

MARKING SCHEME

FORM THREE

312/1

GEOGRAPHY PAPER 1

END OF YEAR 2025 EXAM (OCTOBER)

1. (a) Name two branches of geography.

(2 marks)

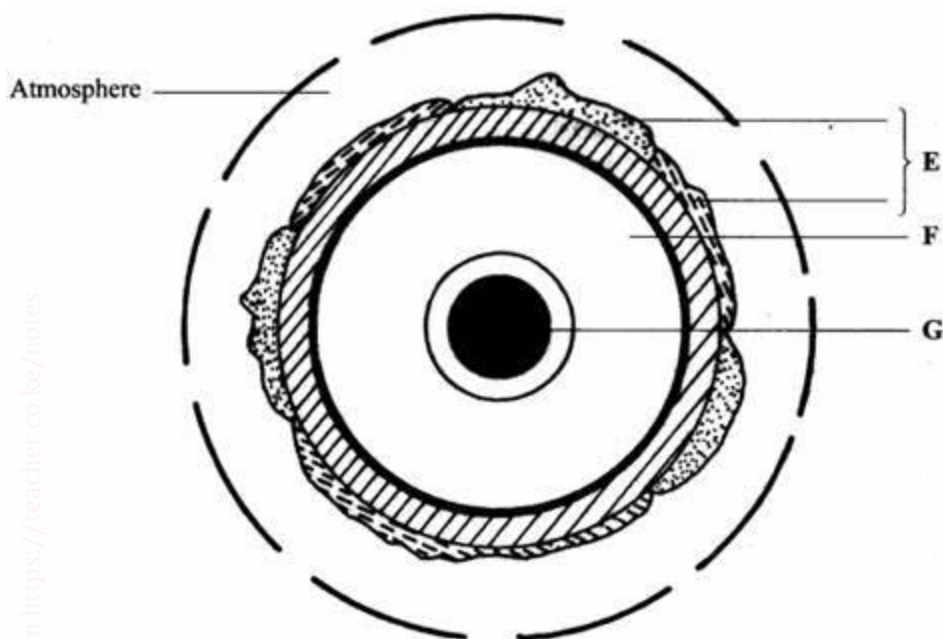
- Physical geography
- Human and economic geography
- Practical geography

(b) State three reasons why it is important to study geography.

(3 marks)

- It prepares one for career opportunities. Eg. A geologist, environmentalist, a geography teacher, geospatial engineer etc.
- It helps students to manage their time properly through teaching them how to make a working schedule.
- It helps the learners know the origin of the earth and the solar system thus satisfying their curiosity.
- It equips learners with knowledge on the origin and evolution of landforms on the earth's surface.
- It creates international awareness which promotes international understanding and cooperation.
- It creates awareness on social values which create national unity in our country.
- It promotes development of valuable skills such as observation and critical thinking.
- It equips learners with environmental knowledge which help them to conserve the environment.
- It equips learners with practical skills such as field work, statistics and map work which help them to appreciate manual work.

2. Study the diagram of the internal structure of the earth provided and answer the questions that follow.



(i) Identify the layers marked F and G.

(2 marks)

- Mantle.
- Inner core.

(ii) State three characteristics of the crust.

(3 marks)

- It is the outermost layer of the earth.
- It is made up of least dense rocks compared to other internal layers of the earth.
- Its main mineral components include silica, aluminum and magnesium.
- It is made up of brittle rocks.
- It has an average thickness of 16-24 km.

3. (a) Name two earthquake zones in the world.

(2 marks)

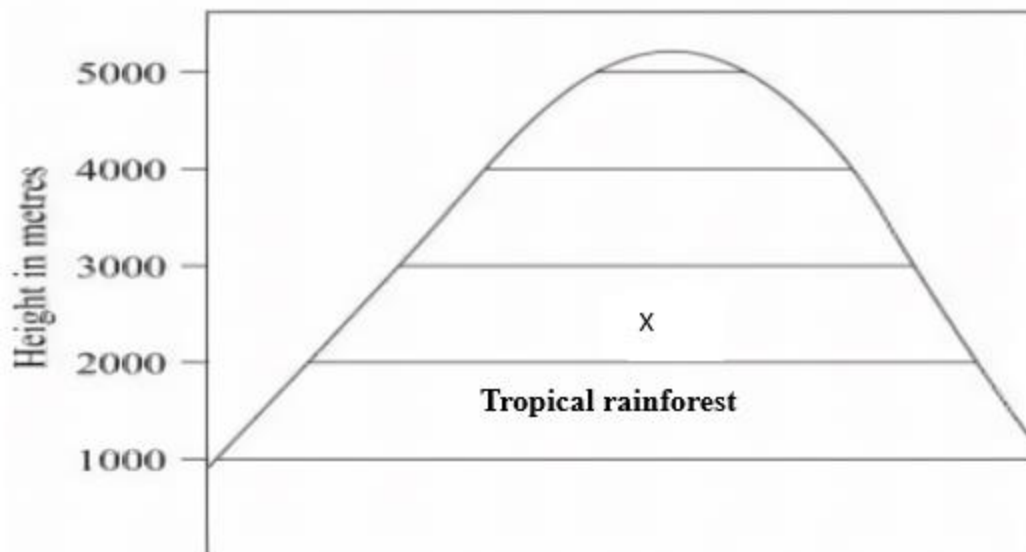
- Along the circum-pacific belt.
- Along the mid-Atlantic belt.
- Along the Great Rift Valley.
- Along the alpine-Himalayas belt.

(b) State three natural causes of earthquakes.

(3 marks)

- Movement magma within the crust.
- Occurrence of a violent volcanic eruption.
- Occurrence of isotactic adjustment.
- Excessive energy release in the mantle.

4. The diagram below shows the vegetation zones on a mountain slope.



(i) Identify the zone marked X.

(1 marks)

- Bambo forest.

(ii) State four characteristics of tropical rain forest.

(4 marks)

- Most trees are tall.
- Most trees have broad leaves.
- Most trees have straight trunks.
- Most trees have buttress roots.
- The forest have three distinct canopies.
- The forest have many plant species per unit area.
- Most trees are hardwood in nature.

5. (a) Give two types of coastal deltas.

(2 marks)-

Arcuate deltas.

- Birds foot delta.
- Estuarine delta.

(b) State three conditions necessary for the formation of a delta.

(3 marks)

- The river should be having low velocity at its mouth to promote deposition.
- The shore should be shallow to promote accumulation of the deposited materials.
- The sea should have weak waves to minimize removal of the deposited materials.
- The river should be carrying a lot of silt to supply materials needed for the formation of delta.

6. SECTION B

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

6. (a) Study the map of Tambach 1:50 000 (sheet 90/3) provided and answer the Following questions.

(i) Name *three* human features found in grid square 8260.(3 marks)

- *All weather Road Loose surface.*
- *Shop*
- *Houses*
- *School*

(ii) Measure the length of all-weather road loose surface C 51 from the junction near the mining camp to the southern edge of the map. Give your answer in Km. (2 marks)

5.5 Km 0.1 Km (5.4-5.6)

(iii) Convert the map scale into a statement scale? (2 marks)

$$\begin{aligned}
 &1:50000 \\
 &50000\text{cm} = \frac{50000}{100000} \text{ km} \\
 &= 0.5\text{km} \\
 &1\text{cm represents } 0.5\text{km}
 \end{aligned}$$

(iv) Give two ways through which relief has been represented in the area covered by the map. (2 marks)

- *By use of contours*
- *By use of trigonometric station.*
- *By use of Spot Heights*

(c) Draw a square 15cm by 10cm to represent the area enclosed by easting 78 and 95 and northing 60 and 70. (1 mark)

On it mark and label the following features.

- | | | |
|-------|----------------------|----------|
| (i) | River Kerio. | (1 mark) |
| (ii) | Lake Kamnorok. | (1 mark) |
| (iii) | Seasonal swamp. | (1 mark) |
| (iv) | Tambach Municipality | (1 mark) |

(d) (i) Describe the drainage of the area covered by the map. (6 marks)

- *The area is has many permanent rivers.*

- *Most rivers are vanishing*
- *Most of the rivers originate from the escarpments in the western and eastern part of the map.*
- *There is seasonal river in the south western part of the map.*
- *The area has seasonal swamps in Kerio valley.*
- *The area has papyrus swamp around lake Kamnorok.*
- *River Kerio and its tributaries form dendritic pattern.*
- *River Kerio has meanders.*
- *River Kerio flow from the south towards the north..*

(ii) Citing evidence from the map, state five functions of Tambach town. (5 marks)

- *Education centre evidence by school.*
- *Administrative centre evidence by District office / police line/county council*
- *Recreational centre evidence by rest house*
- *Religious centre evidence by church / mission*
- *Medical centre evidence by Hospital*
- *Transport centre evidence by roads.*
- *commercial centre evidence by shops/petrol pump*

7. (a).Differentiate between minerals and rocks. (2 Marks)

- *Mineral is an inorganic substance occurring naturally at or beneath the earth's surface while A rock is a naturally occurring aggregates of mineral particles forming part of the earth's crust.*

b i). A part from igneous rocks, give two other types of rocks according to mode of formation. (3 Marks)

- *Metamorphic rocks*
- *Sedimentary rocks*

ii). Describe how extrusive igneous rocks are formed. (4 Marks)

- *Tectonic movement leads to the formation of lines of weaknesses within the crustal rocks.*
- *Due to heat and pressure beneath magma, magma intrudes the crust through the cracks.*
- *The magma may get trapped within the crust due to insufficient pressure, leading to formation of rough textured rocks known as intrusive igneous rocks.*
- *The magma may reach onto the earth's surface, and lava cools rapidly and solidifies to form extrusive igneous/volcanic rocks.*

iii). State three characteristics of igneous rocks. (3 Marks)

- *Formed from cooling and solidification of magma.*
- *Form deep inside the crust/great depth.*
- *Cools slowly*
- *Form large crystals*
- *They are coarse textured.*
- *Form near the earth surface/shallow depth.*
- *Cools at medium rate.*
- *Form medium sized crystals*

- *Form on the earth surface.*
- *Cools rapidly*

c). Explain three uses of rocks.

(6 Marks)

- *Some rock features like granitic tors are tourist attraction earning a country foreign exchange.*
- *Rocks weather down to form soils which support agriculture.*
- *Some rocks provide materials for building/construction.*
- *Some sedimentary rocks contain fossil fuels which are sources of energy for domestic/industrial use*
- *Some rocks are source of minerals.*
- *Some rocks act as storage for water which can be supplied for domestic/industrial/agricultural use*
- *Some rocks provide raw materials for manufacturing industry e.g. Trona is processed to obtain soda ash used in glass-making industry.*
- *Some rocks like soapstone are used in carving.*
- *Some rocks are source of salt/food.*
- *Some rocks are used for scrubbing human bodies/sharpening tools.*

d). Form four students of Highland High school conducted a field study on rocks within their school vicinity.

(i) State how they prepared for the field study.

(4 Marks)

- *Read on the topic from books*
- *Discuss in class*
- *Form discussion groups*
- *Consult geography teacher*
- *Assembling necessary tools*
- *Draw out work schedule*
- *Draw route maps*

(ii) State three methods they used to collect statistical data.

(3 Marks)

- *Observing*
- *Interviewing*
- *Administering questionnaire*
- *Photographing/video recording/filming*
- *Reading secondary sources/content analysis*

8. (a) (i) What is crustal earth movements?

(2 marks)

- *Crustal earth movements refer to the **displacement** of the earth's crustal rocks caused by tectonic forces.*

(ii) Name two boundaries which occur on tectonic plate margins.

(2 marks)

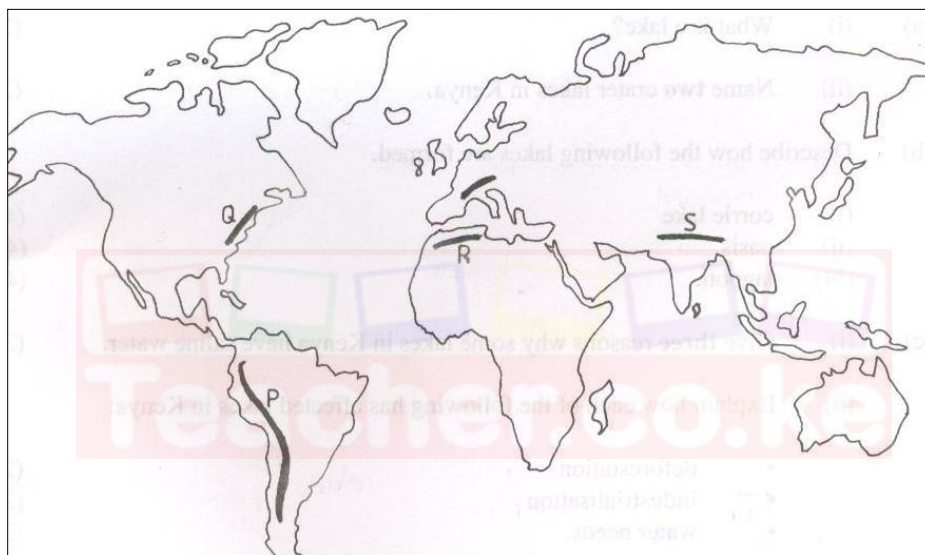
- *Compressional or destructive boundary*
- *Extension or constructive boundary*
- *A conservative/Transform boundary*

(b)(i) State *three* importance of studying the plate tectonics theory. (3 marks)

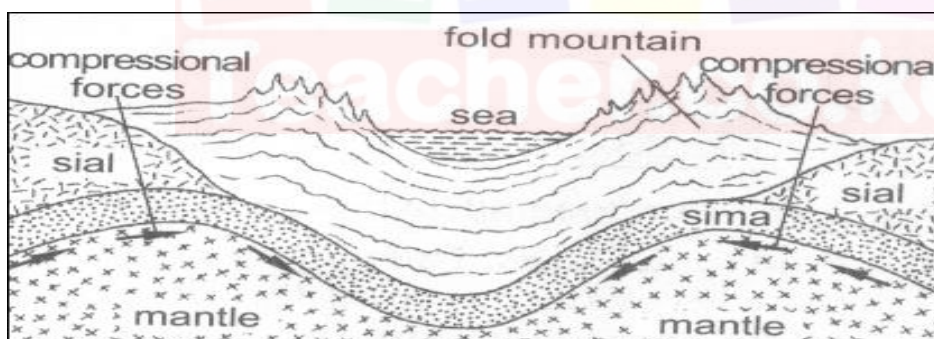
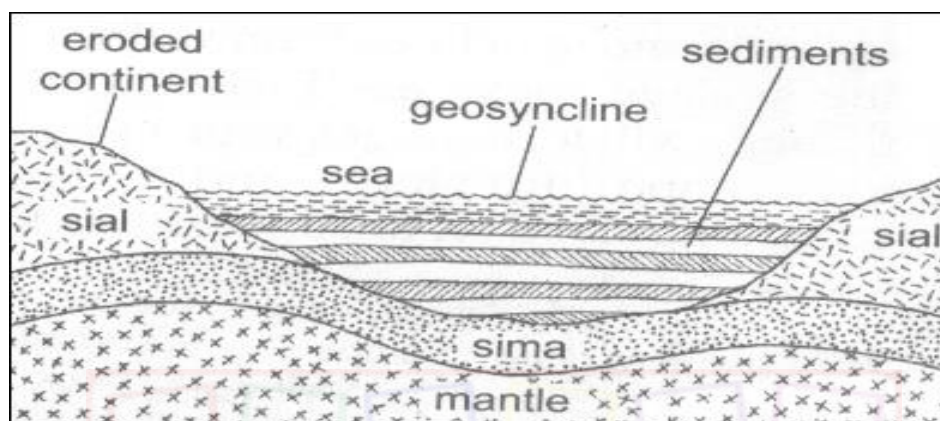
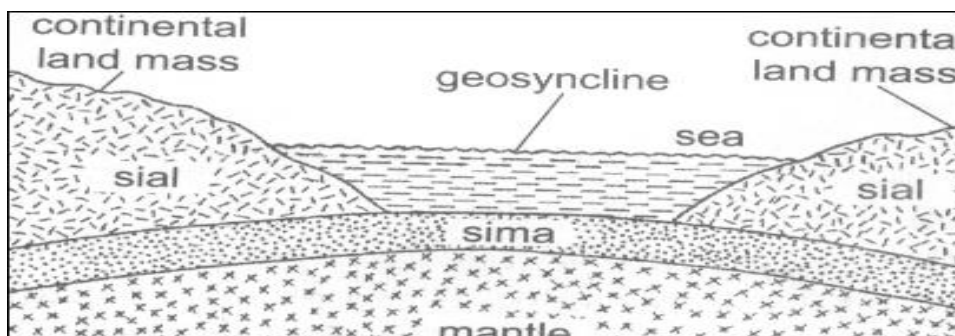
- *It explains the current position of continents/theory of continental drift.*
- *It enables one to understand the creation of structural landforms/it explains the destruction of structural landforms.*
- *It helps one to understand how the earth maintains balance/isostasy.*
- *It explains the causes of earthquakes/vulcanicity.*

(ii) The map below shows world distribution of fold mountains.

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



(c) Using well labelled diagrams, describe how Fold Mountains were formed (8 marks)



- The crustal rocks are subjected to compressional forces.
- The rocks bend upwards and downwards to form an extensive shallow depressions called geosynclines on the earth's surface.
- The geosyncline is filled with water.
- Prolonged and extensive erosion occurs on the surrounding higher grounds.
- Sediments are deposited in the geosyncline in thick layers.
- The great weight of the sediments cause the subsidence of the geosyncline leading to accumulation of more sediments to great thickness.
- Further subsidence of the geosyncline triggers off compressional forces which causes the sediments to fold.

(d) Explain three effects of Fold Mountains on human activities. (6 marks)

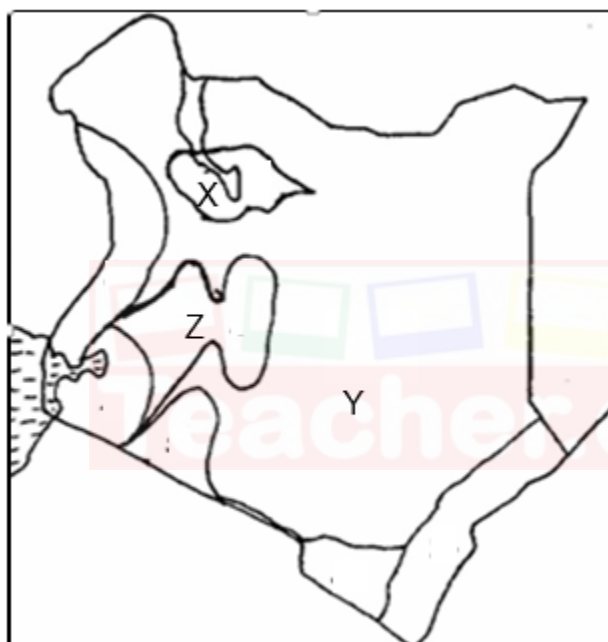
- Heavy rainfall support luxuriant growth of forests on the windward slopes of fold
- Fold mountains which act as water catchment (sources of rivers) which provide water for domestic/industrial use/irrigation.
 - Fold mountains provide unique scenery making such areas attractive to tourists earning foreign exchange to a country
 - Descending cold winds are harmful to crops
 - Forests which grow on fold mountains slopes are sources of timber.

9. (a) What is climate?

(2 marks)

- Refers to the average weather conditions of a given place over a long period of time.

(b) Study the map of climatic regions of Kenya provided and answer the questions that follow.



(i) Identify the climatic zone marked Z.

(1 marks)

- Modified tropical climate.

(ii) State four climatic characteristics of the zone marked X.

(5 marks)

- It has high temperatures throughout the year.
- It receives low to moderate unreliable rainfall.
- It has large diurnal range of temperature.
- The skies are generally clear.
- It has low humidity.
- It experiences high temperature

(c) Explain two human factors that influence climate.

(4 marks)

- Man has caused deforestation in the process of creating room for settlement and agriculture which has caused drop in rainfall amounts leading to semi-arid conditions.
- Man has constructed dams across rivers and done afforestation which has caused semi-arid regions to become wetland.
- Gases especially CO₂ emitted from burning fossil fuels and chlorofluorocarbons cause global warming through the Greenhouse effect and destruction of ozone layer respectively.

(i) Name three greenhouse gases.

(3 marks)

- Carbon IV oxide.
- Methane
- Water vapour.
- Chlorofluorocarbons.
- Nitrous oxide.

(ii) Explain three measures of curbing climate change.

(6 marks)

- Afforestation and re-afforestation to increase carbon sinks.
- Use of energy saving stoves to reduce the rate of deforestation.
- Use of alternative sources of energy which are environmental friendly e.g. solar and water instead of fossil fuels to help reduce carbon IV oxide emissions.
- Proper maintenance of vehicle to reduce harmful emissions from their exhausts.
- Use of public transport to reduce the amount of fossil fuel used and hence the amount of carbon IV oxide added into the atmosphere.

(iii) State four effects of climate change.

(4 marks)

- It leads to increase in temperature leading to melting of ice sheet and ice caps hence a rise in sea level.
- It leads to increased evaporation rate in the oceans causing increased rainfall in some areas which results into floods.
- It leads to increased evaporation rate in some areas thus leading to aridity and loss of animal and plant lives.
- It causes abnormally fast growth of plants causing fast depletion of soil nutrients thus vegetation and degeneration over time.
- It has led to change in rainfall patterns leading to increased soil erosion.
- It has caused changes in wind patterns leading to formation of destructive winds/ cyclones.
- It has led to change in seasonal patterns causing occurrence of severe winters and short summers.
- It has caused change in seasons thus disruption of the ecosystems causing extinction of some animal and plant species.
- It has caused rise in temperature which has caused shifting of the vegetation zones of the worlds.

10. a i) Define the term Karst landscape.

(2 Marks)

- *It is a limestone region with unique features resulting from chemical weathering of rocks.*

ii). Name two surface features in limestone region.

(2 Marks)

- Grikes and clints.
- Shallow/ sink holes.
- Dolines
- Uvala
- Polje

- Limestone gorge
- Dry valleys
- Blind valleys

b . The diagram below show underground features in a limestone area.

(i) Name the features marked X and W. (2 Marks)

- *X.....Stalactite*
- *W.....Underground cave*

(ii) Describe how the feature marked V is formed. (7 Marks)

- *Rain water absorbs carbon (iv) oxide 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 drips slowly from the roof of the cave to the floor.*
- *On the floor, the solution spreads out and water evaporates leaving crystals of calcium carbonate.*
- *As more solution falls on the floor and water evaporates, more crystals are formed.*
- *The accumulated crystals form a column of limestone rising towards the roof of the cave known as stalagmite.*

c. Give three reasons why there are few settlement in karst landscape. (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.*

d). Students of Sacho High school conducted a field study on karst landscape.

(i) State three activities they were involved in during the study. (3 Marks)

- *Note taking/recording*
- *Observing the features*
- *Collecting samples*
- *Asking/answering questions/interview*
- *Drawing sketches/transects*
- *Taking photographs*
- *Labelling samples*
- *Digging/breaking rocks.*

(ii) Prepare a working schedule for one day field study they would have used during the study. (5 Marks)

Time	Activity
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7:30 am-7:59am Assembling necessary equipment
8:00 am Departure for the area of study
8:50 am Arriving at the area of study and reporting to forest authorities
9:00 am-12:29 Data collection
12:30 pm-1:59 pm Re-grouping for lunch and taking lunch
2:00 pm-3:29pm Continuing with data collection
3:30 pm Reporting back to the forest authorities
3.35 pm Departure from the area of study
4:25 pm Report back to school

