

**GEOGRAPHY PAPER 312/1 K.C.S.E 2002**  
**MARKING SCHEME**

1. a) P - Horst block  
Q - Rift valley  
R - Fault scarp / escarpment
- b)
- In a normal fault part of the fault is exposed to form an escarpment when in a reverse fault the plane the plane is not exposed.
  - A normal fault is cause by tensional forces while a reverse fault occurs due to Compressional forces.
  - In a normal fault, the up throw move away from down throw while in a reverse fault the up throw moves over down throw.
- 2.a) i) -Acute delta.  
ii) E -Lagoon  
F -Distributary's  
G -Spit / sand pit.
- b)
- Large quantities of silt / sediments are carried / deposited at the river mouth.
  - Low velocity of the river at the mouth / gentle slope at the river mouth.
  - Weak sea eaves / weak tidal currents at the coast / lin the sea / at the river mouth.
  - A shallow continent / shelf / shore/around the river mouth
  - High rate of deposition than the rate of removal of silt at the river mouth.
- 3 a)
- It is the process through which marginal lands are degraded. Climate variations and human activities / encroachment of arid conditions into formerly productive areas.
  - It leads to shortage of water / destruction of water catchment areas.
  - It leads to drying up / of destruction of vegetation.
  - It leads to drying up of soils / development of infertile soils.
  - It causes out migration of population.
- 4.a)
- i) -1.9°C  
ii) – 193 mm.
- Altitude.
  - Aspect
  - Latitude
  - Distance from the sea
  - Ocean currents
  - Cloud cover / forest
  - Winds

- 5 a) The solar system is the sun and the planets orbiting around it.  
 b) i) Solar eclipse / eclipse of the sun.  
 ii) L – The moon  
 M-Umbra / moon shadow / lunar shadow.

### SECTION B.

- 6.i)  $139^{\circ}\text{C} + 1^{\circ}\text{C}$  ( $138^{\circ} - 140^{\circ}$ )  
 ii) - 7.2km + or 0.1 ( 7.1 – 7.  
 iii) - A lake. R1  
 -A plantation L1  
 -River Luanda P1

- b) i)  
 • The highest area is Nandi escarpment/ 1872m above the sea level.  
 • The lowest areas is to the south West / which is about 1140m above the sea level.  
 • The east is a plain / kano plain / plateau.  
 • The North the Nandi escarpment.  
 • The landscape on the northern part is dissected by rivers.  
 • There are numerous river valley these have steep of the highlands are broad in the lowland.

- ii)  
 • The sep slopes / escarpment have been avoided because they are unsuitable for the construction of houses / for farming.  
 • There are a few settlements on the hilly areas because the slopes are gentler.  
 • The plains are densely settled as the land is flat / gently sloping.  
 • The basins are avoided as the land is water logged / flooded / swampy.

- |    |                            |  |
|----|----------------------------|--|
| c) | <b>Economic Activities</b> | <b>Evidence</b>  |
|    | Quarrying                  | -Quarry  |
|    | Processing                 | -Markets / trading centres/sisal factory/cotton ginnery/ flourmills. |
|    | Transportation             | -Railways / roads/ main roads/ foot paths.                           |

- d) i)  
 • The river has many meanders / beds.  
 • The river has tributaries / confluence  
 • The river disappears into a swamp.  
 • The river has a wide flood plain  
 • The river is at its old stage.
- ii)  
 • It enables students to relate what they have learnt in classroom.  
 • Students are able to count the number of tributaries.  
 • Students are able to gauge the impact of the river on the areas.  
 • They are able to find out for themselves the uses of the river.  
 • It allows students to use their observation skills to make conclusions  
 • It enables students ton acquire appropriate attitudes towards the environment.\

- 7.a) i) X – Coastal plain / lowlands  
 Y – Kenya highlands / Central highlands  
 Z- The lake basin / lake plateau
- ii) S – Fishing  
 T- Mining
- iii)
- The underlying molten rock escaped through a vent to the surface / volcanic eruption occurred.
  - There were violent eruptions, which ejected acidic cooled and solidified.
  - The lava piled in layers around the vent.
  - The lava did not flow very far from the vent
  - Over the years, eruption ceased and the volcano became extinct.
  - Erosion set is exposing the plug and producing the jagged peak of the mountain.
- iv)
- Due to the conical shape of the mountain, the rivers form radial drainage patterns.
  - At the lower slopes the rivers form dendritic patterns.
  - The mountain is a catchment area / source for many rivers.
  - The mountain has glacial lakes near its top.
  - The mountain is very high (5199m above the sea level) allowing the formation of snow / ice leading to constant supply of water for rivers.
- b)
- The plateau rises from 200m to 1500m above the sea level.
  - Much of the plateau has been eroded producing residual hills/ inselbergs.
  - The hills are scattered over the region.
  - On the eastern part of the region is the Yatta plateau, which resulted from basic lava flows.
  - Some parts in the north are plains.
  - The Chalbi desert has sand dunes.
  - There are some young volcanic upland such as mt. Marsabit.
  - To the east, the region has a depression, which is occupied by the Lorian Swamp.
- c) i)
- Reading from textbooks.
  - Collection soil samples
  - Observation
  - Interviewing resource persons.
  - Digging the soils
  - Photographing
- ii)
- Its colour
  - Its texture
  - Its porosity
  - Its nutrient content / organic matter

- Its mineral composition
  - Its acidity / PH
  - Moisture content
8. a)
- H – Pampas
  - J – Steppes
  - K – Downs
- b)
- The vegetation is tropical rain forest / equatorial forest.
  - The forest consists of mixed variety of tree species.
  - The trees shed their leaves at different time of the year / evergreen.
  - The trees have broad leaves / deep trapped leaves.
  - The tree takes long to mature
  - The forest has little or no undergrowth
  - The forest has numerous liana /climbing plants / epiphytes
  - Some of the trees have buttress roots
  - The forest has crowns that form canopies three distinct layers.
- c) i)
- Some plants have thick / fleshy / succulent leaves / to enable them store water.
  - Some have long roots to tap the ground water
  - Some have no leaves/ have thin / spiky/ waxy / needle – like leaves / to reduce transpiration.
  - Some plants have thick / hard barks to reduce transpiration.
  - Some plants have shiny surfaces to reflect light.
- d) i)
- Measure distances / climate distance / heights
  - Collect samples of plants
  - Draw sketches / transects.
  - Record / take notes
  - Take photographs of plants / area
  - Count plants.
- ii)
- By their appearance
  - Their colour
  - By their leaves size
  - By their area
  - By the nature of their bark
  - By the texture of their leaves
  - By the system of their leaves
  - By their fruits / flowers.
- 9.a) U – mohorovicic discontinuity / moho discontinuity  
V – The mantle / asthenosphere
- b) i) The crust
- It is made up of solid rocks.

- It is divided into two layers / the sial / continental crust and sima / oceanic crust.
  - The sial is rich in silica and aluminium.
  - The sima is rich in silica and magnesium
  - The sima is made up of dense rocks / 2.8 – 3.0 gm/cc
  - The sial is made up of lighter rocks / 2.7 / it floats on sima
  - The sial is made up of sedimentary / metamorphic rocks
  - The sial rocks are made of rigid / brittle rocks.
- ii) The core.
- It's composed of two parts.
  - The main minerals of the outer core are iron and nickel
  - The main mineral of the inner core is iron
  - The inner core has higher density than outer core/ 16/17gm/cc
  - The outer core is melted
- c) i)
- They are sudden earth movements which cause vibrations / rambling within the crust.
- ii)
- Primary / push waves/ p – waves
  - Secondary / shear waves / S – waves
  - Longitudinal waves? L – waves
- iii)
- Earthquakes cause lateral vertical displacement of rocks
  - They cause raising and lowering / uplifting and warping of parts of the sea floor.
  - They cause raising / lowering of land
  - They cause landslides / slumps
  - They lead to faulting of the crust
  - They lead to volcanic eruptions.
- d) i)
- Written material / books/ magazines / newspapers
  - Maps
  - Photographs / video cassettes / films
  - Resource persons
  - Electronic media / radio /TV
- ii)
- Inaccessibility of the area due to massive destruction / restriction.
  - Lack of informers because people may have been evacuated.
  - The rubble may obscure the evidence of the amount of damage.

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MARKING SCHEME.**

1.
  - The area receives low / unreliable rainfall / 250 – 500 / dry.
  - Most parts have thin / undeveloped soils / sandy soils unsuitable for agriculture.
  - The area has scanty vegetation that cannot support livestock
  - Some areas are insecure and therefore avoided
  - Some areas have a rugged terrain unsuitable for settlement
  - There is inadequate supply of surface water.
  - The area experiences high temperatures unsuitable for settlement .
2. a)
  - To ensure self sufficiency in foodstuffs.
  - To ensure that there are sufficient food reserves
  - To ensure that every citizen has access to sufficient foodstuffs.
  - To ensure that the available food is of balanced nutritional value
  - To give government control over exports / import of food
  - To allow free movement of foodstuffs within the country.b)
  - Drought / floods have caused food shortages.
  - Food storage facilities are inadequate.
  - Farmers have little information on the expected weather trend to enable them plan their calendar.
  - Inadequate monitoring of food supplies makes it difficult to identify needy areas
  - Some citizens have inadequate education on the nutritional value of foodstuffs
  - Inadequate use of the required farm inputs leads to low output of foodstuffs which affects the food reserve.
  - Laxity / corruption in control of importation/ exportation of foodstuffs.
3. a)
  - The over fished areas are being restocked.
  - There are laws enacted against indiscriminate fishing / types of nets/ seasons for fishing areas free for fishing.
  - Special hatcheries have been set up for artificial fertilization of eggs pisciculture.
  - Disposal of effluent into fisheries is prohibited / control of water pollution through legislation.
  - Research is carried out to expand and improve fisheries
  - Institutions have been set up to train personnel to manage fisheries.b)
  - It has an extensive continental shelf.
  - Its waters are rich in plankton
  - It has a long indented coastline which provides sheltered waters ideal of fishing / breeding ground for fish.
  - Cold climate / rugged terrain drove people to fishing
  - Norway has a long tradition in sailing and fishing

- Its cool climate makes preservation of fish easy / it has advanced technology in fish preservation / fishing advance techniques.

4. a)

P	Jinja
Q	Bukoba
R	Mwanza

b)

- They guard against destruction of goods
- They make loading and offloading of goods easy
- They are even in shape hence occupy less space.
- They guard against theft of goods.
- It saves time when loading and offloading is easy.

5

a)

- The farmers are self – employed / it created employment.
- The farmers generate income by selling the pigs and pig products.
- They use the pig manure in their farms
- They use pig meat to diversify their diets.

b)

- Expensive pig feeds
- Poor marketing strategies / lack of co –op / organizations to sell their products
- Competition from other types of meat which are relatively cheaper
- Inadequate capital to expand pig farming
- Diseases e.g. African swine fever, foot and mouth, pneumonia.

6

i)

- Forest
- Workers/people
- Logs/heap of logs
- Cleared area
- Stumps
- Cleared area
- Poles
- Litter
- Sky/clouds/horizon

ii)

- The trees have straight stems
- The forest has tall trees
- The trees are close to each other/thick forest
- The trees are almost the same height.
- They are of the same species.
- There are some scrubs/undergrowth
- Some trees are conical shaped
- Trees are thin

- b)(i)
- Agro forestry is a land use system, which enables the production of trees, crops and livestock on a given unit of land either in spartial arrangement or/over time to maximize productivity and sustainability of the land.
- (ii)
- To ensure continuous supply of wood fuel/timber/herbal/medicine/raw material for paper making.
  - To protect the soil from erosion.
  - To protect the water catchment areas/create microclimates/maintain hydrological cycle.
  - To create scenic beauty.
  - To expand the habitat for wildlife/conservation of wildlife.
  - To create employment opportunities.
  - To reduce importation of forest products/save foreign exchange.
- c)(i) Trees harvesting.
- In Canada, harvesting is done through clear cutting while in Kenya it is selective logging.
  - In Canada logging is done in winter while in Kenya cutting takes place throughout the year.
  - In both countries, commercial logging is mechanized.  
N.B. Comparisons must be complete.
- (ii) Transportation of logs.
- In Canada, logs are transported using melt water/rivers while in Kenya transportation is by road.
- d)
- Accidental fires which consume large tracts of the forests reduce the area under the forests.
  - The cold climate leads to trees taking too long to mature which delays harvesting time.
  - Rugged landscape especially in the mountainous areas hinder smooth exploitation of the forests.
  - Northern parts are inaccessible in winter due to very cold climate conditions.
  - Overexploitation in some areas have created a shortage in some of the true species while taking a long time to mature.
- 7
- a) -On the map shade the main oil palm growing area  
-mark and name Lagos
- b)
- High temperatures throughout the year/ 23<sup>0</sup>C- 30<sup>0</sup>
  - Plenty of sunshine
  - High rainfall evenly distributed throughout the year / 1500-2100mm
  - Deep fertile well drained soils
  - Low altitude of up to 100m above sea level



- High humidity 80-90%

c) (i)

- Oil palm is harvested three years after planting
- The ripe fruit is cut using curved knives /pangas / chisels/ hooks.
- Cutting goes on throughout the year.
- Fruits are carried in baskets or on poles to lorries for transportation to the factory
- Fruits are collected and transported quickly to the processing factory
- At the factory the fruits are weighed
- They are offloaded into tube like cages or trucks
- Fruits are put in digester for further cooking to soften them up
- The pulp is separated from the kernel

(ii)

- The leaves are used for roofing
- The shells /fibers are used for fuel.
- The leaves are used for making baskets/ hats/ mats/ brooms
- The stems are used as building poles
- The sap from the stem is used for making wine / alcoholic drinks
- Crushed nuts grown for animal feeds/fertilizers

(iii)

- Maize /corn
- Sunflower
- Groundnut/peanuts
- Cashew nuts
- Coconut
- Sim sim
- Cotton
- Soya beans

8. a) (i)

- Petroleum /oil
- Natural gas
- Uranium
- Coal/peat

(ii)

- Presence of large volume of water from a river /Lake / large catchments area to provide water to drive the turbines
- Regular / constant supply of water to ensure continuous generation of power
- Hard basement rock to provide a firm foundation for the construction of a dam
- Provide space for reservoir
- Non-porous rock to prevent seepage

b)

- It filters silt to save the other dams which are down stream

- It provides a fishing ground for the local communities
- It provides water for domestic use.
- It is a tourist attraction/reaction
- The dam provides a link role river Tana.
- Water for irrigation
- Provides employment
- Non-exhaustible/ renewable.
- Lean to use / non-pollutant
- Relatively cheap
- Easy to use
- Adjustable to any fraction of energy using transformers
- Convenient to use in a variety of ways.

c)

- It would encourage setting up of industries in the rural areas thus stimulating decentralization of industries.
- It would reduce the cutting down of trees and electricity would be available for domestic use
- It would attract/improve social amenities in rural areas reducing the need for people to move to urban areas.
- Most people would invest in the rural areas, which would lead to higher standards of living.
- It would encourage development of horticultural farming / to have ideal storage of perishable of products.

d)

- It leads to closure of some industries
- It led to unemployment /redundancy/early retirement of workers.
- It led to an increase in the cost of electricity / purchase and use of generators
- It led to power rationing. Which slowed down rate of production

9.

(i) name the minerals mined in the areas marked S, T and V.

- S - Oil Petroleum  
 T - Bauxite/Gold  
 V -Diamond

(ii) State two formations in which mineral ores occur.

- Some minerals occur as evaporates
- Other occur as evaporates
- Some mineral occur as alluvial deposits/placer deposits
- Some minerals are found in seams /beds

b)

Explain four problems, which Zambia experiences in the exportation of copper.

- Zambia is landlocked/has no coastline hence copper has to pass through other countries
- The distance from Zambia to coast is long which makes transportation of copper expensive
- Political instability in the neighboring countries makes it insecure to transport the copper through them to the coast.

- Congestion at the sea ports cause delays in loading and off loading copper
- Loss of copper through theft while on transit deprives Zambia of part of expected revenue.
- Copper is bulky thus it can only be transported by train, which is slow.

c) Explain three ways in which coal contributes to the economy of Zimbabwe .

- Coal provides energy that is used for industrial / domestic purposes
- Some coal is exported to earn foreign exchange
- Coal mining created employment, which provide a means of livelihood
- Coal mining has led to the extension of railway line to serve the mining areas
- Col is used as fuel of heating /Locomotives that save foreign exchange that would have been used to import other fuels
- Coal mining has led to the extension of railway line to serve the mining areas.
- Cols used as fuel for heating/ Locomotives that save foreign exchange that would have been used to import other fuels
- Coal mining has led to growth of urban centers creating growth poles in the country.
- Coal led to the diversification of economy reducing reliance on agriculture.

d) Describe three negative effects of open cast mining on the environment

- The land is left with gaping quarries, which are ugly, interfere with the natural beauty of the landscape.
- The heap of rock waste hinder any of land use/creates a landscape that is expensive to rehabilitate/barren landscape.
- The dust produced during the mining pollutes the atmosphere/is a health hazard
- Open cast mining causes shortage of land it hinders settlement/leads to displacement/hinders agriculture
- Large scale blasting of rocks leads to instability of the basement rocks
- Water collects in the hollows left by open cast mines creating ponds which becomes habitats for disease causing organisms
- It interferes with the natural vegetation, which is cleared before extraction of the mineral begins to take time to regenerate.