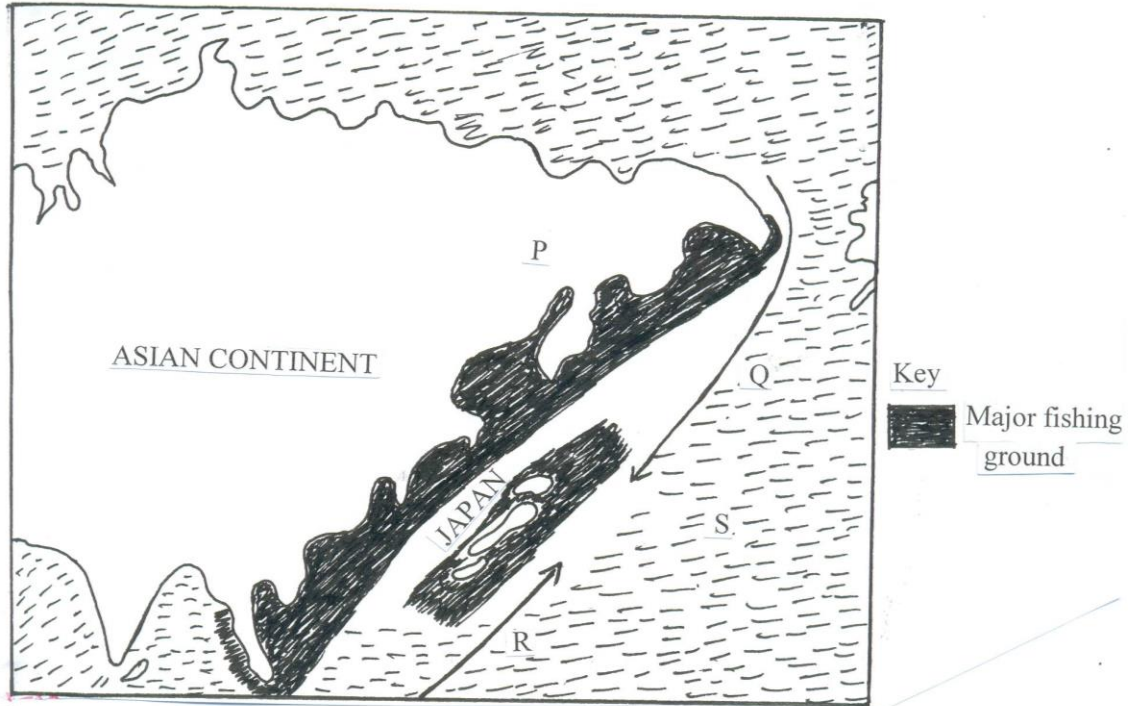
- (i) Draw a compound bar graph to represent the above data. Use a scale of 1cm to represent 10 thousand tones on the vertical axis and 2cm to represent the width of each bar leaving a space of 1cm between bars. (7 marks)
 - (ii) State two limitations of compound bar graph in representing data. (2 marks)
 - (iii) State three differences between beef exports in Kenya and Tanzania. (3 marks)
 - (iv) Which year had the highest exports of beef and by how many tones in the three countries? (2 marks)
- (b)
- (i) Name two exotic beef cattle breeds reared in Kenya. (2 marks)
 - (ii) Explain two significance of beef farming in Kenya under the following sub headings. (4 marks)
 - Foreign exchange
 - Industrialisation
- (c)
- (i) State two similarities between beef farming in Kenya and Argentina. (2 marks)
 - (ii) State three steps taken by the government of Kenya to improve beef farming. (3 marks)
7. (a)
- (i) Differentiate between land reclamation and land rehabilitation. (2 marks)
 - (ii) State four methods used to reclaim land in Kenya apart from irrigation. (4 marks)

- (b) The map below shows Mwea Irrigation Scheme in Kirinyaga District of Kenya. Use it to answer questions that follow.



- (i) Identify the rivers marked X and Y. (2 marks)
- (ii) Identify the sections marked A, C and E where rice is grown in Mwea Irrigation Scheme. (3 marks)
- (iii) State three human factors which influenced the location of Mwea Irrigation Scheme. (3 marks)
- (c) Explain the problems facing Irrigation farming in Kenya under the following sub headings. (6 marks)
- Human diseases
 - Siltation
 - Floods
- (d) (i) Name two projects in Netherlands which were aimed at reclaiming land from the sea / estuaries. (2 marks)
- (ii) State three benefits of land reclamation in the Netherlands. (3 marks)
8. (a) (i) What is fishing ? (2 marks)
- (ii) Explain three factors on how the nature of a coastline affects fishing. (6 marks)
- (b) (i) State three types of fishing carried out in Kenya. (3 marks)
- (ii) Name four lakes in Tanzania where inland fishing takes place. (4 marks)
- (iii) Describe seining as a modern method of fishing. (3 marks)

- (c) The map below shows the fishing ground East of the Asian Continent. Use it to answer the questions that follow.



(i) State the name given to the major fishing ground shown on the map.

- (i) State the name given to the major fishing ground shown on the map. (1 mark)
- (ii) Identify the ocean currents marked Q and R. (2 marks)
- (iii) Name the country marked P. (1 mark)
- (iv) Identify the ocean marked S. (1 mark)
- (v) Describe two physical factors favouring fishing in Japan. (2 marks)
9. (a) (i) State two types of domestic trade. (2 marks)
- (ii) Explain three factors influencing internal trade in Kenya. (6 marks)
- (b) Outline four objectives of COMESA. (4 marks)
- (c) State three measures that Kenyan government has taken to reduce her unfavourable balance of trade. (3 marks)
- (d) Form four students from a certain secondary school in Kibwezi District conducted a field study on trade in their local town
- (i) State three methods of data collection they are likely to have used during the field study. (3 marks)
- (ii) State three importance of a work schedule during their field study. (3 marks)
- (iii) State four significance of trade they are likely to have noted during their field study. (4 marks)
10. (a) (i) Differentiate between environmental management and environmental conservation. (2 marks)
- (ii) State and explain three importance of environmental management and conservation. (6 marks)
- (b) (i) State four natural environmental hazards apart from floods. (4 marks)
- (ii) Give four measures that are used to control floods in Kenya. (4 marks)
- (c) A Geography class from Makueni County carried out a field study on environmental management and conservation in Nairobi City.
- (i) State two importance of a pre-visit to the field study. (2 marks)
- (ii) Identify four environmental management and conservation measure they are likely to have identified in Nairobi. (4 marks)
- (iii) State three problems they are likely to have encountered during the field study. (3 marks)

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PAPER 2

MARKING SCHEME

SECTION A

1. (a) Define mining.
Mining is the process of extracting valuable minerals both liquid and solid from the earth's crust ✓✓
Double ticks (2 marks)
- (b) Give three ways in which minerals occur.
- Veins and lodes
- Alluvial deposits
- Weathering products
- Seams or layers
Any first three (3 x 1 = 3 marks)
2. (a) Distinguish between forest and forestry
Forest is a continuous growth of trees and undergrowth covering a large tract of land while forestry is the science of developing and managing forests including cultivating them. ✓✓
Award double ticks for correct difference with the word "while" (2 marks)
- (b) State three problems facing forestry in Kenya.
- Fire outbreaks
- Enroachment of forest land.
- Game damage e.g elephants damage trees
- Pest and diseases e.g aphids.
- Over exploitation
- Poor management
- Excisions e.g some forests have been turned into game reserves and public utility.
Any first three (3 x 1 = 3 marks)
3. (a) Name two tea growing areas West of the Rift Valley in Kenya.
- Kericho
- Nandi
- Kakamega
- Cherangani Hills
Any first two (2 x 1 = 2 marks)

This paper consists of 11 printed pages

Turn Over

(b) State three physical conditions necessary for tea growing in Kenya.

- Temperature of around 21⁰C.
- Rainfall of over 1500mm well distributed throughout the year.
- Altitude of between 1000m to 1700m above sea level.
- Soils which are deep, well drained and slightly acidic.

Any first three (3 x 1 = 3 marks)

4. (a) Give three reasons why road transport is commonly used in Africa than rail transport.

- Road transport is more flexible than railway transport.
- Road transport can reach more destinations or areas.
- Road transport is suitable for short distances.
- Railway lines are more expensive to build and maintain.
- Mismanagement of railway corporations have made railway transport inefficient.
- Road transport is faster than railway transport in most African countries.

Any first three (3 x 1 = 3 marks)

(b) Name two canals found in Africa and their respective countries.

- Jonglei in South Sudan.
- Suez in Egypt.

Each one mark (2 x 1 = 2 marks)

5. (a) What is an industry?

An industry is an enterprise which makes it possible for people to produce goods and services for their personal use or sale. √√

(b) State three characteristics of cottage industry in India.

- The industry uses simple tools in production.
- Management is at family level.
- The products are sold locally.
- The raw materials are obtained locally.
- It mainly uses human labour.
- It requires little capital to set up.
- The craftsmen are highly skilled.
- Is labour intensive.
- The industry is widely spread throughout the country.

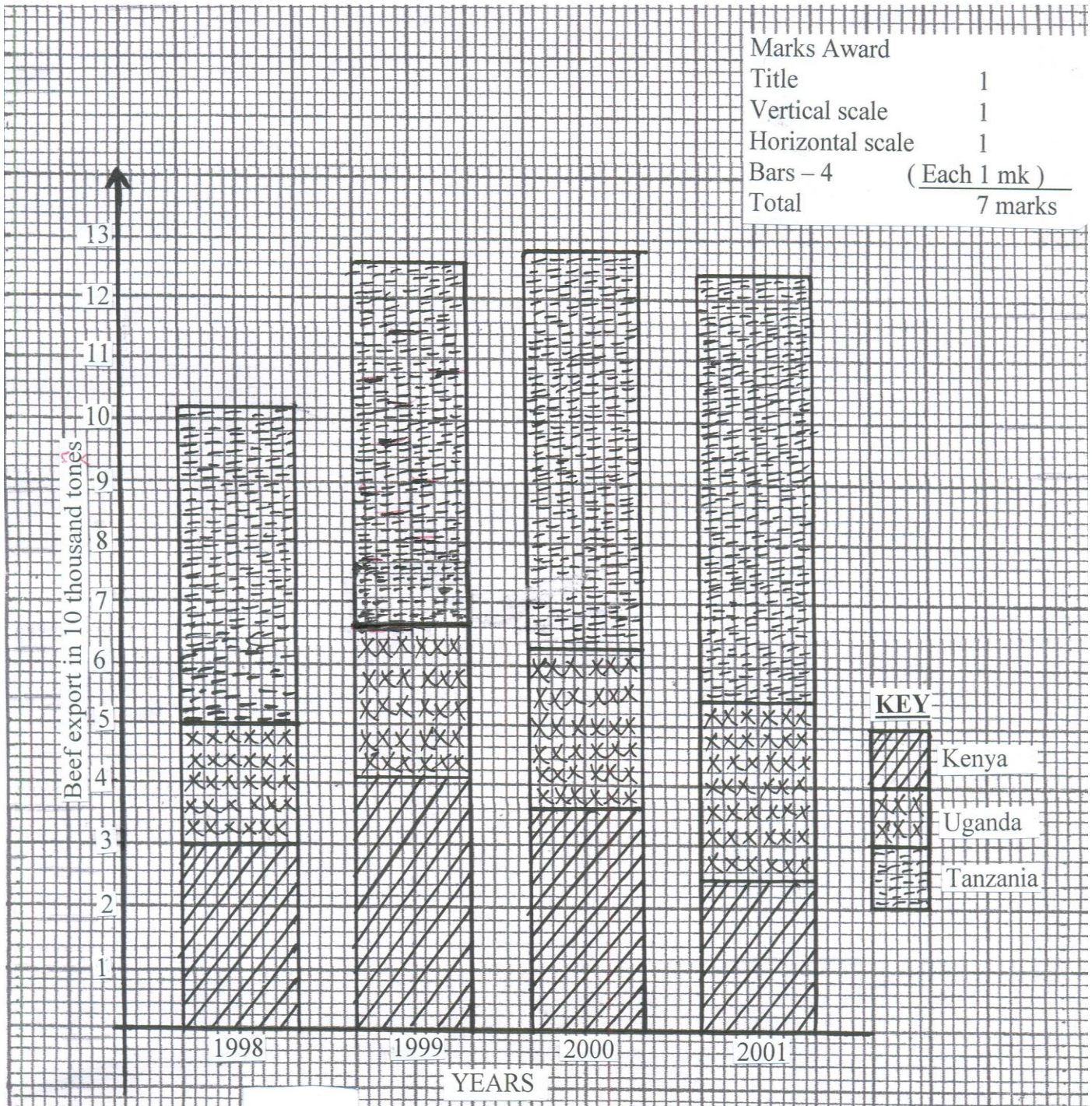
Any first three (3 x 1 = 3 marks)

SECTION B

6. (a) (i) Draw a compound bar graph to represent the above data. Use a scale of 1cm to represent 10 thousand tones on the vertical axis and 2cm to represent the width of each bar leaving a space of 1cm between bars.

Country	1998	CT	1999	CT	2000	CT	2001	CT
Kenya	3.0	3.0	4.1	4.1	3.6	3.6	2.5	2.5
Uganda	2.0	5.0	2.5	6.6	2.7	6.3	2.9	5.4
Tanzania	5.2	10.2	6.0	12.6	6.5	12.8	7.0	12.4

East Africa's Beef Export in 000' tones from 1998 – 2001



(ii) State two limitations of compound bar graph in representing data.

- It is difficult to construct.
- It involves a lot of calculations which can be easily missed.
- Variables of different kinds are placed on one bar giving a false impression.
- There are difficulties in interpreting the graph for the bars are cumulative.
- Very many items cannot be represented using a compound graph.

Any first two (2 x 1 = 2 marks)

(iii) State three differences between beef exports in Kenya and Tanzania

- Tanzania had more beef exports than Kenya over the whole period.
- Tanzania beef exports increased over the years while those of Kenya were generally declining.
- Kenya had the highest beef exports in 1999 while Tanzania was 2001
- Kenya had the lowest beef exports in 2001 while Tanzania was 1998

Any first three (3 x 1 = 3 marks)

(iv) Which year had the highest export of beef and by how many tonnes in the three countries ?
2000 – 128 thousand tonnes / 128,000 tonnes.

(b) (i) Name two exotic beef cattle breeds reared in Kenya.

- Hereford
- Galloway
- Shorthorn
- Charolais
- Aberdeen Angus

Any first two (2 x 1 = 2 marks)

(ii) Explain two significance of beef farming in Kenya under the following subheadings

Foreign exchange

- Kenya exports beef products and livestock to other countries hence earning foreign currencies. (2 marks)

Industrialisation

- Beef farming leads to growth of other related industries such as meat canning, freezing industries, animal feeds and abattoirs hence leading to industrialization in Kenya. (2 marks)

(c) (i) State two similarities between beef farming in Kenya and Argentina

- The beef animals kept in both countries are similar e.g Aberdeen Angus, Short horn, Galloway etc.
- Both countries keep both exotic and local breeds.
- Both countries keep beef cattle for both local consumption and export market.
- Modern farming practices are employed in both countries e.g cross breeding, artificial insemination and research into livestock diseases.
- Beef farming in both countries is practiced mainly on extensive modulating landscapes.

Any first two (2 x 1 = 2 marks)

(ii) State three steps taken by the government of Kenya to improve beef farming.

- Introduction of pedigree British cattle in some suitable districts or cross-breeding them with indigenous breeds.

- Teaching and encouraging farmers to adopt modern methods of rearing and breeding beef cattle.
- Providing water by building dams and reservoirs.
- Ploughing and resowing pasture land with special strains of drought resistant or more nourishing grasses.
- Funding research in animal disease control and management, education programmes and drug supply.
- Providing extension officers to give the farmers the necessary advice.
- Decontrolling the price of meat products.

Any first three (3 x 1 = 3 marks)

7. (a) (i) Differentiate between land reclamation and land rehabilitation.

Land reclamation is the practice by which a less useful land is converted into more useful land while land rehabilitation is the process of recovery / restoration of land which has been misused and destroyed through human activities. ✓✓

Double ticks (2 marks

(ii) State four methods used to reclaim land in Kenya apart from irrigation.

- Drainage of swamps.
- Tsetse fly control and clearing of jungles.
- Afforestation.
- Filling of quarries.
- Control of floods.
- Application of manure.
- Planting of drought resistant crops.

Any first four (4 x 1 = 4 marks)

(b) (i) Identify the rivers marked X and Y

X – River Thiba

Y – River Muru Bara

Each one mark (2 x 1 = 2 marks)

(ii) Identify the sections marked A, C and E where rice is grown in Mwea Irrigation Scheme

A – Tebere

C – Wamumu

E – Mwea

Each one mark (3 x 1 = 3 marks)

(iii) State three human factors which influenced the location of Mwea Irrigation Scheme.

- The area was uninhabited as it did not attract settlers due to its semi-arid conditions.
- There was availability of labour due to the presence of former Mau Mau detainees.
- Desire by the colonial government to start off a project that could offer employment to the political detainees during the 1952 State of Emergency.
- The area is located near major urban centres such as Nairobi, Embu, Thika, Nyeri and Kerugoya which provide immediate markets for rice.

Any first three (3 x 1 = 3 marks)

(c) Explain the problems facing irrigation farming in Kenya under the following subheadings.

- Human Diseases

The stagnant water in the plots and canals encourages the breeding of snails and mosquitoes which spread bilharzia and malaria respectively. √√

Double ticks (2 marks)

- Siltation

Silting in the canals is frequent. This reduces the amount of water required for irrigation. √√

Double ticks (2 marks)

- Floods

Some irrigation schemes such as Bunyala in Busia and Hola in Tana River are affected by flood water during the rainy seasons which destroy the crops and infrastructure. √√

Double ticks (2 marks)

(d) (i) Name two projects in Netherlands which were aimed at reclaiming land from the sea / estuaries.

- Zuyder Zee Project

- The Delta Plan Project

Each – one mark (2 x 1 = 2 marks)

(ii) State three benefits of land reclamation in the Netherlands.

- Led to creation of fresh water lake for domestic and industrial use.

- Led to availability of fertile land in the polder for agricultural activities.

- Has led to increased agricultural raw materials leading to industrial development.

- Has led to creation of more land for agriculture and settlements.

- Has helped in keeping sea water away from the land reducing tidal flooding.

- Has led to increased employment opportunities.

- Has led to development of infrastructure such as roads.

- The dams and dykes completely cut off movement of salty sea water inland controlling salination. This has improved agricultural production.

Any first three (3 x 1 = 3 marks)

8. (a) (i) What is fishing?

Fishing is the act of catching fish and other aquatic animals. √√

Double ticks (2 marks)

(ii) Explain three factors on how the nature of a coastline affects fishing.

- Continental shelf (F)

Coastline that is shallow with wide continental shelf encourages growth of plankton thereby having large population of fish. √√ (E)

Double ticks (2 marks)

- Sheltered coastline (F)

A coastline that is sheltered from strong winds and ocean currents are popular breeding grounds for fish √√ (E)

Double ticks (2 marks)

- Indented coastline (F)

An indented coastline encourages deep sea fishing as they allow the anchorage of large vessels and the development of ports. √√ (E)

Double ticks (2 marks)

F – Factor (3 marks)

E – Explanation (3 marks)

NB: The factor can score without explanation but explanation cannot score without the factor.

(b) (i) State three types of fishing carried out in Kenya.

- Pelagic fishing.
- Demersal fishing
- Inshore fishing
- Fresh water fishing

Any first three (3 x 1 = 3 marks)

(ii) Name four lakes in Tanzania where inland fishing takes place.

- Lake Rukwa
- Lake Victoria
- Lake Tanganyika
- Lake Malawi

One mark each (4 x 1 = 4 marks)

(iii) Describe seining as a modern method of fishing

- Fishing boats with the help of dory (small) boats spread out the seine nets with small meshes in the sea.
- Once the nets have been spread out the boats may remain stationary or one boat moves round or both boats move toward certain direction.
- The net is held in position using floats and tied to some weights to keep it in water and open on one side.
- Once the net is full, it is hauled over and the fish emptied onto the ship / boat.
- Seining method is used to catch pelagic fish.

Any three points (3 x 1 = 3 marks)

(c) (i) State the name given to the major fishing ground shown on the map.

- North West Pacific Fishing Ground (1 mark)

(ii) Identify the ocean currents marked Q and R.

Q – Oyashio (Cold)

R – Kuro shio (Warm)

Each one mark (2 x 1 = 2 marks)

(iii) Name the country marked P

- Russia (1 mark)

(iv) Identify the ocean marked S

- Pacific (1 mark)

(v) Describe two physical factors favouring fishing in Japan.

- The rugged terrain – discourages agriculture resulting to fishing as one of the alternative source of livelihood.
- Extensive continental shelf – Japan has an extensive and shallow continental shelf that hosts a lot of fish.
- Convergence of warm Kuroshio and cold Oyashio currents provides a suitable habitat for plankton on which fish feed on.

Any first two (2 x 1 = 2 marks)

9. (a) (i) State two types of domestic trade.

- Wholesale
- Retail

Each one mark (2 x 1 = 2 marks)

(ii) Explain three factors influencing internal trade in Kenya.

- Availability of capital (F)

Traders need access to finances to be able to stock their premises with adequate and appropriate goods needed by their customers. (E)

- Availability of goods and services (F)

The presence of goods and services encourage traders to buy the goods and services to satisfy their demands. (E)

- Security (F)

Areas experiences peace encourage trade unlike areas with instability which affect trade negatively. (E)

- Demand for goods and services. (F)

Traders will buy and stock goods that are needed by people.

Traders would also provide services that are needed by their customers. (E)

- Availability of transport and communication (F)

Places that are accessible make it possible for traders to transport their goods to the market.

Means of communication such as telephone , fax and internet services enhance efficiency in trade. (E)

- Trade restrictions (F)

They involve tariffs, quotas, trade agreements and bans on goods. (E)

- Existence of aids to trade (F)

They include banks, insurance and ware housing services (E)

Any first 3 (3 x 2 = 6 marks)

E- Explanation each 1 mark

F - Factor each 1 mark

NB: Factor can score without explanation but explanation cannot score without factor.

(b) Outline four objectives of COMESA.

- To eliminate taxes on goods produced within the member countries.

- To enable the member states to increase use of their raw materials.

- To enable the people in the region to interact and exchange ideas freely.

- To reduce unnecessary competition amongst member states.

- To create a common market for the goods produced in the member countries.

- Establishment of a common bank to aid in investment in economic and social development.

Any first 4 (4 x 1 = 4 marks)

(c) State three measures that Kenyan government has taken to reduce her unfavourable balance of trade.

- Through creation of EPZ to increase items of export.

- Diversfying its economy to reduce importation / setting up import substitution industries.

- Increasing import duty to discourage importation in some goods.

- Offering subsidies to exports.

- Offering customs draw backs to exporters

- Encouraging foreign investors to invest in Kenya.

Any first three (3 x 1 = 3 marks)

(d) (i) State three methods they are likely to have used during the field study.

- Observation.

- Interviewing

- Administering questionnaires

- Constant analyzing

- Collecting samples

- Counting

- Photographing

- Sampling

Any first three (3 x 1 = 3 marks)

(ii) State three importance of a work schedule during their field study.

- To ensure proper time management and reduce the tendency of wasting time.
 - To ensure that no important area will be inadequately covered or forgotten.
 - To ensure that they carry out the field study without deviating into irrelevant areas.
 - It is a pointer as to how much time will be required for the study.
 - Any other
- Any first three (3 x 1 = 3 marks)

(iii) State four significance of trade they are likely to have noted during their field study

- Trade leads to economic growth.
 - Trade leads to industrial growth.
 - Trade leads to development of infrastructure.
 - Trade is a source of revenue to the government.
 - Trade creates employment.
 - Trade leads to specialization in the production of goods.
 - Trade leads to development of settlements.
 - Trade leads to availability of goods and services.
 - Trade leads to exploitation of existing natural resources e.g through agriculture, forestry, fishing etc.
 - Any other.
- Any first four (4 x 1 = 4 marks)

10. (a) (i) Differentiate between environmental management and environmental conservation

Environmental management is the planning and implementation of the plan to ensure effective and proper utilization of available resources in the environment in order to achieve the set objectives while environmental conservation is the protection, preservation and proper utilization of resources in the environment so as to continue benefiting the present generation while maintaining its potential to meet the needs and aspirations of the future generations. $\sqrt{\vee}$
Double ticks (2 marks)

(ii) State and explain three importance of environmental management and conservation

- For future generation (I)

The resources in the environment need to be carefully used, so as to benefit future generations. (E)

- For the benefit of all (I)

Careful conservation and management of environment ensures resource are available for use by all members of the society. (E)

- Sustenance of human life (I)

Human beings depend on the environment for their physical needs such as food, water, air, shelter and clothing. Careful use of resources guarantees human survival. (E)

- Economic value (I)

The wealth of a nation depends on the resources in the environment such as minerals and wild life. (E)

- Aesthetic value (I)

Features in the environment e.g rivers , mountains, lakes etc provide beautiful sceneries that attract tourists and also provide points of recreation. (E)

- Environmental protection. (I)

Human beings have the responsibility to carefully use and protect the environment from degradation. (E)

I - Importance 1 mark

E - Explanation 1 mark

(2 x 3 = 6 marks)

NB: - Importance cannot score without explanation .

- Explanation cannot score without importance.

(b) (i) State four natural environmental hazards apart from floods.

- Tropical cyclones
- Earthquakes
- Volcanic eruptions
- Water spouts
- Drought and desertification
- Windstorms
- Pests and diseases
- Lighting

Any first four (4 x 1 = 4 marks)

(ii) Give four measures that are used to control floods in Kenya.

- Avoiding flood prone areas
- Land use zoning e.g setting up irrigation schemes in flood prone zones.
- Building of dams to hold flood water.
- Dredging of river channels to remove the deposited silt.
- Building of dykes to confine river water in the channel or to protect low lying areas from floods.
- Building of levees along the bank of rivers to contain flood flow within the river channel.
- Afforestation in water catchment areas increasing the amount of infiltration and reducing surface run off.
- Diverting of river channels to avoid flood areas.

Any first 4 (4 x 1 = 4 marks)

(c) (i) State two importance of a pre-visit to the field study.

- To gather general information and relevant documents from officials.
- Helps to decide on the appropriate methods of data collection.
- Helps in identifying the appropriate equipment or instruments to be used during the study.
- To determine the appropriate routes to be taken.
- Helps in assessing the suitability of the area as a source of the information.
- It is used as the time to get in contact with the guides needed on the day of the study.
- Helps in identifying problems that are likely to be experienced.
- It is possible to assess the cost of the study and plan for it properly.
- It helps in formulating relevant objectives and hypotheses.
- It helps in the general planning and preparation of a work schedule.

Any first four (4 x 1 = 4 marks)

(ii) Identify four environmental management and conservation measures they are likely to have identified in Nairobi.

- Public awareness and education through posters and bill boards.
- Clean-up activities.
- Recycling of products.
- Contracting of garbage collection.
- Tree planting programmes
- Work of NGO's
- Fuel switch to green energy

Any first four (4 x 1 = 4 marks)

(iii) State three problems they are likely to have encountered during the field study.

- Language barrier
- Uncooperative respondents
- Bad weather
- Accidents in the field
- Noise e.g from vehicle
- Traffic jam
- Over crowding
- Inaccessibility of some area e.g forest areas
- Air pollution in the city centre
- Vehicle breakdown
- Any other

Any first three (3 x 1 = 3 marks)

**312/1
GEOGRAPHY
PAPER 1
JULY / AUGUST 2014**

**KIBWEZI DISTRICT FORM 4 INTER-SCHOOLS EXAMINATION 2014
Kenya Certificate of Secondary Education
GEOGRAPHY
PAPER 1
CONFIDENTIAL**

INSTRUCTIONS

1. Geography teacher(s) should avail topographical map extracts for Karatina 1 : 50,000 sheet No. 121/3.
 2. For those schools that do not have the above mentioned maps, geography teacher(s) should set question 6 following the guidelines given below using any other map extract by changing the statements to questions.
6. (a) (i) Converting the ratio scale of the map extract into a statement scale. (1 mark)
- (ii) Calculating the area of a region in km². (2 marks)
- (iii) Naming a district represented on the map. (1 mark)
- (b) Explaining three factors that have influenced settlement in the area covered by the map. (6 marks)
- (c) (i) Enlarging a part of the map bounded by two eastings and two northings by a scale factor 2. On the enlarged map students to mark and label three features within the area (4 marks)
- | | |
|-----------|---------|
| Rectangle | 1 mark |
| Features | 3 marks |
- (ii) Describing the relief of the area covered by the map. (5 marks)
- (d) (i) Citing evidence from the map, students to give two reasons why the area covered by the map is suitable for growing a certain crop. (4 marks)
- (ii) A part from agriculture, students to name two other economic activities carried out in the area covered by the map. (2 marks)