

FORM FOUR CLUSTER KCSE MODEL 2

GEOGRAPHY PAPER 1 ANSWER

SECTION A (25 Marks)

Answer all questions in this section

1. a) Geoid/oblate spheroid $1 \times 1 = 1$ mark
b) - It forms the inner layer of the earth's crust
- It forms the oceanic crust
- Has a density of 2.8-3.0 gm/cc
- Made of silica and magnesium
- Rocks are mainly basaltic
- Temperature at its margin with the mantle of more than 400°C
- The rocks are like plastic /partly flexible $3 \times 1 = 3$ marks
2. a) A rise / increased in atmospheric temperature/global warming $1 \times 1 = 1$ mark
b) - Depressions/glacial lakes
- Rocks mounotonnee
- Crag and tail $3 \times 1 = 3$ marks
3. - The inclination /angle of the surface on which the sun rays fall
- The position of the earth on its orbit
- Intensity of the sun's radiation /average distance from the sun
- Transparency of the atmosphere
- The area and nature of the surface $5 \times 1 = 5$ marks
4. a) - Sand dunes
- Drass
- Loess $2 \times 1 = 2$ marks
b) - Increased temperature which cause excessive evaporation
- Prolonged drought / low rainfall -
- Presence of cold ocean currents on the path of on shore winds /moisture carrying winds.
- Continentality whereby the interior remains dry
- Rain shadow effect of mountains $4 \times 1 = 4$ marks
5. a) - Emerged coasts
- Coral coasts
- Submerged coasts $3 \times 1 = 3$ marks
b) Gently sloping land at the seashores

-The shores should be shallow

-Strong constructive waves/weak backwash/waves depositions should be stronger than erosion

-Waves should carry a lot of materials to be deposited $3 \times 1 = 3$ marks

SECTION B (75 Marks)

Answer question 6 and any other two question from this section

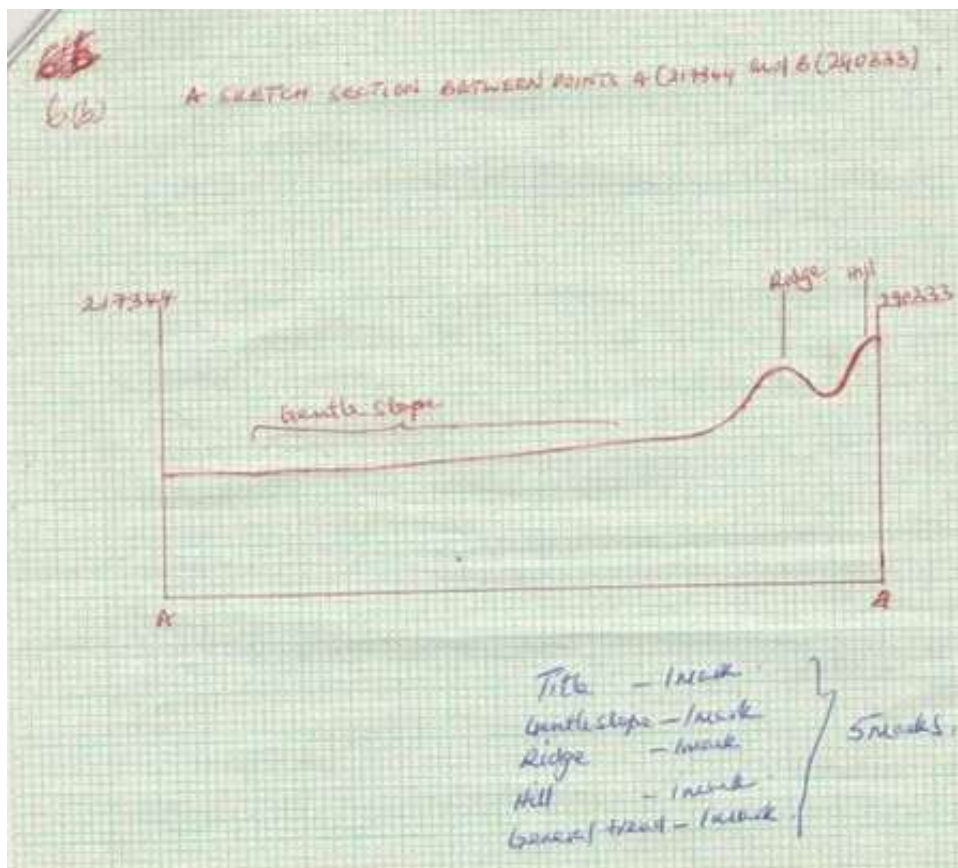
6. a) i. 290333 $1 \times 2 = 2$ marks
ii. Bearing is $018^\circ \pm 1^\circ 017^\circ - 019^\circ$ $1 \times 2 = 2$ marks
iii. -River

-Seasonal swamp.

-Riverine trees.

-Papyrus swamp. $3 \times 1 = 3$ marks

b)



c)

$$\text{Gradient} = \frac{VI}{HE}$$

$$VI = 1280 - 1200$$

$$= 80M$$

$$HE = 16 \times 50,000$$

$$= \frac{800,000}{100}$$

$$= G = \frac{80M}{8000M}$$

$$= \frac{1}{100}$$

d) -Cotton farming -cotton store

-Trade - markets/roads/ motorable /tracks/footpaths

-Transportation – Roads $3 \times 1 = 3$ marks

e i)- Velocity of the river

-Width of the river channel

-River volume/discharge

-River meanders

-Number of tributaries/confluences

-Color of river water

-Type of swamp along the river course $4 \times 1 = 4$ marks

ii)-Shortage of time

-The sun was too hot /heavy rains

-They were tired because of walking long distances

-Attack by wild animals /reptiles

-Some parts of the river could not be accessed

-It was muddy/swampy $4 \times 1 = 4$ marks

7. a)A rock is a naturally occurring substance made of a mineral /combination of mineral particles forming the solid part of the earth's crust. $1 \times 2 = 2$ marks

b) -Travertine/Tufa /Trona

-Dolomite

-Gypsum

-Rock salt /sodium chloride/

-Limonite/hematite $1 \times 2 = 2$ marks

c) -Chemically formed: These are formed when rocks are precipitated or when solutions of salts evaporate and particles accumulate in layers

-Mechanically formed These are formed when rock materials are eroded by agents of erosion and transported and then deposited in layers either on the land or in the sea

-Organically formed These are rocks formed when the remains of previously living plants or animal organisms are accumulated over a long period of time forming layers $3 \times 2 = 6$ mrks

d) -Some rocks such as granitic tors form beautiful scenery which attracts tourists thus earning the country foreign exchange

-Some rocks are exploited to provide building and construction materials thus promoting the building industry

-Rocks such as limestone are as raw materials for manufacture of cements thus promoting development of industry

-Rocks are weathered to form fertile soils which are used for agricultural production.

-Some rocks contain valuable minerals ores which are exploited and sold to earn money

-Some rocks such as salt are used as a source of food $4 \times 2 = 8$ mrks

e) i. Text books/pamphlets

-Maps/geological maps

-Journals

-Periodicals/magazines/newspapers

-Pictures/photographs/films/videos/ DVDs/CDs $3 \times 1 = 3$ mrks

ii.- Formulate objectives /hypothesis

-Identify methods of data collection

-Prepare a work schedule

-Carry out a reconnaissance

-Seek for permission from authority/school administration

-Assemble the relevant equipment/tools for the study

-Prepare a route map

-Divide the class into groups

-Hold a class discussions $4 \times 1 = 4$ mrks

8. a) i The process through which solids, gases and molten rock materials are extruded from the interior of the earth into the earth's crust or on to the surface of the earth. $1 \times 2 = (2$ mrks)

ii. Acidic lava

-Basic lava

-Intermediate lava $3 \times 1 = 3$ marks

b) i. -Volcanic mountains/cones/composite volcanoes/ash & cinder cone etc

- Calderas

- Craters

- Lava plateaus

- Crater lakes Geysers/hot water springs 1st $3 \times 1 = 3$ marks

ii.-Has a vertical vent/pipe

- Composed of alternating layers of ash and lava

- Conical in shape and steep sided

- Has side vents

- Has conelets /parasitic cones on the sides

- May have a crater/caldera/plug at the peak. $4 \times 1 = 4$ marks

c) Forms when magma comes of the ground through a central vent or a series of vents

- The eruption is less explosive because the magma is very fluid.

- When the lava reaches the surface it flows in all directions around the vent.

- The lava flows over a long distance before it cools and solidifies.

- When another eruption occurs, the fresh lava spreads and covers the previous layer of lava.

- Several successive eruptions result in the formation of a volcanic dome which has a wide base and gentle slopes known as a basic lava dome or shield volcano. $5 \times 1 = 5$ marks

d)-Volcanic mountains are sources of rivers which provide water for domestic/industrial/irrigation.

- Volcanic mountains receive heavy/orographic rainfall on the windward side which encourage agricultural/settlement of these slopes.

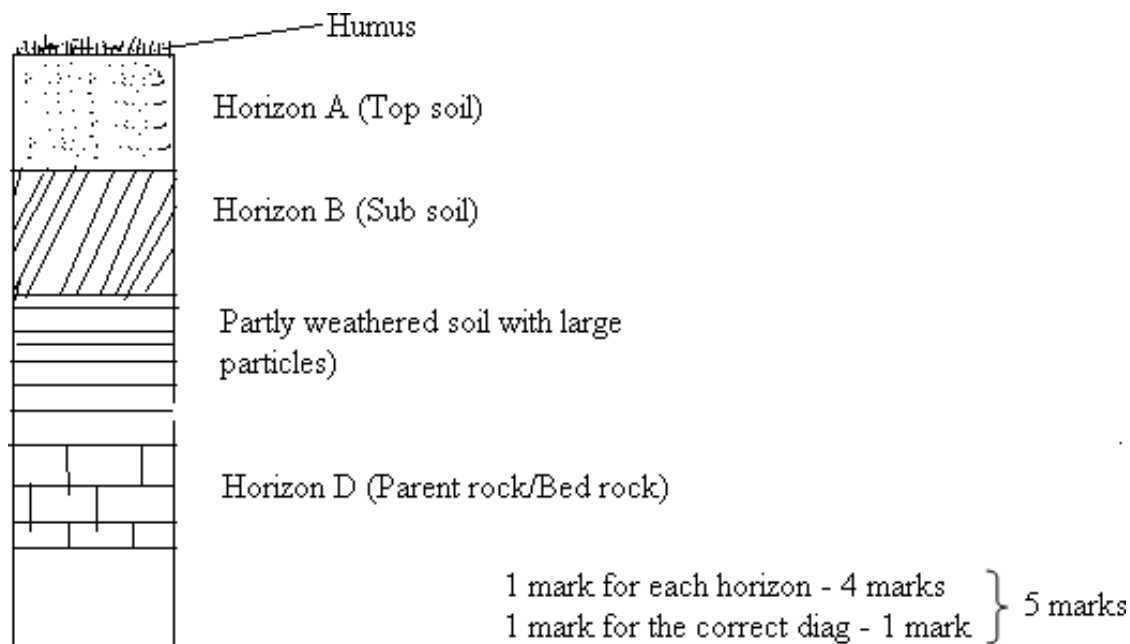
- Volcanic rocks weather to produce fertile volcanic soils which support agriculture.

- Relief rainfall received on the windward side support forests which are a source of valuable timber for building and construction

- Volcanic mountains form beautiful scenery which attracts tourist's hence easing foreign exchange.

- Volcanic rocks provide materials for building and construction. $4 \times 2 = 8$ marks.

9.



b)-Parent rock/material
-Climate

-Living organisms

-Relief/Topography

-Time $5 \times 1 = (5 \text{ marks})$

c) -Overgrazing removes soil cover thus exposing soil to agents of erosion/which results in erosion

-Monoculture/over cropping farming activities leads to exhaustion of soil nutrients making the soil less fertile

-Burning of crop remains/bush clearing by fire destroys organic matter/humus making the soil infertile.

-Continuous application of inorganic fertilizer and other agro-chemicals alters the soil PH/soil chemistry making it less fertile.

-Irrigation causes salinity to increase due to concentration of dissolved mineral salts which accumulate in the upper layer of soil thus loss of fertility/ irrigation leads to leaching of soil nutrients hence loss of fertility.

-Deep ploughing causes mixing of soil layers which removes nutrients from the top soil making them unavailable to some plants

-Poor ploughing methods/cultivation digging reduces soil porosity which inhibits percolation of water

-Frequent cultivation/ ploughing increases oxidation which causes loss of organic matter

-Cultivation of crops in marginal land loosen the soils resulting in soil erosion by wind especially during dry spells

-Plough up and down the slope opens channels for surface run off which leads to gully erosion
4×2= 8mrks

d)- A forestation/reforestation /planting of tree

-Building of gabions

-Planting of cover crops

-Strip farming

-Contour ploughing

-Terracing 4×1 = 4marks

(ii) - Baringo

-Machakos

-Makueni

-Homabay 3×1= 3marks

10. 10. a) A large mass of water occupying a depression in the earths surface

b) i)Lakes Naivasha

-L. Baringo 2×1=2marks

(ii)-Earth movements led to crustal down warping

-This resulted in the formation of a basin like depression

-Uplifting of the land masses/backtilting of the plateau around the depression caused reversal of drainage.

-The rivers that were flowing westwards started flowing eastwards / rivers flowing eastward started flowing westwards into depression.

-Deposition of sediments into the depression resulted into further downwarping.

-Water from the rivers and rain water accumulated in the depression forming a lake.1 mark each
7×1=7marks

c) Amount of water inflow from rainfall, rivers & underground water.

-Rate of loss of water from the lake through evaporation, percolation/underground seepage or use by man.

-Rate of siltation which reduces depth

-The size of the depression in which the lake is formed

-The depth of the depression

-The nature of the bedrock

-Presence of vegetation/weeds / hyacinth 3×1 = 3marks

d) i) Amount of precipitation /rainfall at the river source

-Nature of the rocks/permeability of the rocks

-The rate of evaporation

-Obstacles such as lakes/swamps along the river course. $3 \times 1 = 3$ mrks

ii) -Light insoluble materials such as silt and clay are carried through suspension

- Carried through suspension since they are light and can be maintained in water turbulence.

-Saltation or hydraulic lift which involves fairly heavy particles such as pebbles which move in a series of hops and jumps up and down along the river bed.

-Large and heavy particles such as stones and boulders are pushed and rolled by the water force along the river bed by the force of the water downstream.

-Soluble materials are dissolved into the river water and carried downstream in solution.

$8 \times 1 = 8$ mrks