

**CATHOLIC DIOCESE OF KAKAMEGA EVALUATION TEST**  
**JULY/AUGUST EXAM 2023**  
**312/1 GEOGRAPHY PAPER 1 MARKING SCHEME**

**SECTION A**

Answer **all** the questions in this section

**1. (a) Give three characteristics of comets**

**(3 marks)**

- Made up of frozen gases and dust/small rocky particles
- They have a head and a tail
- They cross orbits followed by planets
- They move along oval-shaped orbits
- They orbit around the sun

**(Any 3x1=3mks)**

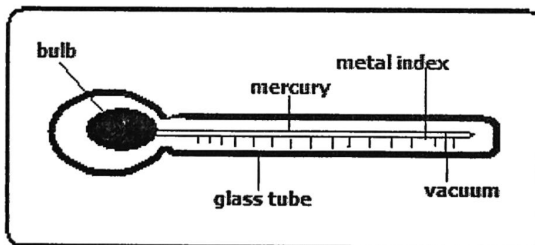
**(b) Give two effects of rotation of the earth on its own axis**

**(2 marks)**

- Causes day and night
- Causes deflection of winds and ocean currents
- It causes rising and falling of ocean tides
- Causes time difference between longitudes/ causes a difference of one hour between meridians 15° apart

**2. The diagram below shows a weather measuring instrument.**

**(Any 2x1= 2mks)**



**a) Identify the instrument**

**(1 mark)**

- Maximum thermometer

**b) Describe how the instrument works**

**(4 marks)**

- When temperature rises, the mercury expands
- The mercury pushes the metal index forward
- When temperature falls, the mercury contracts leaving the metal index behind
- The maximum temperature reached is read at the end of the index that was in contact with the mercury last

**(Any 4x1= 4mk)**

**3. (a) State three natural causes of earthquakes**

**(3 marks)**

- Collision of tectonic plates
- Energy release in the mantle
- Violent volcanic eruptions
- Gravitative pressure

(2 marks)

(b) Give two effects of earthquakes in built up areas

- Loss of life (human, animal and plant)
- Disruption of transport and communication lines
- Outbreak of fires
- Avalanches and landslides may occur covering built up areas
- Tsunamis may drown coastal settlements

(Any 2x1=2mks)

(3 marks)

4. a. Name three types of sand dunes

- Barchans
- Seif dunes
- Transverse dunes

(Any 3x1=3mks)

(2 marks)

b. Give two reasons why wind is the dominant agent of erosion in deserts

- Presence of loose and unconsolidated dry particles in the desert
- Scanty vegetation that leaves the surface exposed to wind erosion
- Strong tropical storms present in deserts

(2 marks)

5. a) Name two surface features in a karst landscape

- Grikes and clints
- Swallow holes/ sink holes
- Dolines
- Uvala
- Polje
- Limestone gorges

(Any 2x1=2mks)

(3 marks)

b) Give three reasons why there are few settlements in a karst landscape

- Rugged landscape hindering settlement/ construction of houses
- Scarcity of water since streams disappear underground/ few surface streams
- Presence of thin soils that discourage farming
- Rocky landscape that discourage settlement

(Any 3x1=3mks)

## SECTION B

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

6. Study the map of Kisumu East 1:50,000 (Sheet 116/2) provided and answer the following questions.

(1 mark)

a) What is the title of the map

EAST AFRICA 1:50,000 (KENYA)

(2 marks)

ii) Convert the scale of the map to a statement scale

1 cm rep 50,000 cm

$$\frac{50,000}{100,000} = 0.5 \text{ km}$$

1 cm rep 0.5 km or 1 cm rep  $\frac{1}{2}$  km

Geography paper 1 marking scheme

iii) What is the magnetic variation of the map extract (1 mark)

$2^{\circ}32'$

b) i) Identify two vegetation in the area covered by the map (2 marks)

- Scattered trees
- Papyrus
- Scrub

ii) Give the longitudinal extent of the area covered by the map (2 marks)

$34^{\circ}45' - 35^{\circ}00'E$

iii) Name two relief features in grid square 0686 (2 marks)

- Ditch
- River valley
- Plain (Kano plain)

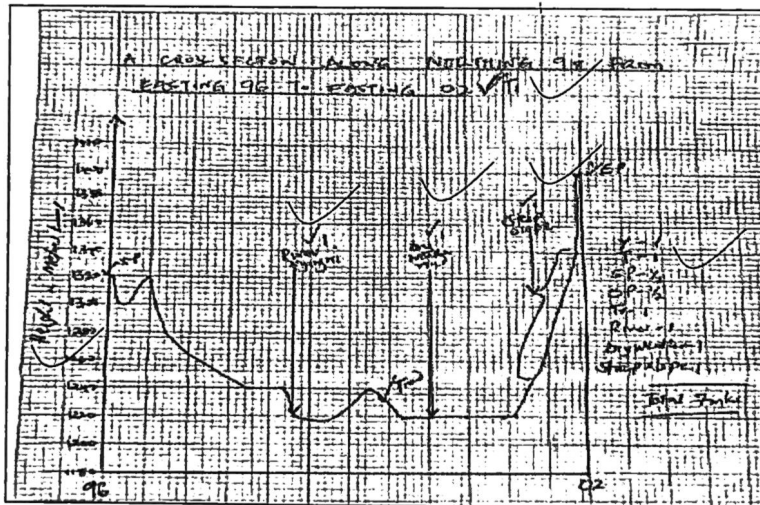
c) Describe the settlement of the area covered by the map (5 marks)

- The south western part has few settlements
- There is dense settlement on the western part of the area covered by the map
- The area has many nucleated settlements
- Nyando escarpment has few settlements
- There is linear settlement along all weather road loose surface
- There are few settlements in the plantation

d) Using a vertical scale of 1cm represents 20m, draw a cross section along Northing 98 from Easting 96 to Easting 02 (5 marks)

On the cross-section, mark and label:

- River Nyang'ori (1 mark)
- Dry weather road (1 mark)
- Steep slope (1 mark)



ii) Calculate the Vertical Exaggeration of the cross section (2 marks)

$$\begin{aligned}
 V.E &= \frac{\text{Vertical scale}}{\text{Horizontal scale}} \\
 &= \frac{1}{2,000} \div \frac{1}{50,000} \\
 &= \frac{1}{2,000} \times \frac{50,000}{1} \\
 &= \times 25
 \end{aligned}$$

7. a) i) **What is folding** (2 marks)  
 A process of crustal distortion which causes the rocks to bend upwards or downwards.
- ii) **State two factors that influence the folding process** (2 marks)
- The nature of rocks
  - Strength of compressional forces
- iii) **Describe the formation of an overthrust fold** (6 marks)
- Layers of crustal rocks are subjected to intense compressional forces
  - Intense folding results in formation of an overfold
  - Continued compression due to increased pressure causes the overfold to fold further into a recumbent fold
  - When pressure is very great, a fracture occurs in the recumbent fold along which a thrust plane develops
  - The upper part of the recumbent fold slides forward along the thrust plane over the lower part
  - This results in the formation of an overthrust fold
- b) **The map below show the location of some fold mountains.** (4 marks)
- i) **Name the mountain ranges marked P, Q, R and S**
- P - Andes  
 Q - Appalachian  
 R - Atlas  
 S - Himalayas
- ii) **Apart from fold mountains, name three other features resulting from folding** (3 marks)
- Rolling plains
  - Ridges and valleys
  - Intermontane basin
  - Intermontane plateau
- c) **Explain four significance of fold mountains to human activities** (8 marks)
- Fold mountains are sources of rivers that provide water for the generation of H.E.P/domestic use/irrigation/industrial use.
  - Fold mountains are often forested and provide timber which is used in the building & construction industr / medicine/aesketic/wildlife habitat.
  - Some fold mountains have exposed valuable mineral deposits which are mined thus boasting mining industry
  - The windward side of fold mountains receive high rainfall which encourages agriculture
  - Leeward sides of fold mountains receive low rainfall hindering agriculture/ promote pastoralism
  - Fold mountains act as barriers to construction of transport and communication lines
  - Fold Mountains are a tourist attraction which brings foreign exchange.
  - Fold Mountains act as protective barriers during war.
8. (a) **Define river capture** (2 marks)
- River capture is the diversion of the head waters of one river into the system of an adjacent but more powerful river
- (b) **Name two features resulting from river rejuvenation** (2 marks)
- Knick points
  - River terraces
  - Incised meanders / Intrenched / abandoned incised meander
  - Rejuvenation gorges
- (c) **Explain the three ways through which a river erodes** (6 marks)
- Attrition** – As rock materials are transported downstream, they constantly collide against each other. The materials gradually wear down and reduce in size
- Abrasion/ corrasion** – As solid rock materials are transported downstream, they are hurled against the banks and dragged along the river bed chipping off/ scouring pieces of rock from the banks and river bed
- Solution/ corrosion** – Soluble rocks within the channel are dissolved
- Hydraulic action**- the power of waves remove loose rock particles from the river bank. The water also enters cracks/ crevices leading to compressed air action which breaks up the rocks.
- d) **Explain three negative effects of rivers to the human environment** (6 marks)
- When rivers flood, they destroy a lot of property

- Rivers may flood leading to loss of human lives
- Wide, deep rivers are barriers to transport especially where bridges have not been constructed
- Rivers can be a medium of spreading waterborne diseases when the water get contaminated
- Some rivers are habitats to dangerous animals which may attack human beings and destroy crops

**(e) Students from your class conducted a field study on an old stage of a river.**

**(i) State three reasons why they would require a route map (3marks)**

- To help identify the direction to follow
- To help prepare a working schedule
- To help identify location of features for study
- To help estimate distances to be covered
- To help estimate the time the field study is likely to take.

**(ii) Identify three characteristics of the river they would have observed (3 marks)**

- Low speed
- Brown water
- River banks
- Meanders
- Tributaries
- Differed tributarie

**(iii) State three follow up activities they would have involved in after the field study (3marks)**

- Reading more on the topic
- Displaying photographs / items collected
- Asking /answering question
- Writing reports
- Discussing with the rest of the class
- Analyzing / assessing the information collected against the hypothesis.

**9. a) i) What is natural vegetation? (2mks)**

- It is the plant cover that grows wildly on the earth's surface without interference from man and animal.

**ii) Identify the temperate grasslands found in the following countries.**

- Russia** - Steppes. (1mk)
- Argentina** - pampas (1mk)
- Australia** - Downs. (1mk)

**b) i) Describe the characteristics of the tropical rainforest (8mks)**

- Consist of mixed variety of trees species
- Trees shed their leaves at different times of the year because of the varied tree species/ they are evergreen
- Forest has little or no undergrowth since canopies block much light from reaching the ground
- Forest has numerous lianas/ epiphytes which compete for light
- Some trees have buttress roots for strong anchorage
- Trees form three distinct canopies
- Trees have broad leaves to provide large surface area for transpiration
- Trees are tall, straight, smooth trunks due to competition for sunlight
- There is little or no undergrowth because little light reaches the ground
- Most trees have shallow and extensive roots which tap nutrients lying near the surface
- contain wide variety of species which are closed together in mixed stands
- Most trees are hardwood and take long to mature.
- Leaves have drip tips to allow rain water to drip down easily

**ii) Explain three ways in which the desert vegetation adopts to the environmental conditions of the region. (6mks)**

- Some plants have thick/fleshy/succulent leaves to enable them store water.
- Some have long roots to tap the ground water
- Some plants have no leaves/ have thin /spiky/ waxy/needly-like leaves to reduce transpiration
- Some plants have shiny surfaces to reflect light.
- Some plants have short lives/seeds that take short time to mature to be able to survive short rains
- Leaves have stomata on the lower surface to reduce the rate of transpiration

- Some have reversed stomatal rhythm to reduce the rate of transpiration
- c) **Explain three causes of the decline of the areas under forests in Kenya.** (6mks)

- Areas of forests are destroyed by accidental and sometimes intended fires.
- Diseases caused by pest and parasites attack mainly the planted forests causing many trees to dry up.
- Human activities /settlements/logging have destroyed many forest areas.
- Over –exploitation leads to depletion of certain tree species.
- Government policy of degazetting of some forests made people free to clear many forested areas.
- Prolonged drought leads to degeneration of forests some of which take long to recover

- 10.a) i) **What is an ocean** (2 marks)

- A vast body of salty water on the earth's surface that surrounds a continent

- ii) **Name two ocean currents along the western coast of Africa** (3 marks)

- Benguela
- Guinea
- Canary

- b) **Explain three reasons why the ocean water temperature varies** (6 marks)

The location of oceans – Oceans located in the tropics have high temperature while those located in high latitude areas have low temperature

Ocean currents – Cold ocean currents cause low temperatures in the oceans when they flow while warm ocean currents cause warm temperatures

Ocean depth – Temperature of surface water in oceans located in the tropics is high while the temperature of water at the bottom is low

- c) **The diagram below shows some coastal features resulting from wave erosion.**

Name the features marked A, B and C

(3 marks)

- A – Stump
- B – Stack
- C – Headland

- d) **Describe how an offshore bar is formed**

(5 marks)

- On a gently sloping shore, the waves start breaking offshore at low tide
- A large amount of pebbles and sand is deposited at this point
- At high tide, waves deposit materials on land where they form a beach
- As the tide drops, waves keep on breaking offshore and deposition continues
- The ridge of deposits grow higher
- The ridge runs almost parallel to the shoreline
- Continued deposition builds a ridge which eventually is exposed at low tide.
- This forms an offshore bar

- e) i) **Name three types of coral reefs**

(3 marks)

- Fringing reef
- Barrier reef
- Atoll

- ii) **Give three conditions necessary for coral growth**

(3 marks)

- Warm water/ temperature between 25<sup>o</sup>-29<sup>o</sup>
- The water should be clear
- The water should be saline
- Shallow water/ 10-60m
- Plentiful supply of plankton on which polyps feed
- Polyps must be submerged
- The water should be well oxygenated