SAMIA SUB-COUNTY JOINT EXAMINATIONS

312/1 GEOGRAPHY PAPER 1 MARKING SCHEME

1. a. Uniqueness of Geography as a subject

- It emphasizes spatial distribution of things on earth's surface and maps them to show their relationships/patterns. ***1×2 = 2mks***

***b.* Give three examples of human environment you know.**

Buildings, trade, bridges, farming, forestry, mining, industry *any 3x1= 3 marks*
Mark Any other relevant

2. a. Temperature range
$32^{O}C - 28^{O}C = 4^{O}C$

b. Describe the climate of the station ***1×1 = 1mk***

- rainfall is received throughout the year/no real dry month
- highest rainfall received in March 340mm
- the lowest rainfall received in December/January 80mm
- double maximum rainfall regime/two rainy seasons per year
- temperature range is $4^{O}C$

3. Identify the features marked A and B.

A sink hole/ swallow hole *1 mark*
B dry valley *1 mark*

b) State three conditions necessary for development of karst scenery.

- The rocks should be hard limestone or chalk
- The rock should be well jointed
- The climate should be hot and humid to accelerate chemical weathering.

Any 3x 1 = 3 marks

4) a) Define earthquake.

Is the sudden and rapid movement of crustal rocks due to seismic waves. *2 marks*
**Award 2 mks even if the student has not said 'due to seismic waves'*

b) State three physical causes of earthquakes.

- Collision of tectonic plates
- Gravitative force which tend to pull everything towards the centre of the earth
- Volcanicity due to displacement of magma.
- Isostatic adjustment due to disruption of balance between SIMA n SIAL.

*Any 3x 1 = 3 mks *They must be statements to score*

5) a) Distinguish between aridity and desertification.

Aridity is the state of land being deficient in moisture leading to scanty or no vegetation while desertification is the encroachment of arid conditions into productive land. *2 marks*

Both must be correct for a student to score

b) State any three solutions to the problem of aridity.

- Afforestation and reafforestation.
- Irrigating dry land.
- Control industrialization by setting laws to govern pollution.
- Controlled grazing/ keeping manageable herds of animals.
- Planting drought resistant crops.
- Use of alternative fuel sources to avoid relying on wood fuel.

Any 3x 1 = 3 marks

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

6) a

i) Give the representative fraction scale of the map. **(1 marks)**

1:50000

ii) Identify the vertical interval of the map. **(1 mark)**

20 metres

iii) What type of road is D398. **(1 mark)**

Dry weather road

iv) **Grid reference** 315906 **(2 mark)**

b. *distance 4.3±0.1km*

c. Describe vegetation of the area covered by the map.

- There area has a thicket to the south
- Forests exist to the east.
- Scrubs are there to the west
- Woodland vegetation exist between Kijabe and Magina
- Bamboo vegetation are found to the north of the forest. *5x1 = 5 marks*

d. i) Reduction

title 1mk

rectangle 1 mk

features 3 marks

total 5 marks

ii) Calculate the new scale of the area you've drawn in (b) above.

*2*50000 = 1: 100 000* *2 mark*

e. Social services

- Education services – schools
- Medical /health services – dispensary
- Veterinary services – cattle dip.
- Religious service – Churches
- Welfare services – welfare centre
- Communication service – post office/telephone line

Give any other relevant service 3x2= 6 mks

f. Three artificial drainage features found in the area.

- Borehole
- Water trough
- Water tank
- Pump house

***7) a.i. distinguish* Glacial Till and fluvio-glacial till**

Glacial till is the moraine directly deposited by ice on melting in a stratified manner while fluvio- glacial till is moraine that is deposited by water from melting ice in a stratified manner. ***1 ×2=2mks***

ii. Reasons why there are no ice sheets in Kenya

- Kenya experience high temperature under which ice-sheets cannot form
- Most parts of Kenya have low attitudes where ice cannot form
- Kenya is found at low latitude /tropics

2 ×1=2mks

b. Explain three factors that influence the movement of ice from the place of accumulation

- Gradient of the land – Ice moves faster when the slope is steep
- Temperature result into travelling leading to faster movement of ice
- Nature of the surface – When the surface on which ice is moving is rough, it causes friction lowering the speed of movement of ice.

- Thickness of glacier – Large masses of ice exerts pressure which leads to melting of ice underneath. This increases the speed of ice movement.

C i. Formation of an arête

- Two adjacent cracks exist on a mountain side
- Two hollows cracks are filled with ice
- The ice erodes the sides through picking & deepens the hollow by abrasion
- Eventually the hollows cirques are separated by a knife edged ridge called an arête.

4 ×1=4mks

N/B: Sequence must be followed

ii. ***glacial trough***

- a preexisting river valley is filled with ice/ glavier
- as ice moves, tributary glaciers increase the amount of ice in the main valley.
- Glacier erodes V shaped valley by plucking and abrasion.
- Interlocking spurs are trimmed into truncated spurs.
- The glacier deepens, widens and straightens the valley floor forming a u shaped glacial trough.

4 ×1=4mks

N/B: Sequence must be followed

d. i) **Methods of data collection**

- Administering questionnaires
- Interviews/ asking questions
- Observation
- Taking photographs
- Content analysis
- Sampling (2x1= 2 marks)

ii)depositional features (3 marks)

- outwash plains
- boulder trains
- till
- erratics
- kames and eskes
- terminal moraine
- drumlins

iii) followup activities(2 marks)

-reading more on the topic
-displaying photographs
-writing reports

-accessing the information against hypothesis.
-Discussion/ comparing notes
-calculating measures of central tendencies
-drawing graphs/ charts

(any two 2x1 2mks)

8) a. Differentiate between folding and faulting

- Faulting is the fracturing / cracking of crustal rocks due to tectonic forces while faulting is the bonding of crustal rocks due to compressional forces.

1 ×2=2mks

b.- Fault blocks/Tilt blocks
- Fault scarps/escarpments
- Fault steps
- Block mountains/horst blocks

First 3×1=3mks

ii. - Rock layers are subjected to tensional forces
- Continued tensional forces result to development of adjacent parallel normal faults in the rocks
- Increased tensional forces cause side blocks to more apart, and the middle block sinks to form the floor of the rift valley
- Steep faulting may occur on the sides.

4×1=4mks – Explanation
3×1 = 3mks – Diagrams

c. i. - P- crest
Q- limb
R- Trough

ii)

i. North west Africa - -Atlas
ii. South America - Andes
iii. Western North America -Rockies
iv. Asia - Himalayas

d. **State and explain any three effects of fold mountains on the climate of a place. (6 marks)**

- Windward side of fold mountains receive heavy rainfall
- Leeward side are dry and cool
- Mountaineous areas have low temperatures/ are cooler
- Mountain areas have low pressure

Must be well explained

9. a (i) State three wind erosion process

- Abrasion
- Deflation
- Attrition

(ii) Give three factors leading to development of deserts

- Excessive overgrazing by large herds of cattle.
- Indiscriminate cutting of trees / deforestation.
- Poor farming methods such ploughing down the slope / mono cropping
- Industralisation
- Continentality
- Cold ocean currents.
- Raid shadow effect. 3x1=3mks

b) Explain two ways through which wind transports materials in the deserts.

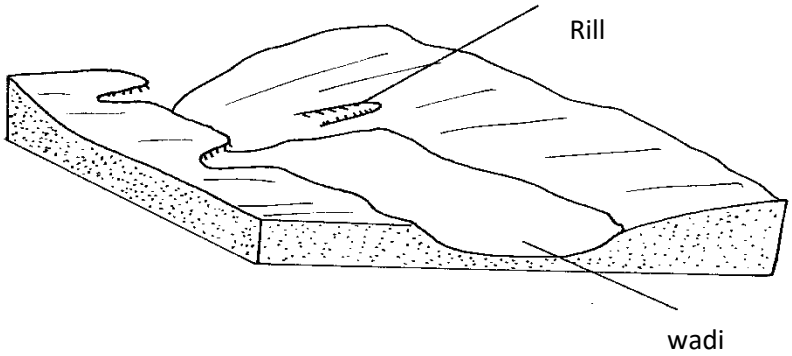
- Suspension where fine dust is transported by wind as suspension in the air reducing of the area they pass.
- Traction where fairly heavy particles which cannot be lifted are rolled on the land surface as the wind blows across the land.
- Saltation whereby the materials are transported in the deserts through a series of hops jumps where the materials are fairly heavier and cannot be air borne.

2x2=4mks

c) Describe formation.

(i) Wadis.

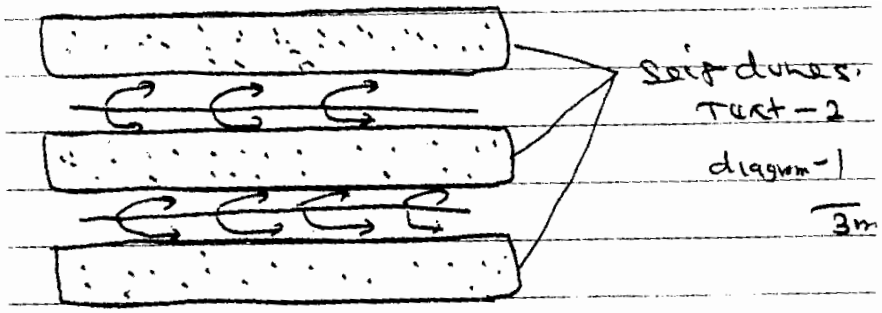
- Flashfloods in deserts cut out rills on steep sided undulating landscape
- The rills are enlarged to form gullies which are further joined by other minor
- Gullies forming wide- steep sided valley called wadi.



Text 1
diagram 2

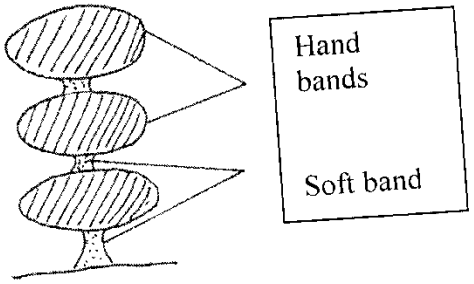
(ii) Seif dunes

- Forms where strong winds interrupts prevailing wind.
- The cross winds breaks crescent shaped barchans forming longitudinal steep sided ridges known as seif dunes



(iii) Rock 7edestal

- Forms through the process of wing abrasion which arodes / attacks alternating layers of hard and soft rocks
- The softer rocks are aroded faster while harder rocks are eroded least forming rock outcrop of different shapes called rock pedestal.



Text – 2

Diagram – 1

3mks

d) Explain three negative effect of deserts landforms

- Sandunes can cover roads making transportation difficult
- Desert landscape makes construction of transport network difficult due to presence of mesa, Wadis yardang etc.
- Sandstorms can burry people and destroy properties.

3x2

=3mks

10) a. i. Determinants of soil colour

- Chemical rock
- Chemical composition
- Organic matter present
- Drainage of the area.

ii. Ways in which humus improves the quality of soil (4 marks)

- Determine the soil pH
- Provide habitat for bacteria that assist in aeration
- Determine the soil colour
- Provides food and minerals to plants

- Water retention
- Development of soil structure
- Contribute to further weathering of rock

iii. Types of soils according to structure

- Granular /crumb
- Platy
- Prismatic
- Columnar/blocks

2×1 = 2mks

Living organisms

- Breakdown animals & plant venous to form humus
- Help in soil creation
- Help in mixing of soil nutrients.

2×1 =2mks

Topography

- Maximum soil formation process occurs on gentle slopes due to reduced soil erosion on step fool to reach maturity due to increase surface erosion.

Causes of soil degeneration

- Poor land use practices such as overgrazing and poor cultivation practices
- Drought
- Heavy rainfall that may cause leaching / soil erosion
- Deforestation

4×1 = 4mks

i. Labeling photographs

- Labeling samples
- Filling tables
- Filling questionnaires
- Tape recording

2×1 = 2mks

ii. Deforestation

- Poor cultivation practices

2×1 =2mks