

DIOCESE OF KAKAMEGA EVALUATION TEST
312/1 GEOGRAPHY PAPER ONE EXAM 2025
MARKING SCHEME

SECTION A

1. a) Define the term atmosphere

(2 marks)

- Is a layer of gases and vapour which surrounds the earth and held by the gravitational force
- An envelope of odourless and transparent gases held to the earth by gravitational attraction

b) State three characteristics of the stratosphere

(3 marks)

- It extends 30km above the tropopause
- It contains most of the atmospheric ozone
- It contains little dust and water vapour (therefore lacking clouds)
- Temperature increases with increase in height (negative lapse rate)
- Winds are light in the lower parts but increase with height
- Pressure falls with increase in height

2. a) Name two scales used to measure the intensity of an earthquake

(2 marks)

- Mercalli scale
- Rossi-forrel scale

b) List three natural causes of earthquakes

(3mks)

- Collision of tectonic plates
- Movement of magma within the earth's crust/volcanic eruption
- Gravitative pressure
- Isostatic adjustment of the sial and sima
- Energy released from the mantle

3. a) Name the two continental landmasses that were formed due to breakup of pangea 200 million years ago

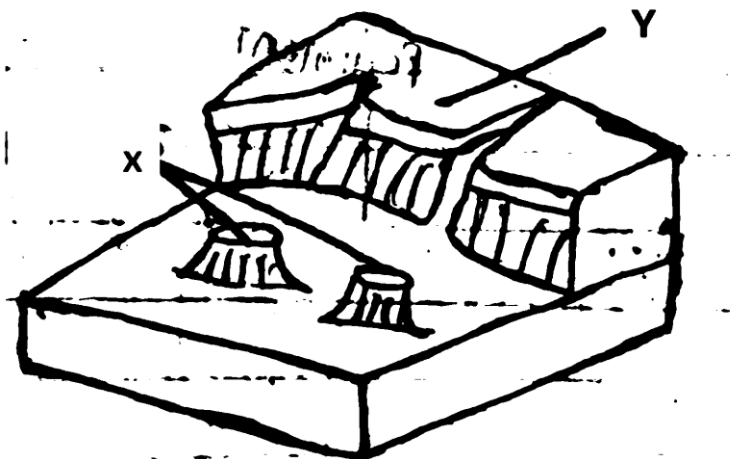
(2 marks)

- Laurasia
- Gondwanaland

b) Identify the three types of plate boundaries associated with plate tectonic movement (3 marks)

- Extension plate boundary/ divergent/ constructive
- Compressional plate boundary/ convergent/ destructive margin
- Transform fault plate boundary/ conservative margins

4. a) The diagram below shows some erosional features in deserts.



Name the features marked X and Y

(2 marks)

X – Buttes

Y - Mesa

b) Name three major deserts found in Africa (3 marks)

- Kalahari
- Sahara
- Namib

5. Describe how lake Victoria was formed (5 marks)

- Earth movements led to crustal downwarping in the region.
- A shallow/basin-like depression was created.
- The areas around the depression underwent uplifting.
- The uplifting reversed the direction of rivers like Kagera, Katonga and Kafu.
- The uplifting also led to cut off rivers like Yala, Nzoia, Mara and Kuja.
- The water from the rivers and rain eventually filled the depression forming Lake Victoria.

SECTION B

6. Study the map of Tambach 1:50,000 (Sheet 90/3) provided and answer the following questions.

a) i) What is the title of the map (1 marks)

EAST AFRICA 1:50,000 (KENYA)

ii) Name two districts in the area covered by the map (2 marks)

- Elgeyo-Marakwet
- Baringo
- Uasin Gishu

b) i) Name two human features in grid square 9458 (2 marks)

- Dry weather road
- Houses/ settlements

ii) Measure the distance of river Kerio from grid reference 908570 to grid reference 898620 (2 mark)

6.5 km ± 0.1

iii) Give the latitudinal extent of the area covered by the map (2 marks)

0°30'N - 0°45'N

c) Citing evidence from the map, explain three physical factors which may favour cattle rearing in the area covered by the map (6 marks)

- The area has adequate water evidenced by many permanent rivers/ lakes/ swamps for watering animals
- Presence of scrub in most parts of the map which provides pasture for livestock
- Gentle slopes evidenced by widely spaced contours allowing for easy movement of livestock from one place to the other
- Vast land for grazing evidenced by few settlements

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

- The area is drained by many rivers
- Most rivers are permanent
- Most rivers and their tributaries form dendritic drainage pattern
- There is a lake (L. Kamnorok)
- There are seasonal swamps
- There are papyrus swamps
- The main river is river kerio
- River kerio has several meanders

- River Kerio flows northwards
- There are many disappearing rivers
- There are seasonal rivers e.g. grid sq 8056
- There is a waterfall grid ref.7958

d) i) Draw a rectangle measuring 16 cm by 8 cm to represent the area bound by eastings 88 and 93 and northings 69 and 71. In the rectangle, mark and name:

- River Kerio
- Lake Kamnorok
- Main track

(5 marks)



Title	- 1
Rectangle	- 1
R. Kerio	- 1
L. Kamnorok	- 1
Main track	- 1

7. (a) (i) Define the term precipitation (2 marks)

- Refers to all forms of moisture which fall from the atmosphere to the earth's surface

(ii) Explain how the following factors influence weather.

Cloud cover

(4 marks)

- Thick cloud cover reduces the amount of solar radiation reaching the earth's surface thus reducing the atmospheric temperature.
- Absence of cloud cover leads to an increase in diurnal range of temperature.
- Thick cloud cover blocks terrestrial radiation from leaving the lower atmosphere thereby increasing the atmospheric temperature.
- The type of cloud determine the type/amount of rainfall.
- The amount of cloud cover determines the intensity of sunshine reaching on the earth's surface.

Altitude

(4 marks)

- Temperature decreases with increase in altitude in the troposphere i.e. highland experience cooler temperatures/while lowland areas experience higher temperature.
- Atmospheric pressure decreases with increase in altitude due to weight of air layers above.

(b) (i) Describe how anabatic winds occur (5 marks)

- During the day, the hill tops/mountain slopes receive more solar radiation compared to the valley bottoms.
- The hill tops warm up leading to lower pressure whereas the valley bottoms remain cold hence high pressure.
- Air at the upper slopes is heated more than air over the valleys causing the air over the slope to rise by convection.
- The cools air from the valleys flow uphill to replace the rising warm air as anabatic wind.

(ii) Apart from anabatic wind, name three other local winds (3 marks)

- Land breeze
- Sea breezes

- Katabatic winds
- The harmattan winds
- The leveche, Sirocco, Chili and Khamsin
- Berg winds
- Fohn winds

(c) Study the table given below and answer the questions that follows:

Days	S	M	T	W	T	F	S
Rainfall (mm)	50	49	55	45	60	60	49
Temp °C	22	24	23	22	21	22	23

(i) Calculate the:

- temperature range for the week (1marks)

$$24^{\circ}\text{C} - 21^{\circ}\text{C} = 3^{\circ}\text{C}$$

- mean weekly rainfall (2 marks)

$$\frac{50 + 49 + 55 + 45 + 60 + 60 + 49}{7} = \frac{368}{7} = 52.57 \text{ mm} / 52.6 \text{ mm}$$

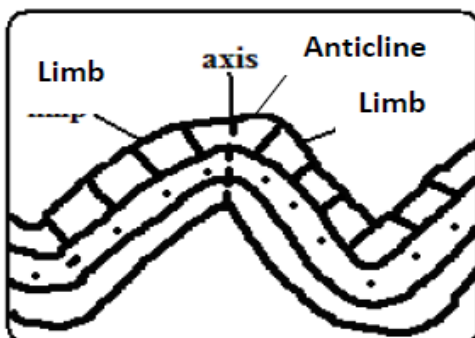
(ii) State four characteristics of the weather of a station represented by the above data (4 marks)

- The lowest temperature of the station is 21⁰c.
- The highest temperature of the station is 24⁰c.
- The mean weekly temperature of the station is 22.4⁰c.
- The highest amount of rainfall for the station is 60mm
- The lowest amount of rainfall for the station is 45mm.
- There was rainfall throughout the week.
- Low weekly temperature range / 3⁰c.

8. a) i) What is folding (2 marks)

- A process of crustal distortion which causes young sedimentary rocks to bend upwards or downwards due to compressional forces.

ii) Draw a well labelled diagram to show a simple fold (3 marks)



b) i) Apart from fold mountain, name three other features resulting from folding (3 marks)

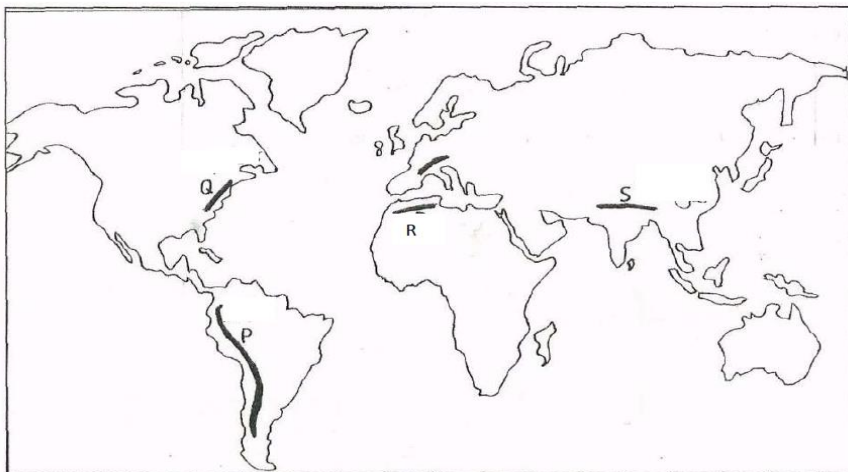
- Synclinal valleys/depressions
- Rolling plains
- Ridge and valley landscape

- Inter-montane plateau
- Inter-montane basin
- Escarpments
- Cuestas

ii) Describe the formation of an overthrust fold (7 marks)

- Rock layers are subjected to compressional forces.
- Intense folding leads to the formation of an over fold.
- Increased pressure on the over fold results in the formation of a recumbent fold.
- When pressure is very great, a fracture occurs along the axis in the recumbent fold producing a thrust-plane.
- The upper part of the recumbent fold slides forward over the lower part along the plane forming an overthrust/nappe fold

c) The map below shows the location of some mountain ranges.



Name the ranges marked P, Q, R and S. (4 marks)

- P - Andes
- Q - Appalachian
- R - Atlas
- S - Himalayas

d) Explain three significance of Fold Mountains to human activities (6 marks)

- Fold mountains are sources of rivers that provides water for generation of H.E.P / domestic use/ irrigation/ industrial use.
- Fold mountains are often forested and provide timber which is used in the building and construction industry/medicinal/aesthetic/wildlife habitat
- Some fold mountains have exposed valuable minerals deposits which are mined
- Fold mountains are tourist attractions/snow covered slopes encourage sporting activities thus earning countries foreign exchange
- The windward slopes of fold mountains receive high rainfall which enhances agricultural activities
- The rugged nature of some fold mountain landscapes hinder human settlement/agricultural activities
- The leeward slope of some fold mountains create rain shadow effect which result into aridity discouraging crop farming/encourages livestock farming
- Some fold mountains may act as barriers to transport and communication/make the construction of transport and communication lines difficult/expensive

9. a) Name two ways of water movement in Oceans (2 marks)

- Vertical movement

- Horizontal movement

b) List any three types of tides

(3 marks)

- Perigean
- Apogean
- Spring
- Neap

c) State three factors that influence wave transportation

(3 marks)

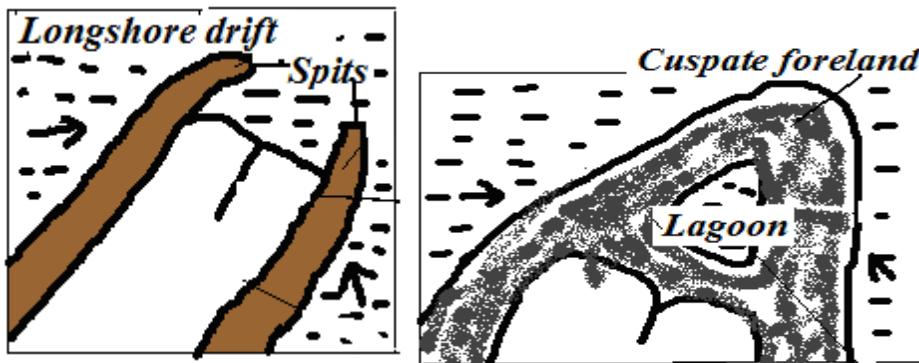
- Gradient of the shore where gentle slopes allows occurrence of long shore drift and the vice versa.
- Strength of waves where strong waves carry large quantities of material over along distance and the vice versa.
- Nature of the load/weight of the load.
- Presence of ocean currents.

Award any other well stated point

d) Using well labeled diagrams, describe how a cusped foreland is formed

(6 marks)

- The longshore drift starts to deposit sand or shingle on two adjacent headlands.
- These materials accumulate seawards to form spits.
- The two spits grow towards each other and eventually join enclosing a lagoon.
- The lagoon is eventually filled up forming a broad triangular- shaped deposit of shingle or sand projecting into the sea.
- This broad triangular –shaped deposit of sand or shingle is known as a cusped foreland



Text – 4

Diagram – 2

e) Give four significance of oceans

(4 marks)

- Oceans provides building materials e.g. sand, coral rocks
- Oceans modify the climate of the adjacent lands thus enhancing agricultural activities.
- Oceans are used by water vessels thereby enhancing transport/communication.
- Oceans provide sites for recreational activities thus promoting tourism.
- Oceans are habitats for aquatic life hence encouraging fishing.
- Oceans may contain minerals which are extracted for economic development.
- Ocean waves/tides are harnessed to generate electric power for industrial/domestic use.
- Oceans provide water for cooling industrial plants.
- Oceans encourage education and research.
- Oceans provide ideal grounds for testing military weapons.

f) Yururu girl's school, form 4 Geography class carried out a field study at a wave deposition site at the coast of Mombasa.

i) Give any three benefits they might have enjoyed due to conducting reconnaissance to their place of study

(3mks)

- It helps to identify probable problems and how to solve them.
- To assess the suitability of the area for the study.
- It helps to design a working schedule.

- It helps to draw up objectives/hypothesis for the study.
- It helps to estimate the cost of the study.
- It helps to identify appropriate equipment /tools to be carried.
- It helps to identify suitable data collection methods.
- It helps to prepare a route map.

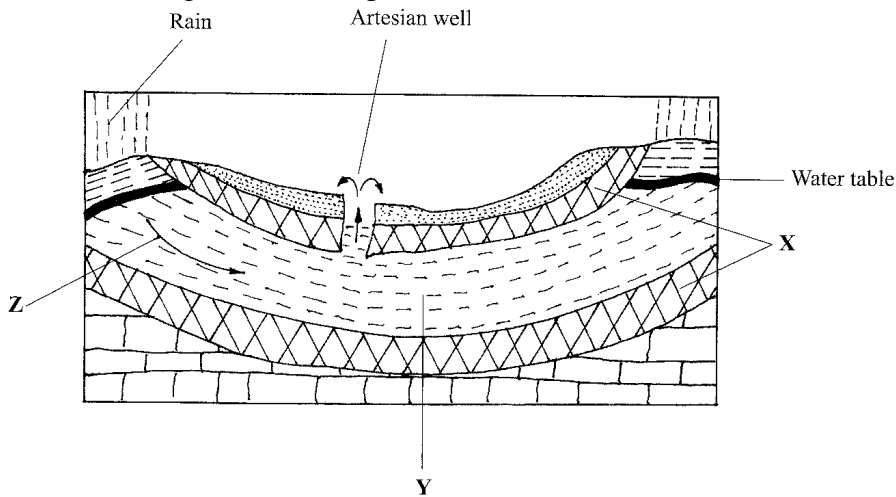
ii) List two ways the learners might have used in collecting the data (2mks)

- through observation
- through note taking
- through photographing /taking photographs/ taking videos/ filming
- Interviewing respondents
- Administering questionnaires to respondents

iii) Mention any two types of coral reef they might have studied during the period of their study (2 marks)

- Fringing reef
- Barrier reef
- Atoll reef

10. The diagram below represents an artesian basin. Use it to answer question (a).



(a) Identify:

(i) the layers marked X and Y. (2 marks)

X – Impermeable rocks

Y - Aquifer

(ii) the process marked Z. (1 mark)

Z - Percolation

(b) Explain how the following factors influence the amount of underground water in limestone areas:

(i) rainfall; (4 marks)

- When it rains for long hours, it enhances infiltration thereby replenishing/ increasing underground water
- High rainfall saturates the soil blocking air spaces thus reducing the rate of infiltration/ leading to low amount of underground water
- Little/ low rainfall leads to low amount of ground water

(ii) vegetation cover. (4 marks)

- Presence of vegetation cover reduces the speed of surface runoff hence increasing the rate of infiltration/leading to high amount of underground water.
- Presence of vegetation cover breaks the force of rain drops giving water more time to infiltrate hence increasing the amount of underground water.

- In areas of scanty vegetation/ bare ground, the surface runoff is high reducing the rate of infiltration/ leading to low amount of underground water.
- Presence of vegetation cover provide shade in the ground reducing direct loss of water through evaporation hence increasing the rate of infiltration leading to high amount of underground water

Any 2x 2

(c) (i) Describe carbonation as process of chemical weathering

(3 marks)

- This involves rain water dissolving carbon dioxide in the atmosphere forming a weak carbonic acid.
- The carbonic acid reacts with calcium carbonate in limestone rocks to form calcium bicarbonate solution.
- This leads to the weakening/disintegration of the rock. This process is known as carbonation.

(ii) With the aid of a diagram, describe how a limestone pillar is formed

(8 marks)

- Rainwater water absorbs carbondioxide in the atmosphere forming a weak carbonic acid.
- The weak carbonic acid percolates through the joints in the rocks on the roof of a limestone cave.
- It reacts with limestone rocks forming soluble calcium bicarbonate.
- The solution trickles down slowly through the roof of a cave/ cavern.
- Solution droplets hang on the roof of the cave.
- Water evaporates and calcium carbonate is precipitated.
- Precipitated calcium carbonate gradually builds downwards over a period of time from the roof of the cave forming stalactite.
- The solution also splashes on the floor and water evaporates.
- The precipitated calcium carbonate gradually builds upwards forming stalagmite.
- Over time, the stalactite and stalagmite join to form a pillar-like structure called limestone pillar.



Text – 6

Diagram- 2

(d) Give three reasons why there are few settlements in Karst landscapes

(3 marks)

- The landscape is rocky/ rugged thus discourages settlement.
- The region experiences inadequate water supply both on the surface and underground discouraging settlement.
- The surface in most places has thin soils which discourages crop farming.
- There is scarcity of vegetation in most places limiting rearing of livestock.
- The landscape is rugged hindering development of transport network.