

**FORM: 3 GEOGRAPHY
PAPER ONE (312/1)
MID TERM 2 2026 EXAMINATION
TIME: 2 HOURS 45 MINUTES**

SECTION A

1. State *four* proofs which show that the earth is spherical. (4 marks)
- *Satellite photographs taken from very high altitudes show that the earth has a spherical shape.*
 - *Gradual visibility of a ship approaching a shore. During an eclipse of the moon, a shadow of the earth which is circular/round appears on the moon – only spherical bodies have round/circular shadows.*
 - *Possibility of circumnavigating the earth/It is possible to fly or sail round the earth in the same direction and come back to the same starting point.*
 - *During sun rise the sun appears earlier in the east compared to the west.*
 - *The distant horizon of the earth viewed from a high point appears curved.*
 - *When viewed through a telescope, all the other planets, the sun and moon are spherical.*
2. (a) i. State *two* conditions considered in choosing a suitable site for a weather station. (2 marks)
- *Weather stations must be clear of obstructions/located in an open area away from obstructions e.g. buildings/trees/tall structure that could block the wind or cast shadows.*
 - *It should be in an area with free flowing air*
 - *The ground should be gently sloping or fairly level to avoid flooding*
 - *They are fenced off so that animals cannot get in and damage the equipment.*
 - *It must represent a large area near and beyond the location of the weather station*
- ii. Name *two* weather recording instruments that are placed in a Stevenson's screen. (2 marks)
- *Thermometers – (six's, maximum and minimum)*
 - *Hygrometer*
 - *Barometer*
- (b) Give *two* reasons why weather forecasting is important. (2 marks)
- *It helps in determining the farmer's calendar to enable the farmer adjust his farming activities.*
 - *It helps people to determine the suitable clothing, suitable housing, fishing habitats, times for air and sea travels and sporting activities.*
 - *It helps in guiding tourists activities such as visiting game parks.*
 - *Military personnel may also benefit as they can plan their military activities based on the expected weather conditions.*
 - *It helps to know beforehand about the possible natural calamities and the related weather in order to take precautions.*

3. (a) Name the type of rocks which results from the metamorphism of:

(2 marks) 

- *Granite - Gneiss*
- *Clay - Slate*

(b) Give *two* reasons why sedimentary rocks are widespread in the coastal plain of Kenya.

(2 marks)

- *Much of the coastal plain emerged from the sea where sedimentation occurred.*
- *The coastal plain is lowland which has facilitated deposition of weathered rock materials.*
- *The shallow continental shelf has a conducive environment for the coral polyps whose skeletons are deposited and accumulate to form rocks.*

4. (a) What is mass wasting?

(2 marks)

- *Movement of weathered materials downslope under the influence of gravity.*

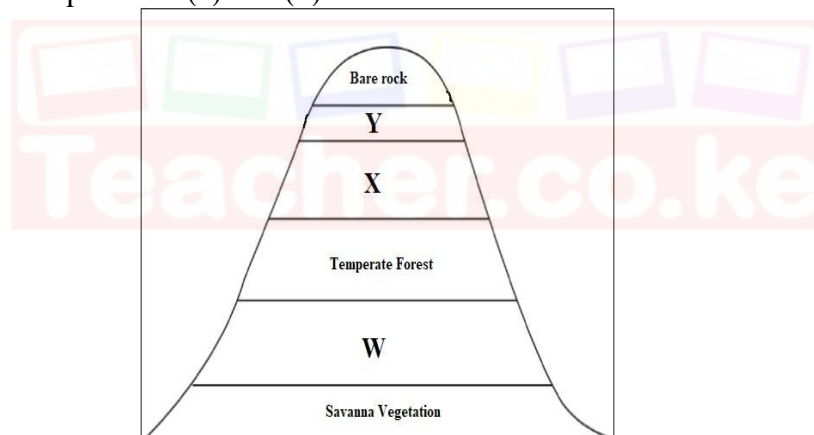
(b) State *four* factors which influence mass wasting.

(4 marks)

- *Movement of materials is faster on steep slopes/ slower on gentle slopes*
- *High temperature cause soil particles to expand hence shifting in position*
- *Fine materials move slowly/ large debris move faster along a slope*
- *Mass movement is faster on bare grounds/ slower on area covered by thick vegetation*
- *Earth movements processes like earthquakes and volcanic cause vibration of the ground hence faster mass wasting*
- *Human activities like mining/ cultivation breaks rocks/ loosen soils which encourage mass wasting.*

5. The diagram below represents zones of natural vegetation on a mountain in Africa.

Use it to answer questions (a) and (b)



(a) Name the vegetation zones marked X and Y.

(2 marks)

- *X – Bamboo forest*
- *Y – Heath and moorland*

(b) Describe the characteristics of vegetation zone marked W.

(3 marks)

- *Have closely set trees with distinct canopies or layers.*
- *Trees are tall, smooth barked and with no branches at the lower section.*
- *Trunks one commonly buttressed at the base.*
- *Presence of lianas and other climbers.*
- *Trees have broad leaves.*

SECTION B.

Answer question 6 and any other two questions from this section



6. Study the map of Kipkabus 1:50,000 (Sheet/ 104/1) provided and answer the following questions

(a). (i) What type of a map is Kipkabus extract? (1mark)

- **Topographical map**

(ii) Identify two methods that have been used to represent relief in the area covered by the map. (2 marks)

- **Use of contours.**
- **Trigonometrical station**
- **Air photo principal**

(iii) Give the two types of scale used in the map. (2marks)

- **Linear scale**
- **Ratio scale.**

(iv) What is the vertical interval of the map? (1 mark)

- **20m**

(b) (i) Name three types of natural vegetation found in the area covered by the map. (3marks)

- **Woodland**
- **Scrub**
- **Scattered trees**
- **Papyrus swamp vegetation**
- **Thicket**
- **Forest.**

(ii) Give three physical features found at grid square 8232. (3 marks)

- **River**
- **River valley**
- **Lake**
- **Depression/Basin**

(iii) Identify two districts represented in the area covered by the map. (2marks)

- **Elgeyo Marakwet**
- **Baringo**
- **Uasin Gishu.**

(c) Draw a rectangle 10cm by 14cm to represent the area enclosed by Easting 79 and 85 and nothing 28 and 35. On the rectangle mark and name the following: (5 marks)

- Natural forest
- Lake
- Bridge
- Dry weather road

(d) Citing evidence from the map, state three functions of Kipkabus town. (6 marks)

- **Transport centre as evidenced by roads, railway line/motorable tracks**
- **Health centre as evidenced by presence of health centres**
- **Communication centre as evidenced by post office.**
- **Residential centre as evidenced by built up areas**
- **Commercial centre as evidenced by presence of shops**

7. (a) i) Give **three** examples of non-metallic minerals. (3 marks)

- *Graphite*
- *Diamond,*
- *Coal,*
- *Petroleum*
- *Phosphate,*
- *Nitrate,*
- *Potas*

ii) Why is industrial diamond used in shaping hard stones and metals? (1 mark)

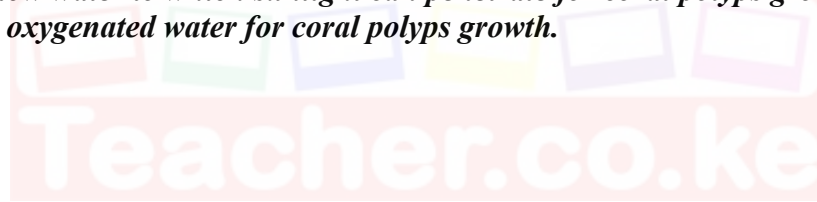
- *Because it is the hardest mineral/It does not break easily.*

(b) i) Give **two** examples of hypabyssal igneous rocks. (2 marks)

- *Dolerite*
- *Porphyry*
- *Diabase*
- *Lamprophyre*
- *Porphyrite*
- *Granophyre*

ii) State **two** reasons why sedimentary rocks are wide spread in the coastal plain of Kenya. (2 marks)

- *Salty water favours growth of coral polyps.*
- *Warm water for the growth of coral polyps.*
- *Clear water which is free from silt or mud favour coral polyps growth.*
- *Shallow water to which sunlight can penetrate for coral polyps growth.*
- *Well oxygenated water for coral polyps growth.*



(c) Describe the following processes of formation of metamorphic rocks:

- Thermal Metamorphism (4 marks)

- *Rocks are subjected to intense heat.*
- *Heat may be due to rocks being buried at great depths/due to contact with magma.*
- *The hot magma melts the minerals of the original rock, they cool and solidify to form a totally different rock/recrystallize the rock grains.*
- *New minerals may also be added into the rock by the intruding magma.*
- *The new rocks change their physical appearance/chemical composition.*
- *Example: Igneous rocks changed to soapstone in Kisii.*

- Dynamic Metamorphism (4 marks)

- *Original rock is subjected to intense pressure.*
- *Pressure is caused by compressional force when the crustal plates collide.*
- *The great pressure alters the mineral line up/composition in the rock.*
- *The rock changes their physical appearance and characteristics forming a new rock.*
- *Examples: Clay changes to slate.*
: Granite changes to gneiss

(d) Suppose you were to carry out a field study on rocks within the vicinity of your school.

i. Name **three** secondary sources of information you would use for preparation of the study. (3 marks)

- | | |
|--|---|
| <ul style="list-style-type: none"> • <i>Geography notes</i> • <i>Internet/electronic media</i> • <i>Journals/magazines</i> • <i>Maps</i> | <ul style="list-style-type: none"> • <i>Newspapers</i> • <i>Photographs/video tapes</i> • <i>Professionals/botanists/forest officers</i> • <i>Relevant text books</i> |
|--|---|

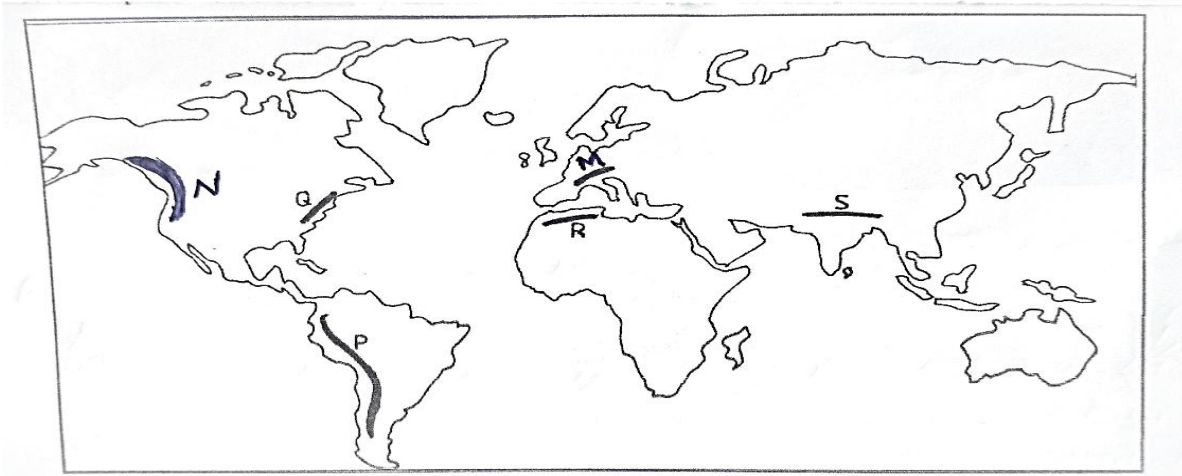
ii. State **three** activities you would carry out during the field study. (3 marks)

- | | |
|--|---|
| <ul style="list-style-type: none"> • <i>Asking/answering questions/interviewing.</i> • <i>Collecting samples</i> • <i>Counting.</i> • <i>Digging/breaking rocks</i> • <i>Drawing sketches/transects</i> | <ul style="list-style-type: none"> • <i>Estimating heights</i> • <i>Labelling samples</i> • <i>Measuring distances</i> • <i>Note taking/Note making</i> • <i>Observing the rocks/features</i> • <i>Taking photographs</i> |
|--|---|

iii. State **three** problems you are likely to experience during the study (3 marks)

- | | |
|--|--|
| <ul style="list-style-type: none"> • <i>Accidents /injuries may occur.</i> • <i>Possible attack by wild animals like snake/Insects.</i> • <i>Difficulty in breaking some features like rocks</i> • <i>Difficulty in identifying some features/rocks</i> • <i>Fatigue due to difficult terrain.</i> • <i>Sudden/heavy rain making students to seek a shelter.</i> | <ul style="list-style-type: none"> • <i>Scorching sun making students to seek a shelter.</i> • <i>Getting lost/loss of direction</i> • <i>Inaccessibility of some areas/thick/thorny vegetation/rugged terrain</i> • <i>Inadequate time for data collection</i> • <i>Uncooperative/unwilling/absent respondents</i> |
|--|--|

8. The map below shows major fold mountains of the world. Use it to answer the questions that follows



a)(i) Name the mountain ranges marked M,N,P and Q. (4 marks)

- *M - Alps*

- *N - Rockies*
- *P - Andes*
- *Q - Appalachians*

(ii) Identify two countries through which the mountain marked R is found. (2 marks)

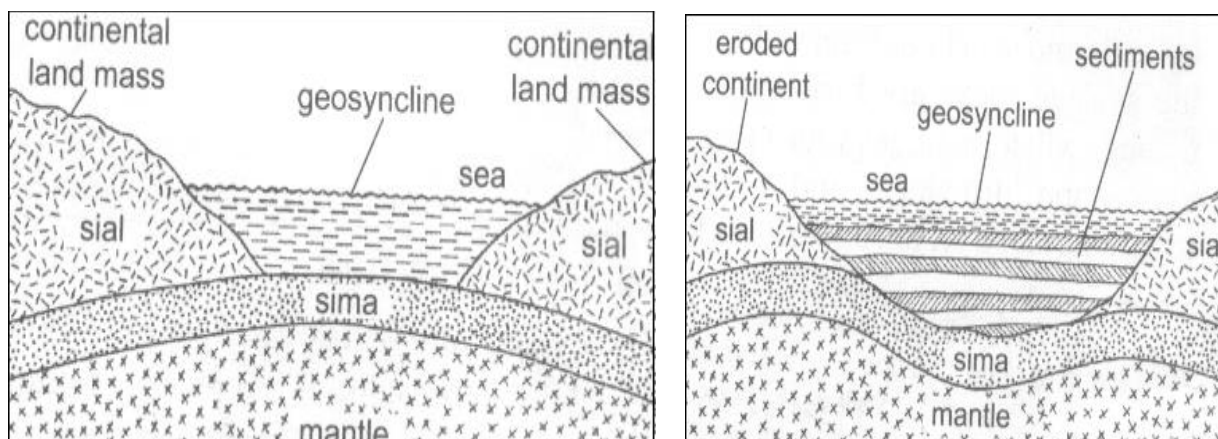
- *Morocco*
- *Algeria*

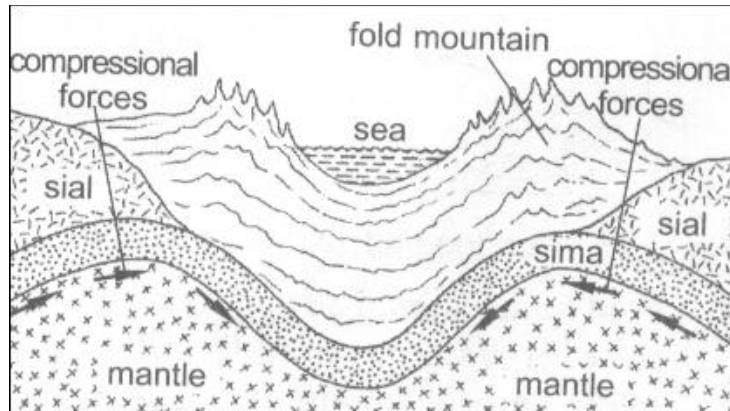
(iii) Apart from Fold Mountains name other three features resulting from folding (3 marks)

- *Synclinal valleys/depressions*
- *Rolling plains*
- *Ridge and valley landscape*
- *Inter-montane plateaus*
- *Inter-montane basins*
- *Escarpments*

b) With the aid of labelled diagrams, describe how Fold Mountains are formed (8 marks)

- *The crustal rocks are subjected to compressional forces. They bend upwards and downwards to form an extensive depression/geosyncline on the earth's surface.*
- *The geosyncline is filled with water to form a large water body such as sea/ocean.*
- *The surrounding uplands were intensively eroded and the resultant sediments deposited in the geosyncline in layers.*
- *The accumulation of sediments and weight caused the geosyncline to subside/sink into the mantle.*
- *Continued accumulation of sediments in the geosyncline resulted into the formation of thick layers.*
- *Further subsidence of the geosyncline triggers off compressional forces which cause the sediments to fold.*
- *The folded layers of sediments in the geosyncline are thrust upwards to form Fold Mountains along the edges of the geosyncline (due to closeness of the source of the forces).*





c) Explain the significance of fold mountains to human activities (8 marks)

- ***Fold Mountains are sources of rivers that provide 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/medical/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 crop growing/livestock rearing.***
- ***Some fold mountains may act as barrier to transport and communication/make the construction of transport and communication lines difficult/expensive.***
- ***The rugged nature of some fold mountains 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.***

9. (a) (i) Define weathering. (2marks)

- ***Weathering is the breaking down/disintegration/ decomposition of rocks at or near the earth's surface in situ (without movement) by physical or chemical processes.***

(ii) Apart from plants, give **two** other agents of weathering. (2marks)

- | | |
|------------------------------------|---------------------------------|
| • <i>Heat</i> | • <i>Wind</i> |
| • <i>Water</i> | • <i>Movement of ice</i> |
| • <i>Plants and animals</i> | • <i>Man</i> |

(iii) Explain how the following factors influence the rate of weathering. (6marks)

- Temperature
 - *Physical weathering is more prevalent in areas with large diurnal temperature ranges, low rainfall and high evaporation rates*
- Nature of the rock
 - *Dark colored rocks break up more rapidly compared to shiny or light-colored rocks because of their higher rates of absorbing heat.*
 - *Fine grained rocks are greatly affected by chemical weathering compared to coarse grained rocks.*
 - *Well jointed rocks easily break upon exposure to agents of weathering.*
- Angle of the slope
 - *On steep slopes, weathered materials are quickly removed by wind, water and ice; thereby exposing the rock surface to further or continued weathering.*
 - *Gentle slopes allow accumulation of rock materials in one place covering the rock below and reducing the rate of weathering*

(b) Mention three types of weathering. (3marks)

- *Mechanical/physical weathering*
- *Chemical weathering*
- *Biological weathering*

(c) Describe how block disintegration occurs. (6marks)

- *This results from alternate heating and cooling, causing rock breakage along the lines of weakness into blocks.*
- *It is common in arid and semi-arid lands with large diurnal temperature ranges*
- *During the day, the temperatures are high causing the rocks to expand along the bedding planes and joints.*
- *At night, the temperatures fall leading to contraction of the rocks along the bedding planes and joints.*
- *This repeated expansion and contraction causes the rock mass to break along the lines of weakness into blocks thus block disintegration*

(d) Explain three positive significance of weathering. (6marks)

- *It is the initial stage of soil formation supporting crop growing.*
- *It produces other natural resources e.g. bauxite – (aluminum ore) and clay used in brick making*
- *It weakens the surface rocks making them easier for mining/quarrying.*
- *Some weathered rocks e.g. the granitic tors are of tourists' attraction thus sources of foreign revenue.*
- *It reduces rock size forming rock blocks used for building and construction.*

10. (a) Give three types of river erosion. (3marks)

- *Head-ward erosion*

- *Vertical erosion*
- *Lateral erosion*

(b) Describe each of the following processes of river erosion.

i) Abrasion.

(4marks)

- *River water carries sand, gravel and boulders*
- *The load is used as a tool for scouring, grinding, scratching*
- *The load is hurled by the river against the banks and dragged along the river bed*
- *The load chips off the rocks on the bank and floor*
- *The load being dragged smoothens the riverbed*
- *Eddie currents rotates the load in hollows on the river bed grinding the rocks and thus widen them into potholes*

ii) Solution.

(4marks)

- *The river water contains weak inorganic acids*
- *It reacts with some minerals in some rocks in the river bed to form soluble minerals*
- *The soluble minerals are carried downstream in soluble form*
- *OR*
- *River water flows over rocks with soluble minerals*
- *The water dissolves soluble minerals to form a solution*
- *The minerals are carried away in a solution form*

(c) Explain four ways in which a river transports its load.

(8marks)

- *Solution: - Soluble materials are dissolved in the water and carried down the stream in form of solution.*
- *Suspension: - Light insoluble materials such as silt and sand are carried in suspension and maintained within the turbulence of the water. Some of them float on the surface of the water.*
- *Traction: - Large particles/ boulders are pushed and rolled along the river bed by the force of gravity and moving water.*
- *Saltation/hydraulic lift/rolling: - Some particles/ pebbles which are fairly heavy are moved in a series of short hops and jumps along the river bed.*

(d) You are required to carry out a field study on materials deposited by a river.

i) Name **three** methods you would use to collect data

(3marks)

- *Observation*
- *Collecting samples*
- *Taking photographs/videos*
- *Reading from secondary sources/content analysis*
- *Note making*

ii) Give **three** follow up activities you would be involved in.

(3marks)

- *Asking/answering question.*
- *Assessing the information collected against the hypothesis.*

- Consulting geography teachers.
- Discussion about findings/discussing the findings.
- Displaying of photographs taken
- Drawing conclusions.
- Drawing diagrams
- Reading more on the topic.
- Report writing.
- Sketching the features.

A RECTANGLE REPRESENTING THE AREA ENCLOSED BY EASTINGS 79 AND 85 AND NORTHINGS 28 AND 35

