

GEOGRAPHY PAPER 312/1 K.C.S.E 1998
MARKING SCHEME SECTION A

1. (a) The diagram below represents the earth on its axis. Use it to answer question a
- (i) Tropic of cancer (1mk)
- (ii) $66\frac{1}{2}^{\circ}$ (1mk)
- (b) It causes days and nights apparent movement of the sun from East to west
- ❖ It causes differences in time at different longitudes
 - ❖ It causes deflection of winds/ deflection of ocean currents
 - ❖ It causes raising and falling of sea tides
 - ❖ It causes variation in atmospheric pressure is the extended service
2. (a) It is the molten rock under the earth's crust
- (b) A sill is a near horizontal/ tabular sheet of igneous rock formed from solidified magma intruded between bedding planes, while a dyke is a shub of intrusive rock which cuts near vertical/ discordantly across the bedding planes. (no mark for one side only)
- (c) P – Conelet/ subsiding cone/ acidic presitic
Q – Layer of lava
R – Crater
3. (a) Collision between tectonic plates
- ❖ Faulting/ cracking rocks
 - ❖ Movement of magma within the crust/ violent and volcanic eruption
 - ❖ Adjustment of rocks as a result of stress e.g. caused by folding
 - ❖ Isostatic adjustment Any 3 x 1 (3 mks)
 - ❖ Excessive energy release within the mantle which is explosive
 - ❖ Gravitative pressure
 - ❖ Explosions caused by man e.g. yest
- (b) Collapsing/ cracking buildings
- ❖ Loss of life (human animal and plant)
 - ❖ Disruption of transport and communication lines
 - ❖ Outbreak of fires
 - ❖ Avalanches and landslides my cover the built up area
 - ❖ Tsunamis may drown coastal settlement **Any 2 x 1 (2mks)**
4. (a) Arcuate delta
Bird's foot/ digitate
- (b) Slow moving water at the mouth of a river/ gentle slope at the mouth
- ❖ Shallow shore
 - ❖ Absence of obstacles/ filters in the river cause
 - ❖ Large amounts of silt in the river
 - ❖ Calm sea/ absence of strong coastal waves/ deposition faster than removal **(any 3 x 1 = 3 mks)**
5. (a) Weathering solution in limestone area
- ❖ Deposition/ by water/ ice
 - ❖ Erosion / by wind/ ice
 - ❖ Meteorite falling

- ❖ Human activities/ damming/ blowing up of land with explosives
- ❖ Mass movement (3mks)
- (b) Are reservoirs in the water cycle
 - ❖ Support bio- diversity/ support floras and fauna
 - ❖ Enable self – purification of water and air
 - ❖ Modify local weather and climate
 - ❖ Regulation of river flow/ controlling flooding (2mks)

SECTION B

6. (a) Topographical map (1 mk)
- (ii) Kilifi and Kwale (2 mks)
- (iii) = $39\text{km}^2 + 1$
 (38.0 – 40.0 km^2 (2 mks)
- (b) Availability of water for cattle from rivers, e.g. Ngoni (any one named receiver) from seasonal swamps e.g. around Kinangop / South Samburu, from piped water (water pipeline) from dams/ water reservoirs e.g. near Mariakani town/ from waterholes and water tanks e.g. around Mariakani town / wells
- ❖ Availability of suitable vegetation/ pasture for animals. The sqaueb thicket.
 - ❖ Availability of veterinary services for improved animal husbandry e.g. veterinary investigation laboratory/ cattle dips/ animal research station around Mariakani.
 - ❖ Large tracts of land with sparse settlement providing extensive area for grazing, particularly in the central and western parts of the area.
 - ❖ Availability of transport evidence- roads/ railways, movable tracts gently sloping land
- | (c) FUNCTION | EVIDENCE |
|----------------------------------------|-----------------------------------------|
| Administrative center | - Chiefs office |
| Religious centre | - Mosque/ church |
| Transport / communication centre | - Post office/ railway station/
road |
| Collection centre/ trading/ commercial | - Store |
| Education centre | - school (any 3 x 2 = 6 mks) |
- (d) Difficulties of transport
- ❖ Long distances from one settlement to another
 - ❖ High temperature
 - ❖ Insect / snake bites
- (ii) 8.0 km (7.95.- 8.05)
- (iii) 83 m
- 7 (a) (i) Weathering is the break down/ disintegration and decomposition of rocks in situ while weathered materials under the influence of gravity
 (Weathering 2 mks) (Mass wasting 2 mks)
- (ii) – Solution - Oxidation - Hydration
 Carbonation - Hydrolysis

(b) Due to temperatures changes, soil particles expand and contract hence shift position down slope.

- ❖ Moisture/ rain water causes soil to become wet and compact. On drying the particles loosen and shift position down slope.
- ❖ Frost heaving beneath soil perpendicularly under gravity.
- ❖ Removal of soil on downhill side makes the rest of the soil to shift
- ❖ Water perforating within the mass regolith may drag individuals gains of soil along with it.
- ❖ External forces (animals, vehicles, earthquakes) have a trigger effect on soil particles causing a downslide movement (Shacking of the ground
- ❖ Ploughing on slopes when soil is turned in one direction causes the soils to shift down slope.

(c) Soil creep pushes posts and fences from their original position and become inclined/ breaking of stones

- ❖ Displacement of fine soil particles down slope leaves the steep upper slopes bare and exposed
- ❖ It causes accumulation of particles at the base of a slope causing deep soils.
- ❖ Soil creep interferes with structure such as roads, railways, making maintenance expensive
- ❖ Terrace (step partenned) develop across the slope
- ❖ The ends of the rock outcraft may be cambered (bend) downslope.

8. (a) (i) Temperature are higher between September and March/ relatively low during April to August

- ❖ Most of the rainfall is received during the warmer season/ cool season relatively dry/ single maximum R/F regime
- ❖ The highest temperature are experienced in December (23⁰C) / the lowest temperature range is large / 14⁰ C
- ❖ The highest rainfall is received in December (125mm) the lowest June to August (10mm)
- ❖ There is no distinct dry month
- ❖ Rainfall is low (6.55mm)

(iii) Scrub/ thicket/bush/ Shrubs

- ❖ Grass is tall in the wetter areas and short in drier areas
- ❖ The vegetation in mainly grass
- ❖ Trees are only found along water courses/ trees scattered
- ❖ Grass withers during the dry season/ winter but spouts at the beginning of wet season
- ❖ Acacias
- ❖ Umbrella shaped trees/ thorny trees

(b) Latitude

Areas near the equator are hotter than those far away from the equator. This is due to a higher concentration of rays in rays per unit area at the equator. The amount of solar insolation decreases polewards since it passes through a longer distance of the atmosphere and therefore more interference.

Altitude

Lowlands are usually warmer than highlands because the atmosphere becomes thinner as the altitude increases where the ground loses heat to enter space faster. Atmosphere pressure decreases with increasing altitude. This is due to the weight of atmospheric air above highlands being less than in lowlands.

Distance from the sea/ continentally

During the hot season, coastal lands are relatively hotter than inland areas on the same latitude due to the existing effect of the sea breezes. By the time the sea breezes reach inland areas they have adapted to the temperature of the land for which are passing. During the cold season the effects is reversed.

Ocean currents

When winds are on shore warm ocean currents have a warming effect on the adjacent coasts./ Lead to higher rainfall than inland areas/ cool ocean currents have a cooling effects/ drying effect on the adjacent coastlands.

Wind/Air Masses

Warm/ cool winds bring a warming/ cooling influences to a place if they come from a warm / cool zone. Areas under the influence of dry winds have little or no rainfall/ areas under moist winds are usually wet.

Aspect

In the northern hemisphere outside the tropics the non facing slopes are cooler than the south- facing slopes because they do not receive direct solar isolation. (The reverse is true for the southern hemisphere). Windward slopes are generally wetter than leeward slopes because the moisture- laden winds rise and drop their moisture on this side first.

(b) (i) Formulate objectives of the study/ hypothesis

- ❖ Reading from secondary sources
- ❖ Carry out a reconnaissance to ensure that the instruments are in a working conditions/ are in their right position
- ❖ Seek permission from the relevant authority
- ❖ Procure appropriate stationary
- ❖ Prepare a table for recording data
- ❖ Procure the instrument

(any 3 x 1 = 3 mks)

(ii) **A rain gauge Used to collect rain water**

- ❖ Take the rain water which has collected in the jar/ bottle
- ❖ Pour the water in the measuring / graduated cylinder
- ❖ Take the reading
- ❖ Record the reading in a book / or table (2 mks)

Maximum and minimum thermometer

- ❖ Used to record/ measure maximum and minimum temperature in a day
- ❖ Be at the station at the conventional time for taking records
- ❖ Read the position of the metal indices for both maximum and minimum temperature
- ❖ Record the readings in a book or table
- ❖ Reset the thermometer using a magnet (3mks)

(iii) **It enables students collect first hand information**

- ❖ Students develop skills of weather observation
- ❖ Students are able to make their own records of weather
- ❖ Students are able to apply knowledge learned from books/ classrooms in the field
- ❖ They'll appreciate the usefulness of weather instruments

9.

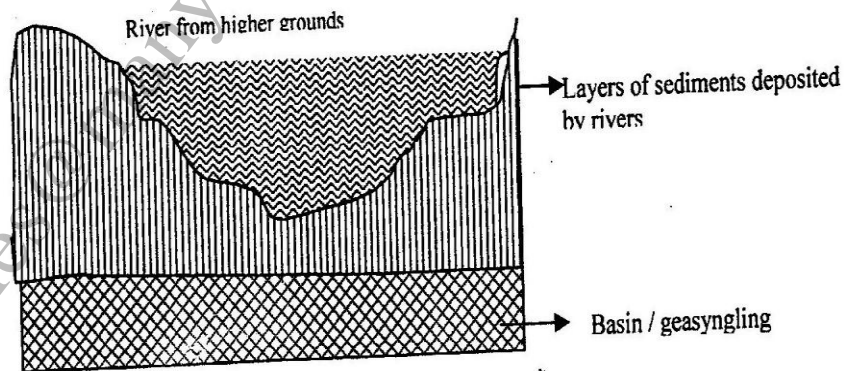
(a) **X- Atlas Mountains**

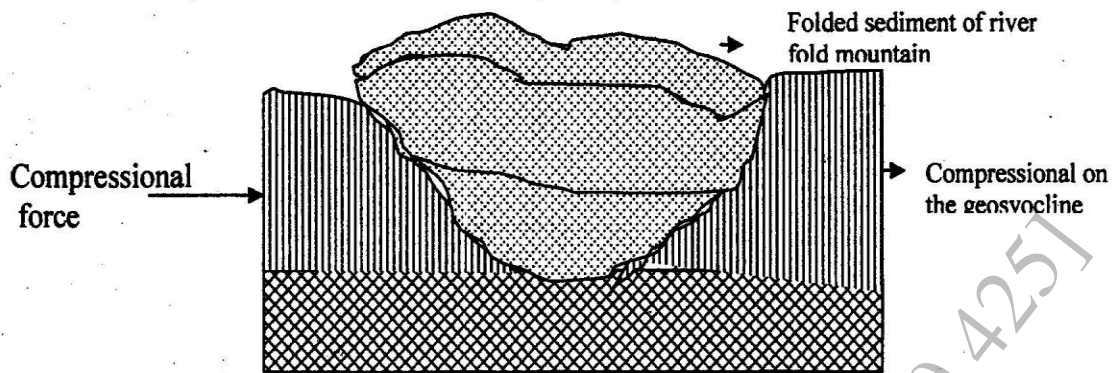
- ❖ Y- Cape ranges
- ❖ Z- Ethiopian Highlands (3 mks)

(b) (i) Simple fold/ symmetrical/ isoclinal

- ❖ Asymmetrical fold
- ❖ Over fold
- ❖ Recumbent fold
- ❖ Overthrust/ fold thrust/ nappe
- ❖ Anticlinorium/ synclinorium (4 mks)

(ii)





- ❖ Geosynclines are formed on the earth's surface
- ❖ Prolonged and extensive erosion occurs on the surrounding higher grounds
- ❖ Sediments are deposited in the geosynclines forming thick layers
- ❖ The weight of the sediments causes subsidence of the geosyncline leading to accumulation of more sediments
- ❖ Further subsidence of geosyncline triggers off compressional forces, which draw the higher grounds closer
- ❖ As a result, the sediments are compressed and form folders which are also thrust upwards to form mountains
- ❖ The main Mt. features are formed at the edge of geosynclines due to closeness to the source of the forests.

(c) (Fold mountains are water catchments areas. They trap rainfall which feed rivers that provide water for domestic use/ for irrigation/ for industrial use/ for HEP generation/ rainfall for Africa

- ❖ (Fold mountains are often forested and provide valuable timber used in construction and building industry.
- ❖ Some fold mountains have valuable minerals deposits such as coal and petroleum
- ❖ Fold mountains attract tourists, thus earning the countries foreign exchange.
- ❖ Fold mountains influence transport systems either as barriers or as passes.

4 x 2 = 8 mks)

GEOGRAPHY PAPER 312/ 2 K.C.S.E 1998
MARKING SCHEME
SECTION A

1. **(a) It is the process whereby an increasing of the total population in a country settles in Towns**
- ❖ Changes from primary to secondary and tertiary production
 - ❖ Growth of town in number and size/ process by which population is transferred from rural based agricultural life style to urban based life styles.
- (b) It has deep sheltered harbour**
- ❖ It has fine weather throughout the year
 - ❖ It has larger hinter land
 - ❖ It is located at a straight point on the east
 - ❖ It is well linked to the interior by railway, road and air
 - ❖ Early settlement/ Early trade by Arabs/ Old port
2. **(a) The river should have:**
- ❖ A narrow valley/ gorge
 - ❖ Regular / reliable water supply
 - ❖ Large volume of water
 - ❖ A hard rock film foundation
 - ❖ Impervious rocks/ impermeable/ non – porous rocks
 - ❖ Water fall/ head of water/ steep gradient/ slope
- (b) Fish are caught for human consumption**
- ❖ The artificial lake for transportation/ road transport
 - ❖ The lake provides water for domestic use/ industrial use
 - ❖ The area is a tourist attraction/ provides recreation/ earns foreign exchange
 - ❖ Water for irrigation
 - ❖ Employment/ source of income
3. **(a) Motor vehicles are cheaper to buy and maintain than crafts**
- ❖ Road transport is more flexible than air transport/ road leads everywhere / carry people/ goods from one place to another
 - ❖ Construction of roads is cheaper than that of airports
 - ❖ Fares/ freight charges are lower than that of air transport
 - ❖ Skills require to operate aircrafts are higher and rare than those required to operate motor vehicles.
- (b) It encourages the growth of tourists industry**
- ❖ It promotes horticultural industry. Perishable goods can be transported easily.
 - ❖ It enables cultural exchange between Kenya and other countries
 - ❖ It encourages international trade
 - ❖ It promotes international cooperation/ facilitates emergency services

- ❖ It earns foreign exchange from industries

4. Expensive farm inputs/ inadequate capital/ insufficient capital fluctuating prices

- ❖ Delayed payments
- ❖ Prolonged droughts/ unfavourable weather conditions/ heavy rainfall/ frost/ hailstorm/ unreliable rainfall
- ❖ Pests/ diseases
- ❖ Pool payments based on pyrethrum content
- ❖ Mismanagement of funds

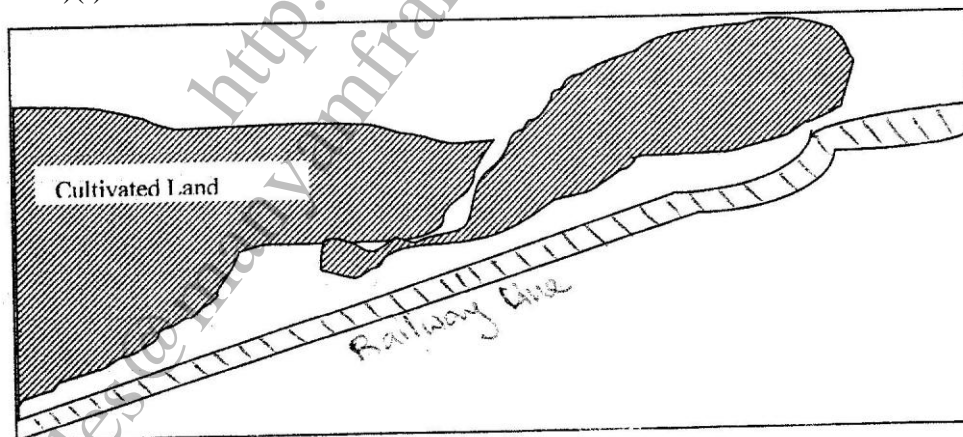
5. (a) It is a careful management/ protection of soil against erosion/ exhaustion

(b) Ploughing along the contour

- ❖ Controlling grazing
- ❖ strip cropping
- ❖ Making terraces
- ❖ Digging cut off drains/ trenches/furrows across the slope
- ❖ Planting cover crops
- ❖ Mixed cropping/ intercropping
- ❖ Agro- forestry
- ❖ Following field rotation
- ❖ Group rotation
- ❖ Mulching
- ❖ Adding fertilizer/ manure

SECTION B

6. a)(i)



- (ii) On the railway line (1 mk)
Cultivated land (1mk)

- (iii) Coffee
- ❖ There are shrubs in the right foreground
 - ❖ There are herbs/ grass along the railway line

- ❖ There are shrubs/ tree hedges separating farms
 - ❖ There are patches of forest in the centre middle ground
 - ❖ There is a stretch of forest in the background
- (b) The vegetation has a thick undergrowth/ dense forest which makes penetration/ development of roads difficult.
- ❖ Uses of tropical hardwoods discourages exploitation. Any 5 x 2 = 10 mks)
- (c) Tree planting/ re- afforestation/ -NGO's planting of indigenous species is being encouraged to preserve the endangered species.
- ❖ People are required to seek permits if they have to cut tree. This reduces the rate of tree felling/ unlicensed people do not cut down tree.
 - ❖ Forest reserves have been set aside to conserve indigenous species.
 - ❖ Forestry department of the Ministry of Natural Resources carry out research to produce and distribute seedlings/ to ensure the extension of forests.
 - ❖ People are being educated through mass media education on the importance of forest conservation
 - ❖ People are being encouraged to use alternative sources of energy saving jikos
7. (a) L- Iron Ore/ Iron
- ❖ M- Bauxite/ Gold
 - ❖ N- Copper
- (ii) P – Johannesburg (3mks)
- (b) (i) Alluvial panning/ placer mining/ dredging (1mk)
- ❖ Opencast methods/ quarrying/ Scrapping
 - ❖ Adit mining/ draft/ horizontal/ Hill slope Burring
- (ii) Vertical shafts are sunk/ dug
- ❖ Horizontal tunnels are dug to reach the mineral
 - ❖ Props are erected to support the roof
 - ❖ The mineral is blasted/ dugout the roof
 - ❖ The mineral is blasted/ dugout/ drilled
 - ❖ It is transported on light rail tracts/ conveyer to the bottom of the surface
 - ❖ Cranes/gedges used to transport the ore to the surface
 - ❖ Gedges are used to transport miners and their equipment
- (6x1= 6 mks)

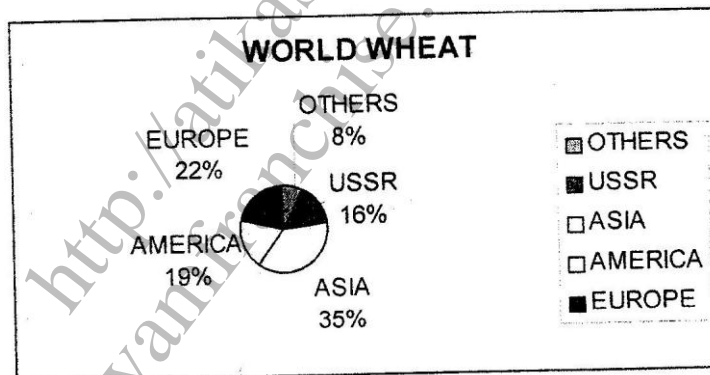
- (c) It provides raw materials for manufacturing industrial/chemical/ building and construction industries
- ❖ Mining stimulates development of transport/ infrastructure communication opening up remote minerals rich areas
 - ❖ The mining industry generates employment opportunities which raise the standards of living for the employees
 - ❖ Mining promotes agriculture by providing markets
 - ❖ Mining facilitates provision of social amenities
 - ❖ Mining encourages development of skills/ technology which can be applied in other sectors of the economy
 - ❖ It leads to settling up other related industry
 - ❖ It is a source of income which raises the standards of living of people selling minerals. *Any 4 x 2 = 8mks)*

- (d) Pollution of air/ water/ land noise
- ❖ Dereliction of land/ ugly surface/ land slide scars
 - ❖ Disruption/ lowering of the water table
 - ❖ Loss of biodiversity/ plants and animals
 - ❖ Leads to soil erosion/ degeneration of soils *Any 4 x 1 = 4 marks)*

8. (a) (i) It is the process of change from primary to secondary and tertiary production/settling up of more industries
- (ii) Oil refining - Mombasa
- ❖ Paper manufacturing – Webuye
 - ❖ Motor vehicle assemble – Nairobi / Mombasa/ Thika
- (b) Availability of coal from within the region. Iron ore from the Rhine valley and later imported/ limestone provided raw materials needed in the industry.
- ❖ Presence of navigable river Rhine which provided cheap transport for the bulky raw materials and finished products
 - ❖ Rich merchants and companies provided the capital required for the establishment of the industry
 - ❖ Presence of other industries in the region such as food and textile industries provided industrial inertia.
 - ❖ Coal/ imported petroleum provided power required in the industry
 - ❖ river Rhine/ its tributaries provided water required for the cooling in the industry.
 - ❖ The local population had acquired the skills on iron working. These formed the foundation of iron and steel industry.
 - ❖ Availability of ready market from Western Europe/ Local Market
 - ❖ Tributaries of Rhine e.g Lippe, Ra should be created *5 x 2 = 10 mks*

- (c) It requires less capital to establish since it is made up of small – scale units
- ❖ It creates employment for the growing labour force raise the standard of living of the people/ income
 - ❖ It products mainly for the local market thus the country save foreign exchange / earns foreign exchange.
 - ❖ It does not require expensive machinery since production is manual
 - ❖ It facilitates decentralization of industries since it spreads easily thus checking rural urban migration
 - ❖ It produces relatively cheap products that are affordable by many improving the quality migration
 - ❖ It produces relatively cheap products that are affordable by many improving the quality of living
 - ❖ It uses locally available/ scrap metals recycled raw materials thus reducing the cost of imports/ conserves the environment
 - ❖ It imitates the products that are already in the market thus spreading technological skills/ innovations
 - ❖ It operates at grassroots levels thus uses locally available skills
 - ❖ It empowers the people to initiate projects thus reducing reliance/ dependence on the government, donors, self sufficiency.

9. (a)



- (b) Name - Alberta - Manitoba - Saskatchewan (any 2 x 1 = 2 mks)
- (c) Wheat growing areas receives between 500mm and 1270m/ moderate rainfall which enhance growth of wheat
- ❖ The area experience a warm dry sunny spell which enhance ripening/ harvesting
 - ❖ The area experiences at least three months with temperatures ranging from 15°C to 20°C warm temperature which enhance ripening/ harvesting of wheat.
 - ❖ The areas have fertile/ Volcanic soils which sustain high production

- ❖ The land where wheat is grown is gentle/ fairly undulating level which enables mechanization Any 3 x 2 (6 mks)

- (d) Wheat growing in Canada is more mechanized leading to higher production than in Kenya
- ❖ More capital is available in Canada enabling farmers to sustain production
 - ❖ Farmers in Canada are more experienced Skilled/ Technology long history of wheat production than in Kenya
 - ❖ Advanced scientific research in Canada enables the production of higher yielding seeds better farm inputs control of pests and disease/ overcome limitations of weather
 - ❖ Wheat farmers in Canada specialize in wheat production while in Kenya farmers practice mixed farming
 - ❖ Government policy incentive of subsidization in Canada which is not available in Kenya.

<http://atikaschool.org>
sales@manyamfranchise.com [0722 450425]