GEOGRAPHY I
PAPER I

SECTION A.

1.(a) Name the effects of the revolution of the earth. *(3mks)*
   (b) What is an equinox? *(1mk)*
   (zzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzz
      tate **four** evidence that supports the continental drift theory. *(4mks)*

2.(a) Give **three** physical properties used for identifying different types of rock. *(3mks)*
   (b) State **two** factors influencing the formation of Metamorphic rocks. *(2mks)*

3.(a) Define the term Magma. *(1mk)*
   (b) Briefly explain the formation of a hot spring. *(3mks)*

4.(a) What is hydrological cycle *(1mk)*
   (b) Draw a well labelled diagram of the hydrological cycle. *(5mks)*

5. State **two** ways in which underground water may reach the surface of the earth. *(2mks)*

SECTION B.

6. Study the Map of Oyugis (1:50,000) and answer the following questions.
   (a) i) Name the natural feature at Grid Square 7040. *(1mk)*
      (ii)   What Man-Made feature is found at Grid reference 697374.
      (1mk)
   (b) i) What is the bearing of Okota School (GR 679211) from Nyanyao School
      (GR 753240). *(1mk)*
      (ii) What is the length in KM of the district boundary shown in the Map. *(2mks)*

         hat is the area in square kilometres of the land enclosed by Kodera Forest. *(2mks)*
   (c) Describe the drainage of the area covered by the Map. *(5mks)*
   (d) Citing examples from the Map explain why brick-making is a wide spread activity in
      Oyugis. *(7mks)*
   (e) Citing evidence from the Map name four crops which are grown in the area covered
      by the Map. *(4mks)*
   (f) You intend to carry a field study on Landforms between imbo school (GR 705343)
      along the road to Somro 70448.
   i)   State **two** hypothesis of your study. *(2mks)*

7. (a) i) Give the **three** types of soil classification by order. *(3mks)*
      ii) State **four** factors influencing soil formation. *(4mks)*
   (b) i) What is soil eluviation. *(1mk)*
      ii) Draw a well labelled profile of a mature soil. *(5mks)*
   (c) State **five** uses of soils. *(5mks)*
   (zzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzz
      tudents of a School in Makueni carried out a field study in the surrounding areas.
      i)   What causes of soil erosion did they identify. *(4mks)*

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hat recommendations would you suggest to the farmers in curbing down the problems.
(3mks)

8(a) Briefly explain the following terms:-
   i)   Solifluction   *(2mks)*

       Slumping   *(2mks)*
   (b)   What are the apparent signs of soil creep on hillsides?   *(3mks)*
   (zzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzz
) Give **four** ways in which landslides may take place.   *(4mks)*
     ii)   Explain the factors responsible for Mass-Wasting.
        10mks)
   (d) What are the effects of Mass-Wasting to the human and physical environment.   *(4mks)*

9. (a) Name **three** mountains in East Africa where glaciers are found.   *(3mks)*
   (b)   With the aid of well labelled diagrams, describe the processes involved in the
      formation
        of a corrie lake.   *(8mks)*
   (c)   State **five** ways in which glaciated landscape is of significance to human activities.
        (5mks)
   (zzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzz
      uppose students were to carry out a field study on glaciation on Mt. Kenya.
      i)   Give **two** reasons why they would need a route Map.   *(2mks)*

          ame **two** types of Morraines they are likely to study.   *(2mks)*

          ist **three** methods they are likely to use to record data during the field study.   *(3mks)*
      iv) State **two** problems they are likely to experience during the field study.   *(2mks)*

GEOGRAPHY I
PAPER I
MARKING SCHEME.

1(a) Varying length of day and night.
   -    Changes in the position of the midday sun at different times of the year
   -    The four seasons.   *3x1 = (3mks)*

(b) Equinox is the time when the sun is overhead at Midday along the equator on 23rd September
   and 21st March.   *1x1 = (1mk)*

(zzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzz)
   ectonic evidence / geological evidence the distribution of fold Mountain and volcanic zones
   which are comparable from one side of the ocean to the other.
   *   Paleomagnetic studies indicate that the present continents developed from a single
        continent .
   *   Biological evidence - the study of fossils showing the distribution of plants and animals
        in the past.
   *   Jig saw - fit theory e.g. the south America continent can fit into the Western Coast of
        Africa (Topographic   evidence).

* The similarities in climates where by the fowl Southern continents reveal signs of a period of large scale glaciation some 250 Million years ago.
* Paleomagnetic dating - By examining the Magnetism of very old rocks, it is possible to place the position on the earth's surface where they are formed.

3x1 = (3mks)

2(a) - Colour
* Crystal size and shapes
* Degree of hardness
* Lustre
* Transparency
* Relative density
* Tenacity
* Cleavege
* Taste / Odour and texture / feel.   *3x1 = (3mks)*

(b)   - The stability of the minerals that is formed
* The chemical reactions of minerals in the rocks
* The solubility of the rocks
* The degree of porosity.
* The resistance of the rock to heat or pressure.   *2x1 = (2mks)*

3. (a) Magma is Molten Materials in the earth at a very high temperature and under intense pressure.   *(1mk)*
   b) Formation of hot spring
   * Water enters / infiltrates into the underground through joints.
   * Water is superheated by very hot rocks which are in contact with the Magma.
   * Pressure builds up
   * The Superheated water flows out quietly through an opening.
     The word quietly must be mentioned to score a maximum.   *(3mks)*

4.(a) Hydrological Cycle is the endless interchange of water between the sea, the air and the land.   ***(1mk)***
   b) Hydrological cycle.

5. May reach the earth's surface through
   * Springs
   * Wells
   * Artesian basin   *(2mks)*

6(a) i) River   *(1mk)*
     (ii) Water hole / road   *(1mk)*

(b) i) $225^0 \pm 1$ *(2mks)*
    (ii) 2a.1 km   *(2mks)*

       .5Km^2 ± 1   *(2mks)*

(c) - Most of the rivers in Oyugis are Permanent.
    * The main River in Oyugis is River Riana which has many meanders

* The drainage is well drained except for a small section with a seasonal swamp - this is on the east of Oyugis.
* The dominant drainage pattern is dendritic.
* Most rivers are at their youthful stage.   *4x1 (4mks)*

(d)- Availability of water - this is shown by the presence of many rivers
   * Availability of sand and clay - this materials are got from the rivers.
   * Availability of cheap labour - this is due to large population.
   * Ready Market - which is provided by the high population.
   * Lack of forests - hence bricks are the only available materials for building.
                              Well explained points4x2 (8marks)

(e) - Coffee   - Coffee factory
   * Cotton   - Cotton store
   * Sugarcane - Sugar Research Station,
              * Jaggery
   * Maize- Flour mill   *3x1 (3mks)*

(f) - Hilly landscape has influenced settlement
   * The landforms of the Oyugis have influenced many economic activities.
     N/B Any other well formulated hypothesis.   *2x1 (2mks)*

7.(a) - Zonal
   * Azonal
   * Intrazonal   *3x1 (3mks)*
(ii)
   * The nature of the Parent-rock
   * Climate
   * The living organisms
   * The topography of the area
   * The length of time
   * Gravity   *4x1 (4mks)*

b) Eluviation - is a type of leaching in which weathered materials are moved in solution from horizons 'A' to horizon 'B' and 'C'

Horizon A (Top-soil)

Horizon B (Sub-soil)

Horizon C (Partly weathered)
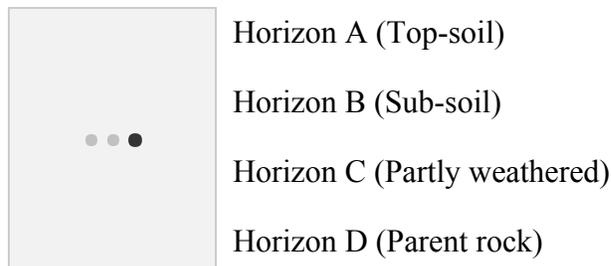
Horizon D (Parent rock)   **(5mks)**

* Gives physical support for the rooting system of plant
* Habitat for bacteria which are necessary for breakdown of organic matter into humus.
* Medium through which plants absorb water.
* Provide minerals elements.
* Soils are used for building and construction.
* Some soils are used for decorative purposes e.g. Ochre
* Soils are source of minerals especially to expectant mothers.
          5x1 (5mks)

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(d)
* High population increase
* Poor grazing methods
* Poor management of bench terraces
* Nature of landscape
* Nature of climate
* Charcoal burning
* Nature of climate - Prolonged drought which leads to decreased vegetation.
                    4x1 (4mks)

(ii) **Give the following recommendations:-**
* Planting of cover crops
* Improve on bench terraces and manage them well.
* Contour farming on the hilly areas.
* Regulation of the number of animals kept.
* Afforestation and reafforestation.
* Agro forestry   *3x1 (3mks)*

8.(a) Solifuction - is the down hill viscous flow of rock debris saturated with water.
    - This is especially when released by thaw over the still frozen ground beneath.
                                                    (2mks)

(ii) Slumping - is a type of Mass Movement involving an actual shearing or tearing away of rock materials along a concave slope usually with a rotational movement.   *(2mks)*

b) -   Bending of fences and trees.
   -   Forms mounds of soil behind walls
   *   Sinking and tilting of building.   *3x1= (3mks)*

(c) -   Slumping
   *   Debris slide   - Debris fall
   *   Rock slide   - Rock fall
   *   Avalanches   *4x1 (4mks)*

11. -   Slope - Mass Movement is faster on steep slopes.
    *   Climate - it mainly occur in areas of high rainfall
    *   Vegetation - Bare landscape experience more mass wasting
    *   Nature of rock materials - Large rocks more rapid and tend to slide easily over clay.
    *   Tectonic movement - movement such as earthquakes trigger off Mass Wasting.
    *   Human activities such as mining - accelerate the rate of mass wasting.
                                                    5x2 (10mks)

d) -   Form gullies which hinder movement of vehicles.
   *   Leaves scars on slopes which encourage soil erosion
   *   Form mounds which may block rivers and change their causes.
   *   Materials carried form fertile soils in areas they are deposited.
   *   Lead to damage to property and loss of human life.
                                                    4x1 (4mks)

9.(a) - Kenya
   Kilimanjaro
   Ruwenzoris   *3x1 (3mks)*

b) - Form from an original slight depression or hollow.
   *   It is filled with snow which starts cutting back and deepens the floor.

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* The floor is deepened by abrasion and sapping
* The walls are steepened by plucking
* Melt water help to wash away disintegrated debris.
* When this depression is filled with water it forms a cirque lake.   *(8mks)*

c) - Outwash plains form part of the worlds rich farming area.
* Lakes form vital importance natural routeways and source of food (fish).
* Waterfalls resulting from hanging valleys provide suitable sites for the generation of HEP.
* Features attract tourists.
* During summer glaciated lands provide good pasture for livestock
* Erosion by continental ice sheets exposed minerals.
* Floods provide good fishing grounds
* Floods are not easily accessible from the mainland.
* Extensive areas of land are sometimes turned into numerous lakes by Moraine deposits.

* Outwash plains contain infertile sands which give rise to extensive areas of waste land.
* Boulder clay deposits can interfere with drainage creating a marshy landscape.
                                                5x1 (5mks)

(d) - For direction
*   To be able to locate features.   *2x1 (2mks)*

(ii) - Ground   - Terminal
    - Lateral
    - Medial   *2x1 = (2mks)*

(iii)   - Photographing
    * Drawing sketches
    * Note - making
    * Talling   *3x1 = (3mks)*

    - Unpredictable weather
    * Steepness of the area
    * Thick vegetation
    * Getting tired   *2x1 = (2mks)*

GEOGRAPHY I
PAPER II

SECTION A.

1.(a)
(i) State the factors that favour agricultural production in Kenya.   *(3mks)*
(ii) What factors have led to changes in subsistence farming?   *(3mks)*
(b) What are the advantages of plantation farming.   *(4mks)*

2.(a) What is the major differences between Market gardening and horticulture.   *(3mks)*
(b) State **three** factors favouring horticultural farming in the Netherlands.   *(3mks)*

3.(a) What is domestic tourism. (1mk)
  (b) Name **three** airports in Kenya where tourists arrive from overseas. (3mks)
  (zzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzz(zzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzz
      hich problems are associated with the tourist industry in Kenya. (3mks)

4. What is afforestation. (1mk)
5. Define the term transhumace. (1mk)

SECTION B

6. World Wheat production by region.

Region	% of Wheat Production
Asia	35
Europe	22
North America	19
USSR	16
Others	8

a) Draw a Pie Chart to Illustrate the information given above. (5mks)
b) Name
   i) **Two** districts in Kenya where wheat is grown on Commercial Scale. (2mks)

      wo Wheat producing provinces of Canada. (2mks)
c) Explain **three** conditions that favour Wheat farming in Kenya. (6mks)
d). Explain **five** factors which enable Canada to produce more Wheat than Kenya. (10mks)

SECTION B

7.(a) i) What is deforestation. (2mks)
     (ii) What are the causes of deforestation. (4mks)
  (b) Outline the stages involved in the extraction of timber from natural forests. (4mks)
  (zzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzz
     ccount for **four** characteristic of the tropical rain forest. (8mks)
  (c) Describe the ecological uses of forests.

8.(a) Name **four** ways in which minerals occur. (4mks)
  (b) State the factors affecting exploitation of minerals. (5mks)
  (zzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzz(zzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzz
) Name **one** area where gold is mined in South Africa. (1mk)
     (ii) Describe methods of mining gold in South Africa. (5mks)
  (d) i) What are the problems of mining in South Africa? (5mks)
     (ii) In what ways had gold contributed to the economic growth of South Africa. (5mks)

9. (a) i) Define the term Nomadic Pastoralism. (2mks)
     (ii) Name **two** Nomadic Pastoralists Communities in Africa. (2mks)
   (b)   Give **five** factors that have favoured the development of beef farming in Argentina.
      (5mks)
   (zzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzz(zzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzz
     tate **six** problems that face Nomadic Pastoralists in Africa. (6mks)
   (c)   Explain **five** changes that are taking place to improve Nomadic Pastoral area in Kenya.
                                                                              (10mks)
GEOGRAPHY I

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PAPER II
MARKING SCHEME.

1. a)
   i) Climate i.e. temperature and rainfall

      opography i.e. hilly plateau

      oil i.e. composition, structure

      iotic factor i.e. weeds insects

      ocial factors i.e. operation cost, marketing expenses and government policy.
      3x1 = 3mks

(ii)
   i) It is wasteful and unrewarding

      here is not enough food for the community all the time from the fields.

      lot of labour is needed and returns are very low.

      he harvest is usually very poor

      ncrease in population hence no enough land for migratory agriculture.
      3x1 = 3mks

b)
   i) Since farms are scientifically managed, the crop produced is of high quality

      stablish relationship with the world markets

      uch of their requirements are bought in bulk and this ensures low production costs

      lantations employ a large number of people who would have otherwise been jobless.
      4x1 = 4mks

2. a) i. In horticulture, vegetables, fruits and flowers are grown while in market gardening only vegetables and fruits are grown.
   ii. Market gardening is more labour intensive than horticulture

      arket gardening is local market oriented while horticulture is mainly export oriented.
      3x1 = 3mks

   b) i. The coastal dunes and sandy soils which are well drained and quickly warmed up in spring.
   ii. The area is free from frost throughout the year due the presence of the warm Gulf stream.

      he sunny summers allow the flowers to blossom
   iii. Advanced technology i.e. use of hot or glass houses.

      ood transport system such as Rotterdam, canals, rivers roads and railways.

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resence of skilled labour which ensures high production and quality packing.

t is centrally located making it accessible to foreign markets

arketing system is highly organized.   *3x1 = 3mks*

3. a) Sight seeing within your country for leisure.   *1x1 = 1mk*
    b) Jomo Kenyatta International Airport
       Moi International Airport - Mombasa
       Malindi Airport.   *3x1 = 3mks*
    c) - Influence on drug addiction to the youth.
       - Encourages poaching for animals products which may sell highly.
       - Youth abandoning school to go and guide tourists
       - Lowering of social morals
       - Contraction of diseases.   *3x1 = 3mks*
4. The process of planting trees where there was none before.   *1x1 = 1mk*
113213776.   This the seasonal movement of people and their animals, in which the people
    spend the dry season in one place and the wet season in another.   *1x1 = 1mk*

SECTION B

6.   Asia 35%   - 126
        Europe 22%   - 79.2^0
        North America 19%   - 68.4^0
        USSR 16%   - 57.6^0
        Others 8%   - 28.8^0

<u>A PIE-CHART SHOWING PRODUCTION OF WHEAT</u>
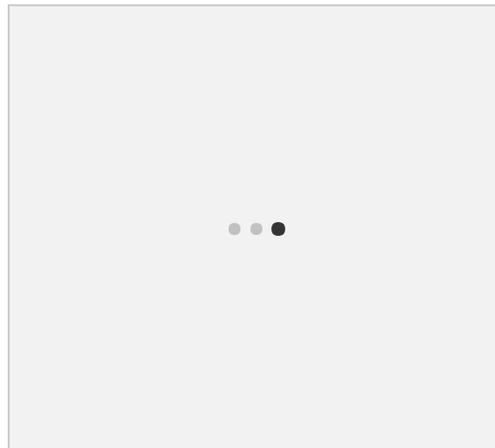
                                                        (5mks)

b) i.   - Uasin Gishu
         - Nakuru
         - Nyandarua
         - Trans-Nzoia   *2x1 = 2mks*

    ii. - Sakaskatchewan
         - Alberta
         - Manitoba   *3x1 = 3mks*
         -

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c) i. Temperature - The temperature of the Wheat growing areas is about 20^0

   ii. Topography - The areas have an open rolling topography which provides adequate drainage and facilitates the use of machinery.

   oils - The areas are covered either with light clay or heavy loam which is suitable for Wheat growing.

   iii. Rainfall - It varies from 400-1100m which is adequate for Wheat growing.

$$3x2 = 6mks$$

d) - Extensive Tracks of land - Canada has very extensive tracks of land than Kenya. This enable large scale mechanised wheat cultivation.
   - Elaborate Transport network - railway network which crisscrosses the prairies. This offer Mass transport services of Wheat and labour to Urban Market and Coastal port.
   - Soils - The soils have gone for centuries undisturbed. Thus, humus has accumulated and has led to fertile soils unlike in Kenya
   - Markets - The large urban population of Canada offers a sizeable domestic market. It is also exported to another countries
   - Topography - It is undulating leading to well - drained soils and extensive mechanisation.

$$5x2 = 10mks$$

7. - This is the process of felling trees without replacing them.
   - Human settlement - as the population rises more land is cleared for settlement.
   - Clearing for Agriculture development - As the population rises there is a greater need for food hence more land is cleared.
   - The need for fuelwood - since wood is the main source of fuel in developing countries the trees are cut.
   - Industries - trees are cut to provide raw materials for the industries.

b) - Preparation
   - Felling
   - Extraction
   - Replanting $4x1 = 4mks$

c) - The forests are evergreen - this is because they have a variety of species which shed their leaves at different times of the year .
   - The trees are tall with straight smooth trunks - this is because of high rainfall and competition for sunlight
   - The trunk are large in size, bulky and buttress - the buttress roots are to support the huge trunks.
   - There is little or no undergrowth this is because of the continuous canopy formed by the trees.

   - Leaves of trees are broad to allow photosynthesis.
   - There are different species of tree (forest is luxuriant), this is because of availability of water
   - Forest is found in three layer this is because of competition for sunlight.
        $4x2 = 8mks$ *Any relevant point*

d) - Preservation and conservation of the environment.
   - Regulation of climate
   - Provide suitable habitat for wildlife

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-      Some trees are used in manufacturing of medicine
-      Rotting leaves contribute to the humus content of the soil
-      Provide materials for building
-      Provide raw - materials for industries
-      Has a scenic value to landscape.   *6x1 = 6mks*

8.   a) . Veins and lodes
-      Beds and seams
-      Weathering products
-      Alluvial or placer deposits

b) - The value of minerals
-      Mining costs
-      Technology in mining
-      Capital to purchase machinery
-      Market availability
-      The size of the deposit.
-      Political stability
-      Power for mineral extraction
       Any other relevant point   *5x1 = 5mks.*

c) i. Johannesburg (or wit waters land or Transvaal)   *1x1 = 1mk*
ii. -   Mining shafts are sunk to the reefs bearing gold
-      Tunneling to the ore is done by electric drills.
-    Gold ore is then got by explosive means and taken to the surface by lifts Processing gold in South Africa.
-    The ore is crushed to a powdery dust
-    Mixed with Zinc dust to precipitate, cyanide is added to dissolve the gold content
-    As gold is mined together with Uranium, filtering is necessary or dissolving in Sulphuric acid
-    It is then smelted to refine and remove impurities and cast into ingots.
       5x1 = 5mks

d) - Gold bearing reefs are deeply found underground and it is therefore expensive to mine.
-    Large capital is required to start a mine. This is because folds and faults within the crust complicate mining
-      Low gold content in a big ore.
-      Problem of residue or waste disposal
-      High cost of labour
-      Problem of underground water removal
-      Collapsing of the mines leading to loss of life.
-      Shortage of power.   *5x1 (5mks)*
  b) - Earns foreign exchange
  -      Leads to industrial development
  -      Avails employment
  -      Increases the living standards of people
  -      Results to development of Agriculture in the local areas
  -      Leads to improved communication and transport
  -      Provision of social amenities.   *5x1 (5mks)*

9.   a) - It is the constant or seasonal migration of people from place to place looking for pastures
        and water.

   ii. - Fulani
        - Maasai
        - Nubia
        - Hotentots
        - Tuareg   *2x1 (2mks)*

b) - Presence of fertile soils which are washed from the foothills of Andes.
   - Well distributed rainfall throughout the year:- Which is about 1000mm
   - Summer temperatures rising above 24^0C and lowest Winter temperature about 10^0C favour the growth of grass
   - Pampas receives on-shore moist winds from the north which brings reliable R/fall.
   - The cattle rearing area is flat and low which provides good natural grazing landscape with good pastures
   - introduction of European cattle breeds which are good quality cattle
   - Availability of alfafa which has increased production of beef cattle because of high nutrients content.
   - Well organised and fairly mechanised cattle ranches.
   - Well developed railway network which help in transporting beef cattle to the factories.
                                                                     5x1 (5mks)
c) - Lack of water
   -      Accidental fires
   -      Lack of pastures
   -      Keeping of poor breed of animal which produce low yields
   -      Exploitation by middlemen
   -      Pest and diseases.
   -      Overstocking leading to poor pastures
   -      Poor marketing systems
   -      Social constrains   *6x1 = 6mks.*

d) - Creating of dams which will provide water for the animals
   -      Creating of ranching schemes in arid areas to improve of the quality of animals kept.
   -      Provide dipping equipment to prevent pest and diseases.
   -      Purchasing pedigree and cross breeding with local good stock
   -      Control stock number to prevent overgrazing
   -      Provide vertinary services to treat the sick animals
   - Organizing forums to educate the nomads on strategies and importance to improve their system of livestock farming.   *5x2 = 10mks*

GEOGRAPHY II
PAPER I

SECTION A.

1. a) Define the term atmosphere.   1mk
    b) Name the **four** layers of the atmosphere.   4mks

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2. a) What is mass is Eclipse?   1mk
   b) Briefly explain how the lunar eclipse occurs.   3mks

3. a) What is mass wasting.   1mk
   b) State **four** factors that influence mass wasting.   4mks

4. a) State the factors that influence weathering.   4mks
   b) Explain how the process of exfoliation takes place.   3mks

5. a) What are earthquakes.   1mk
   b) State the **two** human causes of earthquakes.   3mks

SECTION B

6. **Study the map of Mathioya (1:50,000) provided and answer the following questions**.

   a) i) Give a **six** figure grid reference for Ndiani School.   1mk
      ii) What is the height of the spot height at grid reference 758405.   1mk
      iii) What is the relief feature shown at grid reference 741412.   1mk
      iv) What is the direction and bearing of Kagongo School from Gichichi Youth Club.
                                                                                                  2mks
   b) i) Measure the distance of the National park boundary on the map extract. Give your
          answer in Kilometers.   2mks
      ii) What is the area in square kilometres of Aberdare Forest South of the district
          boundary.   2mks
   c) Describe the drainage of the area covered by the map.   5mks
   d) Describe the distribution of settlement in the area covered by the map.   5mks
   e) Student of a school in Mathioya carried out a field study on the hydrographical features
       found in the area covered by the map.
      i)   Name **one** artificial and one natural hydrographical feature found in the area. 2mks
      ii)   What preparations did they make before the actual study.   2mks
      iii)   Give **two** evidences from the map which indicate that the area has high rainfall.
                                                                                                  2mks
7. a) Define the term hydrological cycle.   1mk
   b) Explain the **four** processes of river erosion   8mks
   c) State the conditions necessary for the formation of waterfalls.   6mks
   d) i) Name **three** types of deltas.   3mks
      ii) State the conditions necessary for the river deposition.   4mks
      iii) Name **three** main types of drainage systems.

8. a) i)   What is a Desert?   1mk
      ii)   List **three** factors, which contribute to development of a desert.   3mks

   b) i) Briefly explain **three** methods of wind transportation.   6mks
      ii) State **three** factors influencing wind transportation.   3mks
   c) Explain how a bajada is formed.   4mks
   d) You have planned to carry out a study of desert landforms.
      i) State **three** ways in which you would prepare for the study.   3mks
      ii) Name **three** depositional features you are likely to study.   3mks
      iii) List **two** problems you are likely to experience during the study.   2mks

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9. **A MAP OF AFRICA.**

a)   i) On the outline map of Africa provided, name the vegetation marked X, Y and Z.
3mks
     ii)   State the characteristic feature of the vegetation marked y.   5mks
b) State the factors that influence vegetation types and distribution.   5mks
c) State the significance of vegetation   7mks
d) During your field study, you intend to study vegetation around your school.
    i)   State **two** objectives of your study
    ii) What is reconnaissance?
    iii) What method would you use to collect your data.

GEOGRAPHY II
PAPER I
MARKING SCHEME.

SECTION A.

1. a) Atmosphere is a layer of gases surrounding the earth and held by its gravitational
        attraction.
    b) - Troposphere
        - Stratosphere
        -   Mesosphere
        -   Thermosphere.   *4 x 1 = 4mks*

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2. a) An eclipse is a shadow that results when the sun's rays are blocked from reaching the earth or moons surface.   1mk
    b) - Occurs when the earth lies between the sun and the mood.
        - This casts the shadow of the earth onto the moon
        - They happen at night
        - Since the moons orbit is inclined, partial lunar eclipses are experienced more than total eclipses.

3. a) It is the downward movement of weathered materials on a slope under the influence of gravity
    b) nature of the slope
        - The nature of materials
        - Climate of an area especially areas with a lot of rainfall
        - Vegetation cover of an area
        - Tectonic movement within the earth's crust.
        - Human activities ie mining, quarrying.   *4 x 1 = 4mks*

4. a) - Climate - Sunshine rain, frost and temperatures.
        - Plant and animal facilities weathering.
        - Chemical composition of rocks
        - Relief – Nature of the slope
        - Structure and texture of the rock.   *1 x 4 = 4mks*

    b) - During the day the rock is heated.
        - Since rocks are poor conductors of heat little or no heat is transferred to the inner layers of the rock mass.

        - The outer surface gets so heated up that it pulls off from the inner layers
        - This causes the surface of the rock to * Peel of.
    -   Must be mentioned to get maximum marks.   *3 x 1 = 3mks*

5. a) Earthquake is the trembling or shaking of rocks on the surface of rocks on the surface of the earth caused by shock waves that originate from the earth's crust.

    b) - Explosions resulting from the underground nuclear tests carried out by man.
        - Construction of large reservoirs – dams
        - Trains and explosives used in quarries cause tremors in short distances.
                                                                    3 x 1 = 3mks
    SECTION B.

6. a) i) 768378
        ii)   1760m
        iii) Trigonometrical Station
        iv)   Direction - East Bearing   - 93^0

    b) i) 4.2 km
        ii) 52.5 km^2

    c) -   The drainage features consist of rivers reservoir and a swamp.
        -   Most of the rivers rise from the Aberdare forest and generally flow Eastwards.
        -   The main rivers have tributaries, which form dendritic pattern

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- The rivers have numerous bends/ meanders along their courses
- All the rivers are permanent
- Rivers are numerous.   *5 x 1 = 5mks*

d) - There are few / no settlements in the forested areas.
  - Most settlements are found near/along the roads and motorable tracks/ linear pattern.
  - There are few / no settlements along the rivers
  - The swampy area has no settlement
  - Karima hill has no settlement
  - There are more settlements on the ridges than in the valleys.
  - There are more settlements on the Eastern part than in the Western parts of the area covered by the map.
  - There are clusters / nucleated settlements at shopping / market centres.
  - East of Easting 70 is densely settled.
  - The central part (Between 60 and 70) is moderately settled.
  - West of the Easting 60 is sparsely settled.   *5 x 1 = 5mks*

e) i) Artificial   Dam, Watertank.   1mk
      Natural - Rivers, Swamps   1mk

   ii)   - Writing the objectives, hypothesis
     - Identifying the area of study
     - Asking for permission
     - Looking for transport
     - Reading Secondary materials.   *2 x 1 = 2mk*

   iii)   - Presence of forests / ba
     - many rivers / tributaries
     - Growing of tea (Tea factory)
     - Coffee growing (Coffee factory)   *2 x 1 = 2mks*

7. a) hydrological cycle is the endless circulation of water from the oceans into the atmosphere through evaporation, back to the land in form of rain and again to the oceans in form of surface run off.   2 mks

   b) i) - Hydraulic process - This is the eroding force of water on rocks
     - This takes place when the force of the river water surges into cracks, sweeping against banks on the outside of bends with turbulence and eddying.
     - It erodes through quarrying or scooping by the water force.

   ii) Corrosion Abrasion process - This takes place when the materials scooped out by hydraulic action corrode (abrade) the river bed by swirling fragments in the hollow in the bedrock.
        - The materials deepen the hollows to form potholes.

   iii) Attrition process - the rock materials are reduced in size as they knock against each other.
     - Through frictional rubbing and grinding as they are transported the materials become more round and fine.

iv) Solution process - occurs when rocks with weak inorganic acids like humic acids (limestone) underlie the river course. They are dissolved the river water also called corrosion.   *4 x 2 = 2mks*

c) - Waterfalls formed where a river channel passes over underlying hardrocks
    - Waterfalls formed where river course flows over a fault scarp.
    - Waterfalls formed from a plateau
    - Waterfall formed as a result of rejuvenation
    - Waterfalls formed when a river channel flows over underlying volcanic dykes lava dams or plugs
    - Formed where a river enters the sea through a cliff
    - Formed in a glaciated uplands   *6 x 1 = 6mks*

d) i) - Arcuate delta
    - Esturine delta
    - Birds foot delta   *3 x 1 = 3mks*

    ii) - Reduction in gradient
    - Decrease in the rivers volume
    - Loss of velocity
    - Obstacles in the channel
    - Widening of the bed
    - Over loading
    - Freezing
    - Slow movement of the water.   *4 x 1 = 4mks*

    iii)   – Accordant drainage system
    - Discordant drainage system
    - Back tilted drainage system   ***3 x 1 = 3mks***

8. a) i) Desert is a barren land where rainfall is so scanty and sporadic that will not support vegetation adequately.

    ii)   - Change in climate.
    - Destruction of trees (deforestation)
    - Overstocking leading to overgrazing
    - Cultivation of marginal lands.   ***3 x 1 = 3mks***

    b) - Suspension - light dust particles are blow away by the wind and carried in suspension.
    - Saltation - medium size particles are carried in suspension
    - Soil creep - Heavier materials are rolled along t ground over only short distances.   ***3 x 2 = 6mks***

    ii) Speed and force of the wind
    - Nature of load
    - An intervening obstacle.   ***3 x 1 = 3mks***

c) – Found where a number of dry stream open into a depression (inland basin)
- It is formed when materials transported by the running water in a desert are deposited in a deposition
- Deposition is done by several dry stream in one (same 0 depression.
- Several deposited materials coalesce along the edge of this depression.
- It forms a gently sloping surface.   *4 x 1 = 4mks*

d) i) - Carry out a reconnaissance study
- Read from reference books
- Prepare sketch map of the area of study
- Formulate objectives for the study / hypothesis
- Prepare relevant tools/ stationery
- Seek permission
- Prepare questionnaire.   *3 x 1 = 3mks*

ii)   - Dunes/ barchans seif dunes/ transverse
- Drass
- Loess   *3 x 1 = 3mks*

iii) - Hostile weather conditions
- Wild animals (snakes)
- Rocky surface
- Dust storms   *2 x 1 = 2mks*

9. a) i) X - Mediterranean forest
     Y   - Tropical grassland
     Z   - Temperate evergreen forest.

ii)   - Are found in areas of low rainfall
- Have scanty tree growth
- Have xerophytic plants
- Vegetation changes with season – (green in wet season and brown in the dry season).
- Have deciduous types of trees.
- Have thorny umbrella shaped trees e.g Acacia

- Have varying types of grass
- Have tall grass
NB/ Any other relevant characteristic)   5 x 1 = 5mks

b) -   Climate - Rainfall and temperature
- Light for photosynthesis
- Winds for transpiration
- Relief, - Steepness of an area.
- Drainage factor
- Edaphic factor
- Mans activities.   *5 x 1 = 5mks*

c) -   Trees loose moisture to the atmosphere thus enhance rain
- Forest are catchment areas for rivers
- Vegetation protects the soil

- Trees support pulp and paper industries
- Trees provide building materials
- Materials for furniture
- Habitat for lower animals
- Pastures for animals.
- Forest for tourist attraction.   *7 x 1 = 7mks*

d) i) To find out the types of vegetation around the school.
- To identify the relationship between the type of soils and the vegetation.
- To find out the change of vegetation with altitude.

NB/ Any other relevant objective   *2 x 1 = 2mks*

ii) Is a pre-visit or a short visit before the actual study   1mk

iii)   - Note taking
- Sketching
- Observation
- Photographing
- Sampling
- Drawing

NB/ any other relevant point   *2 x 1 = 2mks'*

GEOGRAPHY III
PAPER I

SECTION A

1. a) Differentiate between revolution and rotation of the earth.   2mks
   b) Name the results of the earth's revolution   3mks

2. a) What is weather?   2mks
   b) Name **three** factors that affect humidity.   3mks

3. Draw the map of Kenya and on it mark the following
   i)   Lake jipe
   ii)   Lorian swamp
   iii)   Marsabit hill   3mks

4. Give the difference between river rejuvenation and river capture.   2mks
5. a) What is biological weathering   2mks
   b) List **three** causes of biological weathering.   3mks
   c) Diagrammatically show an overbank   2mks

SECTION B.

6. Study the map (150,000 sheet 197/4) of Mariakani provided and answer the following questions.
   a) Identify **one** physical feature found at grid reference 4582   1mk
   b) What is the bearing of Pemba School at grid reference 484633 from Maweu school

at grid 516653   1mk

c) Identify **two** method used to show relief in the map   2mks

d) i) Measure the distance in km of the loose surface road E936 from the junction at grid reference 500728 to grid 540648   2mks

   ii) Find the area to the north enclosed by a powerline which run from the north to north West grid 412859 to grid 555746.   2mks

e) State and explain **four** physical factors that have influenced settlement patterns in the area   8mks

f) Students of Gwasheni school at grid reference 479745 carried out a field study on the land use in the area.

   i) Citing evidence from the map list four economic activities they identified.   4mks

   ii) List **two** social services offered in the area of study they might have identified 2mks

   iii) State three problems they might have faced during their course of study.   3mks

7. a) i) What is a waterfall?   1mk

   ii) Describe **four** ways of waterfall formation   12mks

   b) State any **four** causes of river deposition.   4mks

   c) Form **four** student went out for fieldwork to study river erosion processes.

   i) What arrangements were they likely to make before setting out.   4mks

   ii) List **four** erosional processes they are likely to identify.   4mks

8. a) i) What is soil?   1mk

   ii) State any **four** properties of soil   4mks

   b) How does topography influence a soil catena   4mks

   c) Describe the following processes in soil formation

      i)   Ferralisation
      ii)   Illuviation
      iii) Calcification
      iv)   Ribification   8mks

   d) Students from Nyamira Secondary. School went out for a geographical field trip to study about soils in Kisii central district.

      i)   How can they use sampling as a technique in their study.   4mks
      ii)   What are the advantages of sampling in fieldwork   4mks

9. a) Name **three** processes involved in wind erosion in deserts.   3mks

   b) With help of well labelled diagrams, explain the formation of the following desert features.

      i) Rock pedestal
      ii) Barchan
      iii) Messa and Butte   9mks

   c) i) What is desertification   2mks

   ii) Name **three** main types of deserts.   3mks

   d) i) Explain the role played by ocean currents in enhancing aridity   6mks

   ii) Give **three** examples of such ocean current and name the arid areas that result from their influence.   3mks

COMMERCE III
PAPER I
MARKING SCHEME

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SECTION A.

1. i) Revolution is the movement of the earth around the sun on its own axis while
      rotation is the movement of the earth on its own axis once in 24 hours.
   ii) -   Changes in the position of the midday sun
       -   Varying lengths of day and night
       -   The four seasons.

2. a) Weather is the atmospheric conditions of a given place within a short period of
      time e.g one hour or a day.
   b) -   Temperature
      -   Air pressure
      -   Latitude
      -   Distance from the sea.

3.

- *Well drawn map*
- *Indication - @ 1 = 3 total 4mks*

4. River rejuvenation is the renewal or revival of a rivers erosive activity.
   While river capture is the diversion of the headwaters of a river into the system of an
   adjacent more powerful one.   *2 x 2 = 4mks*

5. a) Biological weathering is the breaking of rocks by living organisms and it takes place
      in form of either chemical or mechanical weathering.

   b) -   Man
      -   Plants
      -   Animals   *1 x 3 = 3mks*

   c)

SECTION B.

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6. a) - Quarry
      - Natural vegetation e.g woodland   *any 1 x 1 = 1mk*

   b) $225^0 + 1$

   c) - Contours
      - Trigonometrical station
      - Spot height   *1 x 2 = 2mks*

   d) i) 8.5 + 0.1km   2mks
      ii) 79 + 1km²   2mks

   e) - Population is concentrated on gently sloping areas
      - Flat areas are sparsely populated
      - Vegetation are sparsely populated
      - People avoid settling in forests
      - Drainage – people are concentrated near river valleys

                                                           2 x 4 = 8mks

   f) i) - Cattle keeping   - Cattle dips and vertinary offices.
         - Mining   - Quarry
         - Trade   - Presence of shops
         - Transport and communication - Roads   *4 x 1 = 4mks*

      ii) - Education   - Presence of schools
         - Administration   - Offices
         - Transport and communication - Communication line
         - Religion   - Church
         - Health   - Dispensaries   *any two 2 x 1 = 2mks*

      iii) - Lack of time for data
          - Unpredictable bad weather condition
          - Inaccessibility
          - Lack of cooperation form the respondents.   *3 x 1 = 3mks*

7. a) i) A waterfall is a sharp break on the river channel over which a river falls
      ii) A waterfall is formed:
      - Where a river channel passes over underlying hard rocks lying vertically, horizontally
        or cutting at a dip e.g Gurv falls and Thika falls.
      - Where a river enters a sea through a cliff
      - Where a river channel flows over underlying volcanic lava dams or plugs
      - Waterfalls formed in a glaciated upland e.g where a river flows from a hanging
        valley.   *Any 4 well described = 4 x 3 = 12mks*

   b) - Reduction in river gradient
      - Decrease in volume of water
      - Loss of velocity
      - Obstacle in the stream channel
      - Widening of the river bed
      - Overloading ie too much load in the stream
      - Freezing ie in cold areas

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- Emptying water into a slower moving bodies of water

<div align="right">*4 x 1 = 4mks*</div>

c) i) - Get permission from school
- Draw up objectives
- Make hypothesis / objectives
- Arrange for items or tools to be carried
- Organise for transport
- Read about rivers or discuss
- Make questionnaires
- Group the students
- Go for a pilot study.   *4 x 1 = 4mks*

ii) - Hydraulic process
- Corrosion
- Attrition
- Solution   *4 x 1 = 4mks*

8. a) i) Layer of the earth through which plants grow.
   ii) - Soil structure
- Soil texture
- Soil organic matter
- Air and water content
- Soil acidity
- Soil colour
- Soil porosity / permeability

b) Soil Catena is the arrangement of soil types down the slope.
- Top of mountain slope has light well aerated and are young and thin
- Middle slope – soils are moderately deep, erosion and leaching takes place here

- Valley bottom - Has alluvial soils deposits from up slope, soils are thick, and poorly drained.
- The topography there causes the changes at different levels.

c) **Ferralisation** - also called laterization.
- Process whereby leaching takes place from horizon A to B.
- Leads to formation of red soils in horizon A
- Takes place in humid land
- Leads to formation of Laterite or Ferrisols.

Illuviation - takes place where rainfall is lower than evaporation
- More concentration of minerals in horizon A than B.
- Calcification - leaching process where there is no movement of materials from one horizon to another.
- Leaching is minimised
- Allows the redeposition of calcium compounds within the same soil profile.
- Common in areas of low rainfall

Rubificaiton : Leaching where soils are dehydrated during dry season and leached during rainy season.
- Common in Tropical Savannah

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- Soils are bright red in colour and dehydrated.

4 x 2 = 8mks

d) i) - First divide the area using the Southing and Northing, using the available topographical maps.
- Secondly choose a sampling type to be used e.g spatial or non-spatial.
- Third, have the 10% of the areas or points to be studied to represent the whole repulation.
- Forth, after getting the study points (10%) or more than - you start working

ii) - It lessons the expenses
- It saves energy since the whole portion is not studied
- It saves time
- It teaches people (learners) the summary aspect of learning

4 x 1 = 4mks.

9. a) - Abrasion
- Attrition
- Deflation

b) **i) Rock pedestals**
- Form when a mass of an outcrop rock with alternating layers of hard or soft rock lie on the path of wind laddened with weathered materials.
- Soft layers are heavily eroded through abrasion attrition and deflation
- Harder layers resist erosion making the pedestal irregular.

ii) Barchans.
- Refers to cresent shaped sand dune which lie transversely to the direction of the wind.
- Formed when sand grains carried by wind meets an obstacles
- Materials are deposited behind the obstacle to form a gentle sand dune slope on the windward and steep slope on the leeward side.
- The eddyiud wind sweep the materials to the side leading to the formation of the horns on both sides of the barchams.

iii) Messa & Butte.
- Messas are extensive flat topped residual table lands. Which are generally capped with resistant rock layer.
- Buttes are small prominent residual flat topped hills - are capped with resistant rock.
- Formed due to water erosion in the desert.   *2 x 1 = 2mks*

c) i) Desertification - is the encroachment of barrenness into agricultural potential land.
   ii) Sandy deserts
       Stony deserts
       Rocky deserts. *3 x 1 = 3mks*

d) i) Cold ocean currents blowing along coastal regions bring cold conditions.
   - Cold conditions leads to formation of fog and mist
   - The ground and air along such areas is not heated, hence there is no turbulence
   - Winds also carry no moisture hence they are dry
   - This brings dry conditions and clear sky with no rainfall resulting to arid conditions.
     6 x 1 = 6mks

   ii) - Benguela currents   - Namib & Kalahari
       - Peruvian   - Atacama
       - Californian   - Californian desert
       - Canaries   - Sahara desert
       - Antarctic   - Australian desert   *3 x 1 = 3mks*

GEOGRAPHY III
PAPER II

SECTION A

1. a) Name any **two** types of exotic pigs kept in Kenya   2mks
   b) State **three** problems facing farmers in Kenya   3mks

2. a) Name **two** indigenous softwood species in Kenya   2mks
   b) State **three** problems facing forestry in Canada   3mks

3. a) State **three** common features between horticulture and market gardening   3mks
   b) State any **four** conditions that favour horticulture farming in Kenya   4mks

4. a) What is a polder   2mks
   b) State any four conditions that favour horticulture farming in Kenya.   4mks

5. a) What is domestic tourism   1mk
   b) State **two** measures which the Kenyan government is taking to promote tourism.   2mks

   SECTION B.

6. a) Study the table below and answer the questions that follow.
   a i) Showing all your calculations and using a radius of 4cm, draw a piechart to represent all
        the information in the table.

CROP	AREA (ha)
Coffee	300ha
Tea	150ha
Other crops	**50ha**
TOTAL	**500ha**

ii) State **three** advantages of using piechart to represent data.   3mks
b) Describe **five** geographical conditions necessary for the growth of tea   5mks
c) Describe tea growing in Kenya from planting to harvesting   10mks
d) State any **four** problems facing cloves in Zanzibar and Pemba   4mks

7. a) What is beef keeping?   2mks
b) Explain the efforts which are being made to improve beef farming in Kenya   12mks
c) State **five** limitations of beef farming in Kenya   5mks
d) State **three** physical and **three** human conditions that favour beef production in
   Argentina   6mks

8. a) State the factors influencing agriculture.   5mks
  b) i) What is shifting cultivation   1mk
     ii) What are characteristic features of shifting cultivation   7mks
  c) i) What is factory farming   1mk
     ii) Which animals are reared in factory farming   2mks
     iii) What are the problems of factory farming in Kenya   2mks

  d) i) What is plantation farming   1mks
     ii) What are the problems of plantation farming   6mks

9. a) What are the advantages of irrigation over natural water supplies   4mks
b) i) State the factors that triggered the rehabilitation of Mwea Tebere area.   5mks
   ii) What problems are experienced in Mwea Tebere Irrigation Scheme   8mks
c) i) What were the objectives of setting up the Olambwe valley project?   3mks
   ii) Explain **two** methods that were used to control the tsetseflies in the area you have
     mentioned in (b) above   4mks

GEOGRAPHY III
PAPER II
MARKING SCHEME

SECTION A

1. a) - Large white pig
    - Saddle back pig
    - Cross – breed pig
    - Landrance pig   *2 x 1 = 2mks*

  b) - Poor marketing - marketing not well organised
    - High prices of feeds
    - Competition from other meat
    - Disease and pests
    - Inadequate capital

-   Expensive to buy the inputs   *2 x 1 = 2mks*

2. a) - Podo
       - African pencil   *2 x 1 = 2mks*

    b) -   Large track of forests are destroyed by fires and diseases
       -   Inaccessibility of forests on the north due to ruggedness and very cold climate
       -   Trees take along time to mature

3. a) -   Plots are intensively farmed.
       -   Farms are generally small
       -   Products are market oriented
       -   Products are located around urban and accessible areas
       -   Fertile soils are needed
       -   Proper selection of seeds/ spraying to ensure high yields and profits
       -   Involve growing of fruits and vegetables   *3 x 1 = 3mks*

    b) -   Climate - hot and wet climate favour the growth of tropical crops
       -   Cool / wet condition favour the growth of temperature crops
       -   Fertile soils - volcanic soils
       -   Availability of market both nationally and internationally

       -   Investments by large companies
       -   Availability technical and financial assistance from friendly countries eg GAT
                                                                   4 x 1 = 4mks

4. a) A polder is a low lying reclaimed land enclosed by dykes, which protect the land
        against high water levels that has to be maintained outside the area.

    b) - Reclaimed land is fertile and suitable for cultivation
       -   Towns have been established
       -   Improvement of infrastructure and social amenities
       -   No threat from the sea
       -   Reclaimed land has been used to put up recreational centres.
       -   Land is available for expansion of towns.   *3 x 1 = 3mks*

5. a) Domestic tourism - the type of tourism whereby the local people visit tourist
                            attractions within their own country.

    b) -   Improving transportation systems
       -   Building hotels
       -   Preserving wildlife / eradicating poaching
       -   Improving security in the parks
       -   Promoting cultural heritage
       -   Advertising abroad
       -   Providing package tours
       -   Charging low rates during low tourist season.
       -   Establishing Kenya Tourists Development Co-operation KTDC and African Tours
           and hotels A.T. & h
       -   Training of personal at Utalii college.   *4 x 1 = 4mks*

6. i)

$$\underline{300} \times 360 = 216^0$$
$$500$$

$$\underline{150} \times 360 = 108^0$$
$$500$$
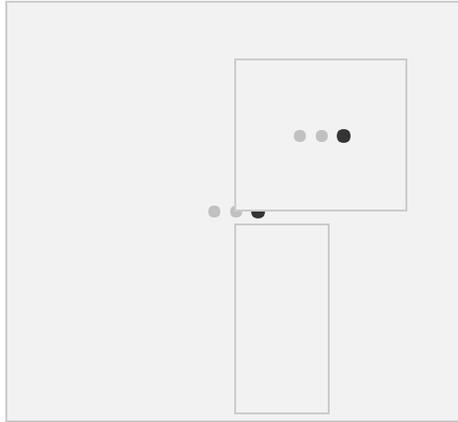
$$\underline{50} \times 360 = 36^0$$
$$500$$

NB/ Calculation should be shown

ii) - Simple to construct
   - Give clear visual impressions of individual components as a whole
   - Represent a wide range of statistical data   *3 x 1 = 3mks*

b) **Highland areas of altitude between 1000 – 2280m**
   - Evenly high distributed rainfall of about 1270mm
   - Deep light well drained acidic soil
   - Fairly warm temperature exceeding 21^0c
   - Plenty of cheap labour for picking   *5 x 1 = 5mks*

c) **Planting**
   - Land is cleared
   - Tea seedlings or cutting   - raised in nursery
   - Tea seedlings are transplanted from nursery
   - Teas seedlings are planted in contoured rows 1.5m apart
   - Weeding is carried out at regular intervals
   - Manuring is done or addition of fertilizer
   - Pruning is carried out at regular intervals.   *7 x 1 = 7mks*

Harvesting
   - First picking occurs between 2 – 4 years after planting though reaches maturity after 5yrs.
   - Tea picking is carried out fortnightly
   - Two tender leaves and a bud are picked and delivered to the factory
                                             3 x 1 = 3mks

d) - Pests and diseases
   - Price fluctuations
   - Competition in the world market from other countries who are growing the crop
   - Competition for land from other crops
   - Labour for picking   *5 x 1 = 5mks*

7. a) Beef - farming is a type of livestock keeping which involves rearing of cattle for production of meat.

b) - Introduction of pedigree British cattle in some suitable districts or cross-breeding them with indigenous breeds.
   - Teaching and encouraging farmers to adopt modern methods of rearing and breeding beef-cattle
   - Providing water by building dams and reservors
   - Ploughing and resowning pasture and with special strain of drought resistant or more nourishing grasses
   - Funding research in animal diseases control and management
   - Providing extension officers to give the farmers the necessary advice
   - Decontrolling the price of meat products.   *6 x 2 = 12mks*

c) - Temperature are high in most parts of Kenya.
   - Unreliable rainfall – leading to inadequate pasture
   - Poor soils leading to poor natural grass
   - The pastoral tribe care for quantity other than quality
   - Wandering herds of wild animals spread diseases
   - Wildlife poses competition for pastures with cattle.
                                                5 x 1 = 5mks

d) Physical Conditions
   - Cattle rearing areas is flat and low – rising gentle to the west providing good natural pasture land
   - Fertile soils - good natural pastures
   - Well distributed rainfall - regular supply of water
   - Low winter temperature of 10^0 to high summer temperature of 24^0C favour the growth of grass throughout the year.
   - The pampas receives reliable rainfall   *3 x 1 = 3mks.*

   Human.
   - Introduction of European cattle breeds
   - Availability of if markets in European countries
   - Resown Alfafa which is highly nutritious
   - Availability of better organised cattle ranches and fairly mechanised.
   - Well – developed railway net-work.   *3 x 1 = 3mks*

8. a) - Climate - temperature / moisture / wind
      - Topography of an area
      - Soil of an area
      - Biotic factors
      - Social factors
      - Economic factors   *5 x 1 = 5mks*

   b) i) Is the cultivation of land for a short period of time and then moves to another land when the previous one is exhausted.

       ii) - Cultivation starts on a virgin forest
          - Land is set on fire
          - Cultivated lands are scattered.

- Simple implements are used e.g hoes and sticks
- A lot of manual labour is needed.
- Few crops are usually raised mainly starchy foods
- It provides a harvest throughout the year
- Harvest is usually poor
- There is no enough food so also engaged in hunting.

7 x 1 = 7mk

c) i) Growing of crops or keeping of animals under controlled conditions such as temperatures.
   ii) - Poultry
   - Pigs
   - Rabbits
   - Cows   *2 x 1 = 2mks*

   iii) - Inadequate market for the products
   - Expensive to manage
   - Inadequate skilled labour
   - Farms are normally small   *2 x 1 = 2mks*

d) i) This is the specialised commercial cultivation of cash crops on extensive tracks of land or estates.

   ii) - Soil exhaustion - due to cropping
   - Unpredictable weather condition can destroy the whole crop
   - Incase of fire the crop is destroyed and no profit to the farmer
   - Crop diseases can be spread very fast
   - Expensive to buy the imputs
   - Requires adequate market   *6 x 1 = 6mks*

9. a) - irrigation ensures a steady and reliable water supply
   - River water brings in silt which is good for crops
   - Cultivation can be done throughout the year
   - Built up dams not only provide irrigation water but also control floods, generate HEP

   4 x 1 = 4mks

   b) i) - Need to settle thousands of landless people
   - Presence of Thiba and Nyamidi that provided the water required for irrigation
   - Presence of black cotton soils that are good for rice
   - The dire need by colonial government to find projects to employ detainees during the days of emergency
   - Very unreliable nature of rainfall in this area
     5 x 1 = 5mks

   ii) - Water borne diseases
   - A lot of time is spent in tending the crop
   - Pests and diseases accounting for low production
   - Numerous weeds complete with rice in the acquisition of nutrients
   - Mismanagement of the farms
   - Delay in payments – hence farmers opt to sell their produce to the local markets.

- Poor payments
- Very few extension officers to advice the farmers
- Siltation of the canals - hence expensive to drench continously
- Labour is expensive especially during planting and harvesting.

8 x 1 = 8mks

c)   i) - To eliminate the tsetsefly that is a threat to man and his animals
- To rehabilitate the area so as to make it a zone for keeping improved domestic animals
- To use the methods of reclamation that would not have adverse effects to the area.

3 x 1 = 3mks

ii) - Clearing the bushes - Selective, clearing was adopted and it was targeted at reducing the tsetsefly incidence
- Spraying of the bushes form aircraft proved effective too; though could be harmful to the environment.
- Sterilising the male tsetsefly. This involves luring the male fly to some chemical substance placed at some strategic place.

2 x 2 = 4mks

GEOGRAPHY IV
PAPER I

SECTION A

1. (a) State **three** conditions for the formation of Frontal rainfall.   (3mks)
   (b) (i) Define the term;
       (I)   Air mass   (1mk)
       (II)   Ozone layer
      (ii) Give **two** causes of Acid rains.   (2mks)
   (c) State **three** characteristics of mediterranean climate.   (3mks)

2. What are the characteristic features of sedimentary rocks.   (3mks)
3. (i) What **two** forces give the earth the geoid / oblate and spheroid shape? (2mks)
   (ii) State **three** evidences of continental drift theory.   (3mks)

4. (i) Define the following terms
       (i) Stalactites.   (1mk)
       (ii) Stalagmites.   (1mk)
   (ii) Draw a well labelled diagram showing an artesian basin and a well.   (4mks)

5. Name a mineral that make up Barysphere.   (1mk)

SECTION B

Study the Map of Mathioya 1:50,000 provided and answer the following questions.

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6. (a) (i) Give the Grid reference of cattle at Kairo. (1mk)
   (ii) What are the **two** manmade features in Grid square 6735. (2mks)
   (iii) Name **two** types of vegetation found in the area covered by the Map. (2mks)
   (b) Describe the drainage of the area covered by the Map. (5mks)
   (c) Draw a cross section from 720400 to 770400 and name the power line, loose surface road and R. Gakira. (6mks)
   (d) (i) What are the functions of Kanoko Town. (3mks)
   (ii) Giving evidences, name three agricultural activities carried on the area covered by the Map. (3mks)
   (e) Students from Kariko School set out a field study on relief of the area covered by the Map.
   (i) Formulate two objectives of their study. (2mks)
   (ii) Which preparations are they likely to make before they study. (2mks)

7. (a) (i) Define the term physical weathering. (2mks)
   (ii) Explain the processes of mechanical weathering. (8mks)
   (b) (i) State the factors which influence the rate and character of mass wasting. (5mks)
   (ii) What are the significance of weathering to human activities. (4mks)
   (c) (i) Students of a School set out to carry out a field study on an area affected by weathering.
   ii) What methods would they use to present the data collected. (3mks)
   iii) What problems are they likely to encounter. (3mks)

8. (a) (i) Define the following terms;
      (i) Absolute humidity. (1mk)
      (ii) Relative humidity. (1mk)
   (b) With a help of a diagram (well labelled), explain how Katabatic winds occur. (10mks)
   (c) (i) What is a desert. (1mk)
   (ii) State **three** agricultural activities practiced in desert landscapes. (6mks)
   (d) What are the problems experienced by the people living in the desert landscape.

9. (a) (i) What is a geosyncline. (1mk)
   (ii) Define Anticlinorium – synclinorium complex. (1mk)
   (b) Name the theories that explain how fold mountains are formed. (3mks)
   (c) (i) Give **four** examples of fold mountain formed during the Alpine orogeny period. (4mks)
   (ii) Apart from Alpine orogeny period name other fold mountain period. (2mks)
   (d) (i) Explain how fold mountains are formed. (9mks)
   (ii) What are the significance of folding to human activities. (5mks)

GEOGRAPHY IV
PAPER I
MARKING SCHEME

1. (a) – Two air masses cold and warm must meet.
      – The warm air mass must rise over the cold one.
      – There must be a front. *3x1 = (3marks)*
   (b) (i)

(I) An air mass is a homogenous large volume of air with uniform temperature and humidity covering a large area. *1x1 = (1mark)*

(II) Ozone layer refers to a triatomic layer of oxygen in the stratosphere between 20 – 30km preventing harmful rays from reaching the Earth's surface. *1x1 = (1mark)*

b) (ii)
- Industrial emissions
- Exhaust fumes from vehicles
- Volcanic eruptions
- Forest fires. *2x1 = (2marks)*
- Rainfall is caused by on-shore winds called westerlies.

(c) – Hot summers and cold winters
- Wet winters and dry summers
- Amount of rainfall varies from 500 – 900mm.
- Coastal locations receive higher amount of rainfall.
- Low humidity and high evaporation
- Moderate temperatures – ranges from 21^0 (summer) to 10^0C (winter).
 (3x1 = (3marks)

2. – They are in layers called strata.
- Some are formed from fossils (dead plants and animals).
- Formed from materials derived from other rocks i.e. sediments.
- They are young rocks.
- They are elastic or flexible when subjected to pressure. *3x1 = (3marks)*

3. (i) Centripetal and centrifugal shape *2x1 = (2marks)*

(ii) – Geological similarities along coastal of South America and Africa.
- Paleoclimatic evidence
- Fossil evidence
- Rock magnetism i.e. (palaemagnetism)
- The jigsaw fit theory. *1x3 = (3marks)*

4. (a) (i) Stalactites – are finger like pillars formed in a limestone cave when drops of calcium bicarbonates crystallizes and hangs from the top of a cave. *(1x1 =(1mark)*

(ii) – Stalagmites are finer like projections formed in a limestone cave when drops of calcium bicarbonate crystallizes and projects from the bottom. *1x1 =(1mark)*

AN ARTESIAN BASIN AND WELL.
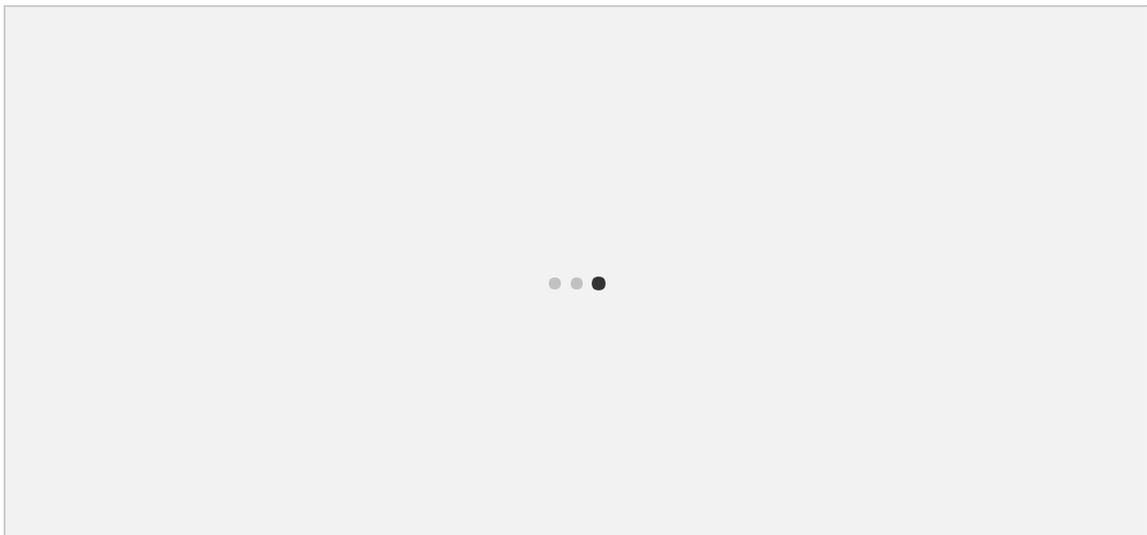
KEY

X   Impermeable layer
S   Water table
         Rain
S   Permeable layer (Aquifer)
W   Artesian well
         Artesian basin (1)
         Artesian well (1)
         Impermeable layer (1)
         Aquifer (1)   *Total (4mks)*

5. (a) Inner core – Iron
   Outer core – Iron and nickel   *1x1 (1mark)*

SECTION B

6.

   (i) 623327 (1)
  (ii) –   House / huts
       –   Dam (Kigoini Dam)
       –   Foot path
       –   Motorable / Main Track   *2x1 = (2marks)*

  (iii)   Forest
         Bamboo
      Swamp vegetation

  (b) –   The are made up of rivers which are permanent.
       –   Rivers flow from west to East
       –   Aberdare forest act as the source of Rivers.
       –   Rivers like Gura and their tributaries form a dendrintic drainage patterns.
       –   There is a dam at Kigoini
       –   There is also a Papyrus swamp near Kigoini.   *Max. 5x1 = (5marks)*

P
li

• • ●

1900

1800

1700

1600

Trend   – 1
Pomer line   – 1
Loose S. Road   – 1

Start Point   – 1
End Point   – 1
                        (6marks)

(d) (i) Education centre – School
       Religious centre – church
       Trade – shops / markets
       Transportation – Roads   *3x1 = (3marks)*

    (ii) –   Cash crop growing   – Coffee factory at Kagima
        –   Livestock keeping – Cattle Dips e.g. Kamacharia.
        –   Growing of cereals   – Posho Mills at Kinai.
           3x1 – max. (3marks)   *No evidence no mark*

(e) (i) –   To find out the type of relief feature in 'Kariko' region.
        –   To find out the relationship between the relief and economic activities.
               2x1 =(2mks)   Any other relevant objective

    (ii) - Having a pre - visit
        –   Asking for permission
        –   Reading secondary datas
        –   Preparing a working schedule   *2x1 = Max. (2marks)*
                      Any other relevant point.

7. (a) (i) This is the disintegration of rocks without any chemical processes being involved. (2)
       (ii)(a) Temperature changes – The effects of which are noticeable in areas experiencing
           large diurnal temperatures. The heating and cooling results in block disintegration.
    (b) Frost action – This is common at high altitudes particularly high mountains. When water
       freezes in a crack, its volume increases and thus exerts pressure on the rock leading to
       block disintegration.
    (c) Action of rainwater / slaking – clay- rich soils absorb water when it rains and quickly
       loses it when it becomes hot. The rock cracks and this process is referred to as slaking.
    (d) Pressure release (unloading) – underlying rocks when exposed expand and disintegrate.
    (e) Crystal growth – As underground water seeps up to the surface, it carries upwards some
       salts, which later crystallize on the surface. The crystals build up on the surface and exert
       pressure on the rock further causing it to break.
            4x2 =(8marks)   points must be explained to earn = (2marks)

    (b) (i) – Angle of slope gradient
       –   Nature of materials
       –   Nature of the underlying rock
       –   Human activities
       –   Movement / tectonic movement
       –   Climatic conditions
       –   Vegetation cover.   *5x1 =(5marks)*

 (ii) –   It aids the formation of soil
      –   Modify initial landforms resulting to features of tourist attraction e.g. Ikhonga
          Murwe, the Tors of Kima – KaKamega and the Nzambani rock of Kitui.
      –   Weathering rocks form good fertile soils for agricultural use.
      –   Weathered rocks are used for pottery , quarrying and carvings.

- It aids in constructing roads and railways.
- Exposes and forms valuable minerals.   *4x1 = (4marks)*

(c) (i) – Displaying of photographs
- Use of completed questionnaires
- Use of written reports
- Displaying of labelled rock samples
- Use of sketches
- Use of short notes
- Display of tables and charts.   *3x1 = (3marks)*

(ii) – Falling rocks / landslides
- Hostile terrain – in accessibility
- Unpredictable weather
- Lack of security
- Shortage of time.   *3x1 = (3marks)*

8.   (a) (i) Absolute humidity is the actual amount of water vapour a given quantity of air
can hold.   (1mk)
   (ii) Relative humidity is the relationship between the amount of water in the air to the
      amount the air can hold at a given temperature.   (1mk)

(b) –   It takes place at night.
- At night the air on the slope of a hill cools more quickly than air above the valley below it.
- The cool wind from the mountain slopes slides down hill into the valley.
- Katabatic winds is quite gentle.
- The speed is less than four knots.
- It causes mist or fog down the valleys.
- The fog are common in the valley in the morning.

KATABATIC WINDS (MOUNTAIN BREEZE)
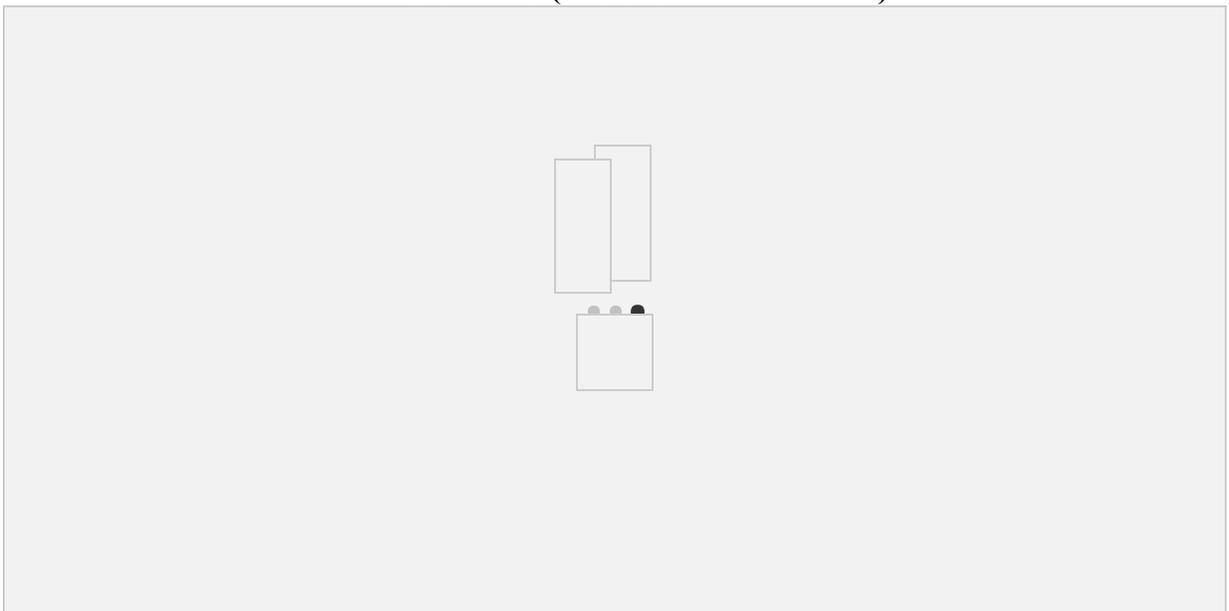
Diagram   *4Mks*

(c) (i) Desert refers to an almost barren track of land in which the precipitation is so scanty that it cannot adequately support vegetation. (2marks)

(ii) – Agriculture is practised in loess regions, which is fertile.
– Keeping of livestock i.e. sheep, goats and camels.
– Irrigation with suitable rivers e.g. Nile valley.

3x2 = (6marks)

(d) – Extremely high temperatures.
– Low rainfall hence cannot support Agriculture without irrigation.
– Difficult in walking in deserts due to sand.
– Lack of water for domestic use.
– Rocky surface make it difficult to practice farming.

9.   (a) (i) Geosyncline is a large depression formed due to earth movement and which become
the sites of seas and in which the sediments collected.   (1mk)

(ii) Anticlinorium – synclinorium complex are anticlines and synclines on which minor upfolds and downfolds have been formed.   (1mk).

(c) (i) - Atlas
-   Alps
-   Hima layas
-   Rockies
-   Andes
-   Appalanchians   *4x1 = (4mks)*

(ii) Charnian orgogeny
Caledonian orogeny
Henrynian orogeny   2x1 = (2mks)

(d) (I) – Extensive shallow depressions called geosynclines develop.
–   The surrounding higher lands are eroded.
–   The sediment accumulate to a great thickness in the geosyncline.
– There is concurrent subsidence of the materials in the geosyncline and more materials accumulate.
–   The subsidence of the geosyncline leads to compressional forces of the higher grounds.
– This leads to sediments in the geosyncline to fold and arch upwards to form fold mountains.
– The main Fold Mountain is near the higher grounds, which is the source of compressional force.   (9mks)

(ii) – It is a water catchment area.
– Fold Mountains are often forested and provide valuable timber.
– Some have valuable minerals deposits i.e. coal and petroleum.
– They attract tourists.
– They influence transport systems either as barriers or as passes.

GEOGRAPHY IV
PAPER II

SECTION A:

1. (a) Name **two** mineral mined in the Rift valley of Kenya. (1mk)
   (b) (i) What are the problems of overdependence on copper. (3mks)
      (ii) Name the **four** types of coal. (4mks)
2. What are the characteristics of rural settlements. (3mks)
3. (a) Name **two** pastoral communities in Africa, outside East Africa. (2mks)
   (b) State **five** ways of improving nomadic pastoralism. (5mks)
4. What are the advantages of irrigation over natural water supplies. (4mks)
5. State the overall objectives of national food policy. (3mks)

SECTION B:

6. The table shows gazetted forests in Nairobi in 1981 in hectares.

Forests	Total Forest Area
Ngong forest	1325.16
Dagoretti forest	764.00
Ololua forest	667.70
Embakasi forest	573.00

   (a) (i) Using a vertical scale of 1cm to represent 100 trees, draw a bar graph to illustrate the gazetted forests in Nairobi showing also their total area.
      (6mks)
      (ii) What is the total area of the gazetted forest in Nairobi. (2mks)

   (b) (i) State **five** conditions that favour ideal growth of forests. (5mks)
      (ii) List down **three** types of forests. (3mks)

   (c) There are many problems that hinder commercial exploitation of tropical forest. Name and explain **five** problems experienced in Africa. (10mks)

7. Use the Map below to answer the following questions.

(a) Name the towns marked 'A', 'B', 'C', 'D', 'E', 'F', & 'G'. (7mks)

(ii) Explain the human factors that led to the growth of Kisumu town. (3mks)

(b) Name **four** independent boroughs whose fusion formed the greater New York town. (4mks)

(c) Outline any **three** zone of the internal structure of an ideal urban centre. (3mks)

(d) Explain **four** reasons why people migrate from urban to urban in a country. (8mks)

8. (a) Define the term fisheries. (1mk)

(b) (i) State **three** human conditions necessary for fishing. (3mks)

(ii) Name **two** examples of anadromous fish. (2mks)

(c) Briefly explain how the line-fish method of fishing is used. (4mks)

(d) (i) Explain the reasons why the North East Atlantic is extensive and highly developed. (10mks

(ii) What are the problems facing fishing in Marine fishing in Kenya. (5mks)

9. (a) (i) What is a polder. (1mk)

(ii) What are the benefits of the Delta plain. (5mks)

(b) Outline the measures taken to control tsetsefly in Kigomba in Uganda. (5mks)

(c) (i) Why was Mwea Tebere irrigation scheme initiated. (4mks)

(ii) Name the **four** blocks that make up Mwea irrigation scheme. (4mks)

(d) Give the problems that are faced in Mwea irrigation scheme. (6mks)

GEOGRAPHY IV
PAPER II
MARKING SCHEME

1. (a) Magadi
   Flourspar   *2x1 =(2marks)*

   (b) (i)
   - Financial hardship due to fluctuation of world market prices.
   - Neglect and slow development of other sectors of the economy e.g. agriculture.
   - Heavy importation of food stuffs due to neglect of agriculture.
   - Outflow of foreign exchange due to importation of commodities that can be produced.   *4x1 =(4marks)*

   (ii) – Anthracite
   - Bitiminous
   - Lignite
   - Peat   *4x1 =(4marks)*

2. – Provision of basic shelter / housing
   - Agricultural production – crop cultivation.
   - Raising livestock
   - Fishing
   - Mining
   - Social / cultural functions.
   - Minor administrative functions.   *3x1 =(3marks)*

3. (a) – Fulani – West Africa
       – Nubia – Ethopia
       – Hottentots – S.Africa
       – Tuaregs – Sahara   2x1 =(2marks)

   (b) – Establishing ranches to control movement
       – Provision of water for animals (boreholes)
       – Introduce veternary services to check pest.
       – Introduce veternary services to check animal diseases.
       – Introduce the artificial insemination to improve the quality of animals.
       – Introduce fodder crops, to support natural pastures.
       – Improve on transport network to facilitate marketing.
       – Introduce co-operative societies to assist farmers.
                                                       5x1 =(5marks)

4. – Irrigation ensures a steady and reliable water supply.
   – River water brings in silt which is good for crops.
   – Cultivation can be done throughout the year.
   – Dams also provide control of floods, HEP navigation etc. apart from irrigation.
                                                       4x1 =(4marks)

5. – To be self sufficient in main foodstuffs.
   – Achieve security in food supply for each area.
   – Ensure well distribution of food stuffs.   3x1 =(3marks)

SECTION B

A BAR GRAPH SHOWING TOTAL AREAS AND FORESTS IN NAIROBI.

6.

1,400

1,300

1,000

900

8,000

700

600

500

400

200

100

40

– 1cm – 100ha

ntal scale
l forest

4mks
ntal naming (1)
            - Title - 1
                 6mks

Ngong   Dagoretti Embakasi   Ololua
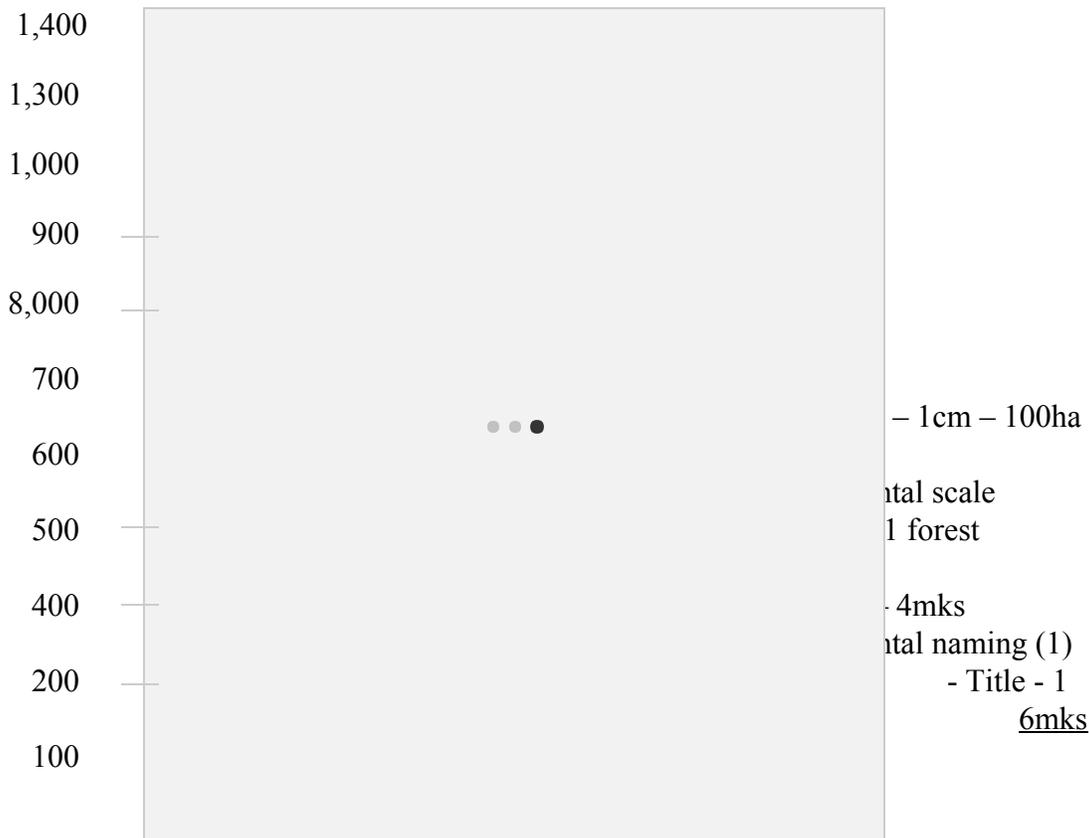
(iii) 3329

  (b) – Climate – high rainfall and high temperature
       – Altitude – low altitude
       – Fertile soils
       – Topography
       – Human activities i.e. afforestation and reafforestation.

5x1 =(5marks)

  (ii) – Tropical hardwood forests
       – Temperate hardwood forests Coniferous forests. *3x1 =(3marks)*

  (c) – Mixed species – there are many and different species which make the extraction difficult.
       – Difficult to transport – the trees are big and bulky and this causes difficulties in transportation.
       – Less demand for hardwood – it is possible to use hardwoods but these are more difficult and expensive.
       – Use of traditional method – small volume of logs are handled.
       – Longtime to mature – tropical hardwoods in Africa are hard to regenerate.
       – Inaccessibility – River transport is hard due to rapids and waterfall. Roads are also difficult to maintain due to regeneration of vegetation.
       – Lack of market – this is due to low population. *5x2 =(10marks)*

7. (a) (i) A – Dar – el – Salam
       B – Arusha
     C – Dodoma
       D – Kasese
       E – Kampala
       F – Moyale
       G – El Wak *7x1 =(7marks)*

  (ii) – Kisumu is surrounded by an area which is densely populated. This has contributed to its growth by supplying labour.
       – Early settlement by Asians led to its commercial development.
       – It has serves ad the provincial headquarter of the present Nyanza and Western Province. *3x1 =(3marks)*

  (b) Bronx
     Brooklyn
     Manhattan
     Queens
     Richmond *4x1 =(4marks)*

  (c) – Central business District (CBD)
       – Transition zone
       – industrial zone
       – Residential zone
       – Commuter zone *3x1 =(3marks)*

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(d)   –   Search of jobs – urban dwellers may move from one town to another to look foe jobs. This involves employed persons.
- Transfers – An urban dweller can be transferred from one town to another on promotion or the same status.
- An Urban dweller may move from one part of the town to another depending their income and ability to pay house rent.
- A job seeker may move from one urban are to another looking for a job.

                                             4x1 =(4marks)

8. (a) (i) Fisheries is a term used for activities that involve the exploitation of water resources.

                                                   (1mk)

  (b)   –   Availability of ready market for fish.
- Level of technology because sophisticated fishing equipment are needed for commercial fishing.
- Adequate capital to buy refrigerated facilities to preserve fish.

                                       3x1 =(3marks)

 (ii) – Salmon
- Pilchard   *2x1 =(2marks)*

 (c) –   It is used on calm waters
- Fishing boats spread out long lines with several hooks on them.
- The floats keep the lines suspended to show the fishermen where the lines are.
- The baited hooks then catch the fish as they complete to feed.

                                       4x1 =(4marks)

  (d)   (i) – The high latitude from the temperature to the polar zones encourage the flourishing of fish.
-   Numerous fiords which provide shelters for the spawning.
-   Ruggedness of the land does not favour agriculture. This makes fishing more popular
- Prevailing warm Atlantic drift raises the temperatures, thus avoiding extreme cold temperatures.
-   Large continental shelf.
-   Dense population provide ready market.
- Highly developed technology has led to the use of modern method of fishing and equipments.   *5x2 =(10marks)*

    (ii) –   Narrow continental shelf.
-   Use of small boats without refrigerators
-   Inadequate capital to purchase the expensive equipments
-   Unreliable market
-   Other alternative economic activities other than fishing
-   Stiff competition from foreign fisherman
-   Strong tides.

9.   (a) (i) A polder is an area of low-lying reclaimed land enclosed by dykes, which protect the   land against high water level that has to be maintained outside the area.

                                       1x1 =(1mark)

  (ii) –   There is increased safety from floods.
-   Improved distribution and control of the region's fresh water.
-   Has controlled salination and pollution of inland water.
-   Islands ceased to be isolated – railways and aerodromes have been built.

–   There is a good site for industry and a tourist resort.

5x1 =(5marks)

(b) – Removing the food supply
   –   Clearing the bush
   –   Creation of consolidation zone
   –   Settlement schemes were introduced
   –   Spraying
   –   Digging of drainage channels in the waterlogged areas.

5x1=(5marks)

(ii) Mwea block
   Thiba block
   Tebere block
   Wamumu block   *4x1=(4marks)*

(c) (i) – To settle the landless people
   –   The presence of Rivers Thiba and Nyamindi.
   –   Availability of the black cotton soils – good for rice
   –   To employ detainees during the days of emergency
   –   Unreliable nature of rainfall in the area.   *4x1 =(4marks)*

(d) –   Disease – Malaria & bilharzia
   –   A lot of time is spent to tend crops.
   –   Presence of numerous weeds
   –   Mismanagement of the scheme
   –   Delayed payment to the farmers
   –   Few extension officers.
   –   Pests i.e. quelea birds
   –   Siltation in the canals.
   –   Expensive human labour.   *6x1=(6marks)*

GEOGRAPHY V
PAPER I

SECTION A

1. a) Define the term temperature   (1mk)
   b) State the factors that influence the solar radiation which reaches the earth's
       surface   (3mks)
   c) Briefly describe how a sunshine recorder works   (2mks)

2. a) i)What is faulting ?   (1mk)
     ii) Name three Rift valleys of Eastern Africa   (3mks)
   b) State how faulting influences drainage of an area   (2mks)

3. a) State **two** ways in which plate tectonics move   (2mks)
   b) State the negative effects of folding mountains   (2mks)

4. a) Give **two** ways in which glaciers erode   (2mks)
   b) With the help of a diagram, explain how crag and tail is formed   (2mks)

5. Study the table below and answer the following questions

	J	F	M	A	M	J	J	A	S	O	N	D
Temp ^{0}C	23	24	26	28	29	28	26	26	26	27	26	25
R/F in mm	2.5	0	2.5	0	17.5	524	695	408	300	61	10	0

a. i) Calculate the total annual rainfall
(1mk)
  ii) Which is the wettest month   (1mk)
  iii) Calculate the mean monthly rainfall   (1mk)
b. i) Find the annual range of temperature   (1mk)
  ii) Which is the hottest month   (1mk)

SECTION B

6. Study the map of Yimbo 1: 50,000 sheet 115/1 and answer the following questions.
  a) i) Name the **two** ways in which relief has been represented   (2mks)
      (ii) What was the magnetic variation at the time of drawing the map?   (1mk)

      ive the position of Yimbo in longitudes   (2mks)
  b) Draw a square of 15cm x 15 cm to represent the area bounded by Eastings 20 and
      29 and Northings 80 and 90   (1mk)
  In the square you have drawn mark and name:-
  i) The **two** hills - Abiero   (1mk)
  ii) The main road (loose surface) from port South bay to Bondo and Asembo   (1mk)
  iii) Utonga bay   (1mk)
  c) i) Name **two** features which indicate that the area covered by the map receives
      insufficient rainfall   (2mks)
    ii) Briefly describe the drainage of the area covered by the map   (4mks)

      xplain the factors which have influenced settlements in the area covered by
      the map   (4mks)
  d) Students of Maranda high school carried out a field study along river Yala.
    i) Name the **three** features they are likely to have seen.   (3mks)
    ii) What problems are they likely to have encountered   (3mks)

7. a) Define the following terms:
  i) Intrusive vulcanicity   (1mk)
  ii) Extrusive vulcanicity   (1mk)
  b) Draw **one** diagram showing all intrusive features   (5mks)
ZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZ
      ith the help of a diagram explain how ash and cinder cones are formed   (4mks)
ZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZ
) State the negative effects of vulcanicity on Kenya's economy   (4mks)
    ii)   Give examples of each of the following rocks.
      I) Intrusive igneous rocks   (2mks)
      II) Extrusive igneous rocks   (2mks)
  e) Students of a school carried out a field study on volcanic features in the rift-valley.

i) What preparations did they make (2mks)
ii) Formulate **two** hypothesis for the study
(2mks)

hat problems are they likely to encounter during the study (2mks)

8. a) Describe **four** processes through which rivers erode its channel. (4mks)
   b) Briefly describe the characteristics of a river in its youthful stage (4mks)
   zzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzz
) State the conditions necessary for the formation of a delta (4mks)
   ii) Explain how an arcuate delta is formed is formed (3mks)
   d) Explain how the following drainage patterns occur .
   i) Dendritic (3mks)
   ii) Trellised (3mks)

9. a) Name **three** features that result from underground water (3mks)
   b) Explain **three** factors which influences the occurrence of springs (3mks)
   zzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzz
) State **three** conditions necessary for the location of an artesian well (6mks)
   ii) Describe **two** factors necessary for the formation of Karst Scenery (4mks)
   d) Describe how the following features are formed :-
   i) Grikes and clints (2mks)
   ii) Dolines and Uvalas (2mks)
   e) State the importance of underground water (3mks)

GEOGRAPHY V
PAPER I
MARKING SCHEME.

1. a) Temperature is defined as the degree of sensible heat within the atmosphere.
   b) - The intensity of the suns radiation in space and the earth's average
   - The transparency of the atmosphere
   - The position of the earth in its orbit
   - The inclination of the surface on which the suns ray fall
   - The area and nature of the surface on which the rays fall

   3 x 1 = 3mks

   c) - Sunshine refers to the direct rays of sunlight received on the surface of the earth
   - Sunshine recorder consists of a glass sphere which is partially surrounded by metal inside
     which is a sensitised card.
   - The card is graduated in hours and minutes

- When the sun shines, the glass spheres focuses the suns rays onto the card; and as the sun moves across the sky, the rays burn the trace on the card
- At the end of the day, the card is taken out and the length of the trace burnt is turned into hours and minutes which represents the total amount of sunshine.

2. a) i) Faulting is the cracking, or fracturing of the rocks of the earth's crust.
   ii) - L. Turkana and Stephanie section
   - Eastern or Gregory R/valley
   - Western Rift Valley
   - The Malawi section   *3 x 1 -= 3mks*

   b) - Faulting causes disappearance of rivers through faultline
   - It also causes the rivers to change/ reverse their direction of flow
   - Vertical faulting across a river may cause a waterfall / river rejuvenation
   - Rift faulting in an enclosed area may lead to formation of a lake if rivers drain into the bash
   - Some river flow along fault lines/ fault guided drainage.
                                                                 2 x 1 = 2mks

3. a) - They may move away from one another
   - They may move towards each other
   - The plates may move parallel past one another along transform faults.
                                                                 2 x 1 = 2mks

   b) - Fold mountains act as barriers to transport and communication
   - Visibility over mountains is poor and may cause problems to aircrafts
   - Mountains make the construction of infrastructure difficult and expensive.
                                                                 2 x 1 = 2mks

4. a)
       - Plucking
       - Abrasion.

       - Presence of resistant and weak rocks
       - The resistant rocks outcrops obstruct the ice movement and protect weaker rocks on the downstream side from erosion.
       - This results in a crag of resistant rock and a mass or rock with an elongated tail.
               Diagram 1mk

Explanation 1mk   = 2mks

5. i) 2020.5
    ii) July
    iii) 2020.5 = 168.375mm
          12

    b) i) Annual range of temperature
                29 - 23 = 6ºC
        ii) Hottest month   - May

SECTION B.

6. a) i) - Contours
       - Trigometrical station
       - Spot height   *2 x 1 = 2mks*
       ii) 2º 28   1mk
       iii) 34º 00¹34º15¹   2mks

    b) MAP OF YIMBO

    c) i) - Presence of scrubs and scattered trees
          - Presence of seasonal rivers / swamps
          - Presence of water holes / dams/ ponds.

    ii) - The area is poorly drained because the swamps (seasonal swamps)
         - The Western part of Yimbo is covered by L/ Victoria.
         - Most of the rivers drains into L. Victoria
         - Rivers flows Westwards
         - The rivers form radial and centripetal drainage pattern
                4 x 1 = 4mks

     ii) - Lakes: are not settled at all
          - People tend to settle more along communication lines
          - Vegetation: no settlement in the tickets
          - Market :   nucleated settlement on market and shops
                        4 x 1 = 4mks

          A SKETCH MAP OF YIMBO.

d) i) Meanders, Bridge, Foot paths.
   ii) - Inaccessibility due to swamps.
       - Unpredictable weather conditions
       - No people to ask questions - areas not settled.

7. a) - Intrusive volcanicity - This is when magma material remain below the surface of the
            earth.
        - Extrusive volcanicity - This is when magma is forced onto the earth's surface.

    b).

    Lappolith

    Dyke

    Batholith

    c)

                        Prevailing wind.

        Magma reservoir

              1mk for a feature that is drawn,
              labeled
              total 5mks

        -   Ash and clinder cones occur in vent type eruption
        -   Light materials consisting of Ash and pyroclastic materials are emitted.
        -   This very light materials are blown by the wind from one side of the mountain
            to the other.
        -   Depending on the direction of the prevailing wind at the time of the eruption
            more volcanic material settles on the leeward side than on the wind ward side
              • Hence a volcanic cone which is a symmetrical are formed.
                  • *Must be mentioned to earn max marks*

Diagram 1mk explanation 3
4 x 1 = 4mks

ZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZ
) - Some volcanic features create barriers making the construction of communication
    lines expensive.
- The rugged nature of volcanic landscapes make settlement and agriculture difficult
- Volcanic eruption may produce poisonous gases which pollute the environment thus
  posing danger to life.
- Volcanic mountains / ranges create rain shadow effect, which result into aridity.
- Recent volcanic flows have poorly developed soils which are unsuitable for
  agriculture.   *4 x 1 = 4mks*

ii) - Intrusive igneous rocks
- Granite
- Diorite
- Gabbro
- Peridotite   *2 x 1 = 2mks*

ii) Extrusive igneous rocks
- Obsidian   - Basalt
- Rhyolite   - Scoria
- Pumice   - Tuff   *2 x 1 = 2mks*

ZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZ
) - Preparations.
- Going for a pre-visit / reconnaisance
- Asking for permission from the authorities concerned.
- Getting secondary information from books, journals etc
- Having discussion in class
- Arranging for transport
- Preparing a working schedule
- Formulating objectives and hypothesis of the study
- Preparing the methods of data collection and recording
                     2 x 1 = 2mks

ii) - Volcanic features have influenced settlement
- Most of the features formed as a result of fissure eruption
- Vegetation is so much related to volcanic features.
                     2 x 1 = 2mks

iii) - Inaccessibility due to ruggedness of the land.
- Unpredictable bad weather.
- Shortage of time
- Got tired as a result of walking.   *2 x 1 = 2mks*

8. i) **Hydralic action**.
- Water is forced into cracks on the riverbanks
- Air is the cracks is compressed.
- Compressed air creates pressure which widens the cracks
- As the water retreats, pressure in the cracks is suddenly released / explodes

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- This repeatedly shatters the rocks
- The retreating water carries away the loose particles.
* The force of the moving water and the eddying effect sweep away loose materials in the river channel.

ii) **Abrasion**
- The sand gravel and boulders are used as tools for scouring. The load is hurled by the river – water against the banks and the river bed.
- The load chips off the rock on the bank and the floor. The dragged load smoothens the river beds.
- Eddying currents also rotate rock particles in hollows and widens them into potholes.

iii) **Attrition.**
- The boulders which are being transported downstream constantly collide with each other.
- The rock or the minerals dissolve in to the water

4 x 2 = 8mks.

Solution
- Occurs when running water has a corrosive or dissolving effect on the rock over which it flows.
- The rock or the minerals dissolve in water

b) - The river erodes a lot
   - It has a V-shaped valley
   - The gradient is steep
   - Features such as rapids and water falls, pot-holes and gorges are formed.
   - By avoiding the steep parts of interlocking spurs are formed.
                        4 x 1 = 4mks.

c) i) Slow moving water at the mouth of a river / gentle slope at the mouth.
   - Absence of obstacles / filters in rivers course
   - Shallow shore
   - Large amounts of silt
   - Calm sea / absence of strong coastal waves/ deposition faster than removal.

   ii) - It is formed when a river deposits some of its load on entering a sea.
   - As the materials accumulate, that part of the sea becomes shallower
   - Many distributaries (small channels from the main channel) forms as the river bursts its banks and divides up into this smaller channels.
   - The materials deposited from a convex shoreline which is a result of strong currents spreading the materials over a wide area.
   - The deposited materials are alter colonized by plant
   - It becomes firm the referred as an arcuate delta.

   c) i) Dendritic.
   - Develops in an area with rocks of uniform structure and harness
   - Tributaries joins the main river at acute angels
   - Pattern resembles a tree with a trunk and branches.   3mks

   ii) Trellised.
   - Develops in areas with alternate soft and hard rock
   - The rock outcrops dip (slope) in the same direction

- The main tributaries join the river at more or less right angels
- Minor tributaries also join the main tributaries at a right angle.   3mks

9. a) - Springs
    - Wells
    - Artesian basins.   3mks

    b) - Springs occur when a permeable rock lies on top of an aquifer joints which eventually spring out where the water table meets the surface.
    - When a dyke cuts across a layer of permeable rock and the water on the upper slope of the dyke is impounded. This causes the water-table to rise and causes springs where the water table meets the surface.
    - When the chalk or limestone escarpments overlie impermeable rocks. This results in the formation of springs in the bottom of the scarp slope where the water – table meets the surface.
    - When gently sloping layers of permeable rock alternate with layers of impermeable rock resulting in springs at a joint where the permeable one is exposed to the surface.
    - When limestone rock overlie impermeable rocks causing springs to occur along the junction of the two rocks.   *3 x 2 = 6mks*

    c) i) - An aquifer must be sand witched between impermeable rocks so that it retain water.
    - The aquifer must outcrop in a region which is a source of water, like from below a lake or in a rainy region.
    - The aquifer must dip from the outcrop region to form a basin
    - The mouth of the well has to be at a lower level than the outcrop area.
                                                                                3 x 1 = 3mks

    ii) - The underlying rock should be limestone, chalk or dolomite that can dissolve in water.
        - High rainfall and higher temperature which accelerate the rate of solution
        - A deep water – table to make the features conspicuous. If the water table is high, then the limestone rock will get dissolved and the features like caves, stalactites will not exist.
        - The limestone rocks must be hard and well jointed to allow the water to pass through the joints.   *2 x 2 = 4mks*

    d) i) Grikes and clints.
        - The joints in a well jointed rock are enlarge by solution at the surface
        - This leads to the formation of grooves which are called grikes
        - The blocks lying between the grooves are the clints.   2mks

        ii) Dolines and Uvalas
        - Doline are funnel - shaped features found in limestone areas
        - They are formed when water through joints and by solution they are enlarged to form swallow holes.
        - When two swallow holes join together they form dolines
        - Uvalas are formed when dolines combine to form a much larger feature.   2mks

        e) Get raw materials for building and construction e.g cement.
        - Limestone is used in iron and steel industry
        - Features formed attract tourists

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- Limestone regions are very good for grazing purposes.

3 x 1 = 3mks

GEOGRAPHY V
PAPER II

1. a) List **two** factors that affect the exploitation of minerals   (2mks)
   b) The diagram below show part of the Ruhr Industrial region of Germany

Name
   i) Canal marked Z
   ii) Town marked   Y

      iver marked   X

2. a) List **any two** problems facing wildlife conservation   (2mks)
   b) Give any **two** historical sites at the Kenyan coast that are tourist attractions   (2mks)
   c)   What is a package tour
     (1mk)

3. a) Give **two** reasons why softwood have been preferred to hardwood in Kenyans
      afforestation and re afforestation programs   (2mks)
   b)   Give **two** examples of any hardwoods of commercial value found in West Africa
                                          (2mks)
   ZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZ
      ame any **one** source of alternative fuel used so as to conserve forests   (1mk)

4. a) Give **two** advantages of irrigation agriculture   (2mks)
   b) Name **two** surfaces from which land can be reclaimed   (2mks)
   ZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZ
      ame **one** horticultural crop grown in Kibirigwi irrigation scheme   (1mk)

5. a) Name **two** areas in Kenya that are prone to flooding   (2mks)
   b) List **two** measures that have been taken by the government to control lightening
      disasters   (2mks)

c) Name the area in Kenya where Red Locusts are breed   (1mk)

6. The table below shows the crop production for country A for four years 1970, 1972, 1974
    and 1976 for exports. The production is in 000' tons.

CROP	1970	1972	1974	1976
MAIZE	130	150	160	200
TEA	80	120	100	180
COFFEE	40	90	60	120
SISAL	30	40	70	130

a) i) Name the main export crop of country A   (1mk)
   ii) Calculate the percentage of the export item with the most tonnage in 1972   (2mks)
b i) Draw a divided rectangle 15 cm long to represent export items for country A in
    1970.   (7mks)
  (ii)   State **three** advantages of using a divided rectangle to represent geographical data
                                                                                   (3mks)
c) Explain **four** problems experienced in small scale tea farming in Kenya   (8mks)
ZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZ)
    ist **four** advantages of multiple line graph   (4mks)

7. Use the map of Kenya below to answer question (a)

  a) Name
      i) The forests marked A, B, C and D   (4mks)
53

ii) In which region is forest A located (1mk)
b) i) Name **four** forests located on the highland of Kenya. (4mks)
ii) List **two** valuable indigenous hard wood tree species found in the highland areas of Kenya (2mks)

c) Study the Photograph below and use it to answer the questions below.

a) i) Name the type of photograph shown (1mk)
ii) What type of forestry is practiced on the area shown on the photograph (1mk)

hat is the height of the main crop and trees shown on the photograph (2mks)

ive reasons why you think it was sunny by the time the photograph was being taken (2mks)
b) Explain the uses of the type of forestry shown on the photograph (8mks)

8. a) i) Give **three** major types of trade (3mks)
(ii) List **four** major types of services in invisible trade (4mks)
b) i) Explain **four** factors that influence international trade (8mks)
ii) Explain **two** problems experienced in regional trade (4mks)
c) i) Name **two** trading blocs that Kenya is a member (2mks)
ii) List **four** benefits of trade to Kenya (4mks)

9. a) i) Name **two** provinces where beef are reared in Kenya (2mks)
(ii) State **four** limitations of beef farming in Kenya (4mks)
b) Explain the steps that are being taken by the government of Kenya to improve beef farming (8mks)
c i) Explain **four** physical conditions that favor beef production in Argentina (8mks)
(ii) Describe the processing and marketing of beef in Argentina (3mks)

GEOGRAPHY V
PAPER II
MARKING SCHEME.

1. a) - Value of the mineral
    -   Mining cost
    -   Size of deposit
    -   Quantity of ore
    -   Transport cost
    -   Labour / Technology
    -   Capital
    -   Market   *2 x 1 = 2mks*

    c) Canal market Z – Dortmund Elms Canal
    - Town marked Y - Bochum
    - River marked X - Emscher.   3mks

2. a) - Poaching
    -   Pests and diseases
    -   Fires in parks
    -   Inadequate capital
    -   Drought
    -   Migration
    -   Soil erosion
    -   Human settlement into conserved land
    -   Draught
    -   Frequent visits
    -   Destruction of crops and property by wild animals.

    -   Over-exploitation of water resources e.g fish
    -   Migration of animals.   *2 x 1 = 2mks*

    b) Gedi Ruins
    -   Lamu island with its old craft workshop
    -   Lamu museum
    -   Fort Jesus
    -   Slaves cave at shimoni
    -   Vasco da gama's pillar.   *2 x 1 = 2mks*

    d) A package tour is a tour organised at subsidized economic rates (all inclusive tours).
3. a) - Has a wide range of uses.
    -   Grows / matures faster
    -   Lighter so easily transported / not bulky
    -   Cheaper.   *2 x 1 = 2mks*

    b) Mahogany
    -   Iroko
    -   Sapele
    -   Ironwood
    -   Rosewood

-   Ebony.   *2 x 1 = 2mks*

c) - Solar energy
-   Natural gas
-   Oil
-   Coal
-   H.E.P
-   Biogas   *1 x 1 = 1mk*

4. a) Provides steady reliable supply of water from a reservoir.
-   crop cultivation can be carried out throughout the year
-   Dams / reservoirs are also used to control floods and store water
-   Water from the reservoir can be used to generate H.E.P.
                                                                2 x 1 = 2mks

b) - Swampy areas
-      Tse tsefly infested areas
-      Dryland / arid areas
-      Sandy area
-      Sea
-      Salty / saline areas.   *2 x 1 = 2mks*

c) - Cabbages
-   French beans
-   Carrots
-   Tomatoes   *1 x 1 = 1mk*

5. a) - Nyando
-   Nzoia
-   Kiya

-   Yala
-   Tana.   *2 x 1 = 2mks*

b) - Educating the people on the dangers of lightening and how they can avoid the disaster.
-   Ministry of education has provided posters designed to educate people on precautionary
    measures against lightening.
-   The government has installed lightening arrestors in school within the lightening prone
    areas.   *2 x 1 = 2mks*

c) Suguta swamp South of L. Turkana.   1mk

SECTION B.

6. a) i) Maize

   ii) $\underline{150}$ x 100 = 37.5%
       400   *2mks*

      - Maize $\underline{130}$ x 15 = 6.964 / 7.0 cm
               280

- Tea $\underline{80}$ x 15 = 4.285 / 4 / 43 cm
            280

    Coffee $\underline{40}$ x 15 = 2.142 /2 / 2.14
                280

    Sisal $\underline{30}$ x 15 = 1.60 / 2 / 1.607cm
                280

1 mk for every rectangle   = 4mks
1 mk for rectangle of 15cm length
½ mark for each correct calculation 2.   *Total = 7mks*

ii) - Give clear visual impression of individual components
-   Allows for comparison
-   It is easy to construct
-   Can be used to represent a wide range of data   *3 x 1 = 3mks*

c) - Poor feeder roads in tea growing areas which leads to delay in collection
    of green leaf causing wastage.
-   Delayed payments /low payments of farmers lowers morale of farmers.
-   Mismanagement of funds
-   Long droughts / hailstorms leading to destruction of crops
-   High prices of farm inputs which make farmers not to afford.
-   Fluctuation of prices in the worlds market makes it difficult for farmers to plan.
-   Pest e.g tea thrips, red spider mites and diseases which destroy crops reducing yields.
                                                                8mks

ii) It is easy to interpret and make decisions from
-   Enables easy comparison
-   Saves time as it combines several graphs representing each dependent variable.
-   It doesn't involve lengthy calculations
-   Enables estimation of intermediate values specified period.
                                                        4 x 1 = 4mks

7. a) A - Arabuko – Sokoke
      B   - Mt. Kenya
      C   - Mt. Elgon
      D   - Abadare.   *4 x 1 = 4mks*

ii) Coastal region of Kenya   1mk

 b) Mau ranges
-   Aberdares
-   Kakamega
-   Londiani
-   Mau ranges
-   Cherangari
-   Mt Elgon   *4 x 1 = 4mks*

ii) Camphor
   Muringa
   Elgon Olive
   Mvule
   Meru Oak   *2 x 1 = 2mks*

c) i) Ground general view photograph   *1mk*
   ii) Agro-forestry   *1mk*
   iii) 2 metres   *2mks*

iv) - the photo is seen to be clear
-   The two people were wearing light cloths
-   The wearing of hats.

d) - Vegetation purifies air in the biosphere
-   Plants are a source of food for man
-   Some plants provide fodder for the animals
-   Trees are used in the manufacture of plywood pulp and paper
-   Some plants are used in the manufacture of medicine while other have medicinal value.
-   Trees provide shade during the hot season
-   Trees provide raw materials for building
-   Planted trees act as fences
-   Trees acts as wind – breakers.
    points must be well explained to earn a mark.   *8 x 1 = 8mks*

8. a) - Internal trade
-   Regional trade
-   International trade.   *3mks*
b) - Payment for financial services rendered to foreigners.
-   Transport receipts eg in civic aviation transport and shipping
-   Foreign exchange brought in by foreign tourists.
-   Emigrants remit money to their families
-   Interests, profits and dividends are gained on investments abroad
-   Loans and aid are received from foreign countries.   *4 x 1 = 4mks*

c) - Demand and supply - For trade to be carried on there must be adequate demand for
                          goods and good source of supply.
-   Transport and communication - This facilitated the supply of items
-   Capital: -   Enables traders to acquire goods which they use in trade
-   Taxation: -   Its important to protect local industries of a country producing similar
                    goods like those imported may charge higher duties to discourage
                    importation.
-   Population: Size, distribution and diversity between people affect the type of food
                    traded on.
-   Government Policy: The government may encourage or discourage the establishment of
                        trade between countries.
-   Political stability: - Trade can only continue smoothly in countries which are politically
                          stable.   *4 x 2 = 8mks*

   ii) - There is similarity of resources
   -   Smuggling

- Poor transport and communication facilities
- Ignorance of what is produced in member countries
- Uncoordinated industrial planning
- Political differences
- Poor technological know how.   *2 x 2 = 4mks*

    c i)   COMESA
          EAC

    ii) - Economic growth of jobs
- Industrial growth
- Foreign exchange earner
- Leads to development of infrastructure
- Is a source of revenue
- Creation of employment opportunities
- Development of settlement centres / towns
- Regional cooperation
- Market for surplus
- Improve standards of living.   *4mks*

9. a) -   Rift valley
- North Eastern
- Nyanza
- Eastern   *2 x 1 = 2mks*

    ii) - High temperature hinder keeping of high grade cattle
- Unreliable rainfall hence inadequate pasture
- Poor soil hence poor pasture
- Traditional practices on quantity rather than quality
- Pests e.g ticks / tsetseflies and diseases eg Nagana etc.
- Inadequate capital
- Inadequate extension services/ veterinary services
- Poor transport for the animals to the market.   *4 x 2 = 4mks*

    iii) - Providing dipping equipment
- Improving water supply
- Providing extension services
- Cross – breeding the local herds with pedigree bulls.
- Controlling of stock numbers is encouraged
- Introduction of drought resistant grass
- Funding research on animals diseases
- Liberalisation of the meat market
- Encouraging beef cattle ranching
- Improvement of transport   *4 x 2 = 8mks*

    c) i) - Flat / gently sloping land provide good pasture land
- Fertile soils giving rise to good natural pastures
- High rainfall sustains good pastures
- Adequate water supply for animals
- Moderate / favourable temperature $10 – 24^0C$ for pastures throughout the year.
                                                        4 x 2 = 8mks

ii) - Cattle are slaughtered
- They are transported to the meat plants (frigorificos) by train
- The meat is put in cold storage and packed into this
- It is exported by refrigerated ships
- Ports of export include Buenos Aives, La planta and Bahia Bianca.

3 x 1 = 3mks

GEOGRAPHY VI
PAPER I

SECTION A:

1. State **two** theories that explain the origin of the earth.   2mks

2. a) What is an airmass   1mk
   b) Give **two** causes of air masses.   2mks

3. a) Name the first **two** layers of the internal structure of the earth from the top layer   2mks
   b) Name the **two** minerals that make up the sial   2mks

4. a) State **two** characteristics of metamorphic rocks   2mks
   b) Give **four** examples of intrusive igneous rocks   4mks

5. a) Name the type of delta found at the mouth of river
   i)   R. Nile   1mk
   ii)   R. Omo   1mk
   iii)   R. Tana   1mk

   b) State **three** conditions that are necessary for the formation of a delta   3mks
   c) Name **four** features formed in the old stage of the river.   4mks

SECTION B.

6. **Study the map of Kisumu East 1: 50,000 provided and answer the following questions.**

   a) i) Measure the distance along R. Nyamasaria from the point at which it gets into the
      swamp at Grid Reference 986873 to the bridge at Kibos Trading Centre at Grid
      Reference 018924 (Give your answer to the nearest Km)   2mks
      ii)   Find the area of the part of Kisumu municipality on the map. Give your answer to
      the
         nearest Square km.   2mks

   b) Name **two** methods which have been used to represent relief.   2mks
   c) Draw a sketch map of Kisumu East (15 x 13cm)   1mk
      On it mark and name the following
      i)   Main highland area   1mk
      ii)   Plantation   1mk
      iii)   Railway   1mk
      iv)   Road – Kisumu – Karow   1mk
      v)   Swampy areas   1mk
   d) What is the direction and bearing of Kibos from Nyabongo?   2mks

e) i) Account for the factors which have influenced settlements in the area shown on the map 8mks

   ii) Citing examples from the map, name three economic activities carried on in the area. 3mks

7. a) Define the following terms:
   i) Weathering
      1mk
   ii) Denudation
       1mk
   iii) Erosion 1mk
   b) State **four** factors which influence weathering 4mks
   c) List **four** ways in which chemical weathering takes place. 4mks
   d) Describe how physical weathering takes place in arid areas. 8mks
   e) You intend to carry a field study on wind erosion in desert.
      i) State **three** methods you would use to collect your information 3mks
      ii) State **three** hypothesis of your study 3mks

8. a) i) What is a divide, 1mk
      ii) What is river rejuvenation 2mks
      iii) State the conditions which leads to river rejuvenation. 3mks
   b) i) What is a river capture? 2mks
      ii) With a help of diagrams explain how a river capture occurs. 6mks
   c) Describe briefly the occurrence of the following drainage patterns
      i) Trellis 3mks
      ii) Dendritic 3mks
   d) Account for the usefulness of rivers to man 5mks

9. a) List
   i) **Four** characteristics of desert soil 4mks
   ii) **Two** factors that contribute to soil leaching 2mks

   b) Explain how each of the following factors influence the formation of soil
      i) Parent Rock 2mks
      ii) Living organisms 2mks
      iii) Topography 2mks
   c) Draw a well labelled profile of a mature soil 5mks
   d) Explain **four** ways in which human activities contribute to soil erosion. 4mks
   e) Students of your school carried out a field study in the surrounding area on the effects of soil erosion on agriculture. What recommendations would you suggest to the farmers in curbing down the problems. 4mks

GEOGRAPHY VI
PAPER I
MARKING SCHEME

1. **Theories of the origin of the earth:**
   - Nebula

- Passing star

2. a) An airmass is a widespread homogenous body of air moving horizontally across the land
   b) - Temperature
      - Humidity
      - Origin   *2 x 1 = 2mks*

3. **a) Layer are:**
   - Crust
   - Mantle

   b) **Minerals that make up the sial**
   - Silica
   - Aluminium

4. **a) State characteristics of metamorphic rocks**
   - Derived from already existing rocks
   - Structure and appearance have been changed
   - They are recrystallised
   - There is change in chemical composition
   - There is change hardness.   *2 x 1 = 2mks*

   b) **Examples of intrusive igneous rocks**
   - Granite
   - Diorite
   - Gabbro
   - Peridotite

5. **a) Types of delta found at**
   - R. Nile   - Arcuate
   - R. Omo   - Birds foot
   - R. Tana   - Eustuarine   3mk

   b) **Conditions necessary for the formation of a delta.**
   - The river must have a large load of sediments
   - There should not be obstacles like lakes or swamps in the rivers course
   - The river should be slow flowing on entering the sea
   - The rivers load should be deposited faster than it can be removed by currents and tides.

   Features formed on old stage of a river.
   - Natural levees
   - Deferred tributaries
   - Flood plains
   - Meanders
   - Braided channel
   - Bluffs
   - Alluvial fans   *4 x 1 = 4mks*

   SECTION B.

MAP OF KISUMU :

6. The distance of R. Nyamasaria from G.R 986873 to the bridge at GR 018924 is 6km 800m.
   - 6.8km = 7km   2mks

   ii) Area of Kisumu municipality is
       10sq km + 0.5   2mks

   b) **Methods to represent the relief**
   i)   Contours
   ii)   Trigonometrical stations   2mks

   c)   **A SKETCH MAP OF KISUMU EAST.**

KEYS:
                            Plantation

                            Main highland

                            Road

                            Railway

                            Swampy area   6mks

   d) **Direction and bearing of Kibos from Nyabongo.**
      Direction   - South – East   1mk
      Bearing   - 135^0 + 1   1mk

   e) **i) Factors that have influenced settlement in Kisumu – East.**
   - no settlement on the escarpment because it is steep and hard to build houses.
   - No settlement on swampy areas because of poor drainage
   - Areas occupied by the sugarcane plantation are sparsely populated because few settlement can be in a plantation.
   - Most settlements are dustered on the gentle slope which are well drained.
   - Also there is more settlement along the roads due to ease transport

- The presence of Kisumu town has also influenced heavy settlement may be because of employment. *4 x 4 = 8mks*

f) **Economic Activities**

Activities	Evidence
i) Farming	- Sugar, cotton growing
ii) Mining	- Quarry
iii) Trade	- communication line, markets and shops. 3mks

7. a) i) Weathering - Is the mechanical break-up or chemical decay of rocks either on or below the earth's surface in situ.

   ii) Denudation - Collective term that groups together all external processes that contributes to the modification of initial landforms.   1mk

   iii)   Erosion - Is the removal of the top soil by various agents e/g running water, wind and ice.

b) **Factors influencing weathering**
- Temperature changes
- Amount of water
- The type of rock
- Mans activity
- Animal and natural vegetation.   *4 x 4 = 4mks*

c) **Ways in which chemical weathering takes place.**
- Solution
- Carbonation
- Hydrolysis
- Oxidation
- Hydration   *4 x 1 = 4mks*

d) **Physical weathering in arid areas.**
- Temperature changes
  a) A block disintegration
- High and low temperature causes rocks to expand and contract
- Cracks develop
- Repetition lends to block disintegration

  b) Exfoliation - Rock masses subjected to heat
  - The surface gets hotter than the interior
  - Repeated processes makes the rock to peel off like an onion.

Pressure release / unloading
- When the overlying material is removed by denudation
- Newly exposed rocks will expand and eventually disintegrate – sheeting
- Common in Nyika plateau.

Crystal growth
- Salts contained in moisture are precipitated and deposited in cracks to form crystals
- The process is called crystallization
- Crystals exert pressure on the cracks leading to hollows eg Hell's Gate.
       4 x 2 = 8mks

NB/ give 2mks to a well explained process.

Methods of data collection.

c) i) Observation

Photographing

Secondary data   *3 x 1 = 3mks*

ii) Hypothesis

- Most of the features in the desert are formed as a result of wind erosion.
- Wind erosion is the most dominant
- Wind eroded features attract tourists.   *3 x 1 = 3mks*

8. a) i) **River divide**
   - It is an elevated land dividing two drainage basins
     OR Boundary separating two drainage basins   1mk

   ii) **River rejuvenation** is the renewal or revival of a rivers erosive activity. It can occur at any stage of a river.

   d) **Conditions leading to river rejuvenation**
   - Fall in sea level / Regional uplift of land
   - Increase in rivers discharge to river capture or precipitation at source
   - Change in rock resistance – from hard to less resistant   3mks

   b) i) It is the diversion of the head waters of a river into the system of an adjacent more powerful river.

2mks – for diagrams.

River capture takes place when:-
   - The master stream should be flowing at a lower level
   - The pirate river must be eroding faster – vertically and headwardly.
   - The private river should be flowing over easily eroded rocks
   - Finally the water of the weak river diverts into the pirate river.
                                                                       4 x 1 = 4mks

   c) i) **Trellised**
   - The main tributaries join the river at or more less right angles
   - Minor tributaries also join the main tributaries at right angles
   - Develops in areas with alternate soft and hard rock outcrops that slope or dip in the same direction   *3 x 1 = 3mks*

- Resembles the tree trunk with branches
- Tributaries join the main river at an acute angles
- Develops in areas with rocks of uniform structure and hardness.   3mks

 d) **Usefulness of rivers.**
- Provide water for irrigation
- Offer transport and port facilities
- Form tourist attractions
- Source of building materials
- Sources of alluvial minerals – gold and diamonds.
- Harnessed for H.E.P   *5 x 1 = 5mks*

9. **a) i) Characteristic of desert soils.**
- Many sand / stony
- Poorly developed / lack moisture content
- Lack humic content
- Mainly thin and shallow
- Mainly loose in texture
- Mainly saline
- Rich in calcium   *4 x 1 = 4mks*

ii) **Factors leading to soil leaching.**
- high rainfall
- nature of the soil
- topography   2mks

b) **Soil formation**
i) **Parent rock**
- Nature of the rock influences the rate of weathering ie hard rocks weather slowly while soft rock weather faster
- The rock determines the soil texture such that large grained rocks produce large grained soils
- The type of minerals are transferred to the soil during formation from the parent rock.
                                                2 x 1 = 2mks
ii) **Living organisms**
- They assist in the breaking down of rocks through burrowing and penetration of roots
- They influence chemical composition of soil by adding organic acid
- Burrowing and digging influences soil aeration.   *2 x 1 = 2mks*

ii) **Topography.**

- It determines the rate of weathering – steep slopes encourage high rate of weathering and removal of soil particles.
- It influences soil depth - gentle slopes have deep soils while steep slopes have thin soils.
- It influences soil drainage - where land is flat, soil are poorly drained.

2 x 1 = 2mks

c)

Humus

Horizon A   Top soil

Horizon B   (subsoil)

Horizon C   Partly weathered soil (rocks)

Horizon D   parent rocks   5mks
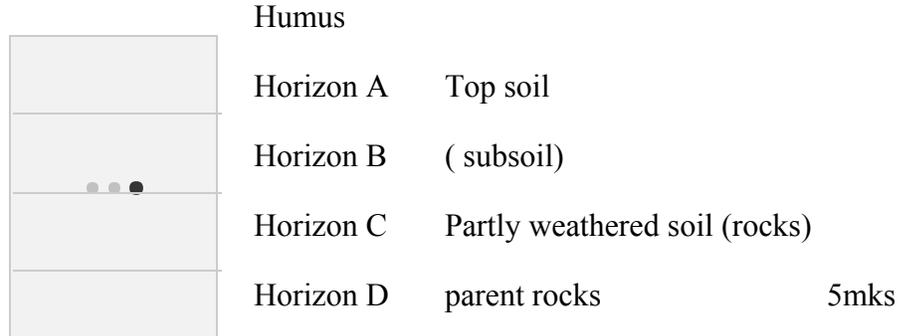
d) - Monoculture leads to soil exhaustion
   - Overstocking reduces vegetation hence soil erosion
   - Deforestation
   - Mining / Quarrying
   - Settlements and cultivation on steep slopes
   - Continous cultivation
   - Shifting cultivation - leaves the land exposed to agents of erosion.

4 x 1 = 4mks

e) **i) Recommendation**
- Practice agroforestry
- Plant trees in hilly areas
- Plant cover crops
- Dig terraces
- Encourage crop rotation.   *4 x 1 = 4mks*

GEOGRAPHY VI
PAPER II

SECTION A

1. a) State **three** reasons why marine fisheries in Kenya are underdeveloped.   3mks
   b) State **three** ways through which fish farming contributes to the economy of Kenya.
                                                                                           3mks
2. a) List **three** ways in which open – cast mining affects the environment   3mks
   b) State **two** farming methods that assist in soil conservation   2mks

3. a) State **four** problems facing commercial poultry farming in Kenya.   4mks
   b) State **four** physical factors which influence the location of settlement.   4mks

4. State **four** problems facing commercial poultry farming in Kenya.   4mks
5. Give **four** reasons why wildlife conservation is encouraged in Kenya.   4mks

SECTION B.

6. World wheat production by regions.

Region	% of wheat production
Asia	35
Europe	22
North America	19
U.S.S.R	16
Others	8

   a) Draw a pie chart to illustrate the information given above.   5mks

   b) Name

      i) **Two** districts in Kenya where wheat is grown on commercial scale.   2mks

      ii) **Two** wheat producing provinces of Canada   2mks

   c) Explain **three** conditions that favour wheat farming in Kenya   6mks

   d) Explain **five** factors which enables Canada to produce more wheat than Kenya.   10mks

7. a) i) Name **three** major fishing grounds of the world.   3mks

     ii) State **three** factors necessary for fishing   3mks

   b) Give **four** reasons why fresh water fishing is well developed in Uganda.   4mks

   c) i) List **four** problems facing the fishing industry in Kenya.   4mks

     ii) Name **three** modern methods of fishing.   3mks

   d) Explain **four** factors that have favoured the development of the fishing industry in Japan.   8mks

8. a) Apart from Mwea, name **three** other large irrigation schemes in Kenya.   3mks

   b) Explain **four** conditions that made Mwea a suitable location for an irrigation scheme.   4mks

   c) Explain **eight** ways through which tenants in Gezira have benefited from irrigation Scheme.   8mks

   d) Explain **three** problems experienced by farmers in the Gezira irrigation scheme.   6mks

9. a) i) Define the term Nomadic pastoralism   2mks

     ii) Name **two** nomadic pastoralists communities in Africa.   2mks

   b) Give **five** factors that have favoured the development of beef farming in Argentina.   5mks

   c) State **six** problems that face nomadic pastoralists in Africa   6mks

   d) Explain **five** changes that are taking place to improve nomadic pastoral areas in Kenya.   10mks

GEOGRAPHY VI
PAPER II
MARKING SCHEME

1. **a). Reasons why marine fisheries in Kenya are underdeveloped**
   - Lack of refrigeration facilities.
   - Poor methods of fishing
   - Lack of motorised boats
   - Presence of Mozambique current
   - Shallow and narrow continental shelf

- Competition from Japanese
- Lack of ready market   *3 x 1 = 3mks*

b) **Ways through which fish farming contributes to the economy of Kenya.**
- Employment
- Foreign income where fish is exported
- Source of food
- Source of medicine
- Opens up remote areas
- Prevents the spread of mosquitoes.

2. a). **Ways in which open-cast mining affects the environment.**
- Degradation of the land
- Flooding leading to water borne diseases
- Excess dust
- Exposure of the land to the dangers of soil erosion.
- Wastage of agricultural and industrial land   *3 x 1 = 3mks*

   b) **Farming methods that assist in soil conservation.**
- Crop rotation
- Mulching
- Digging of terraces
- Planting of wind breakers
- Digging along the slope (contour farming)
- Planting cover crops   *2 x 1 = 2mks*

3. **a) Breeds of dairy cattle reared in Kenya.**
- Fresian
- Channel island (jersey Guernsey Alderney)
- Ayrshire
- Sahiwa.

   b) **Physical factors which influence the location of settlement.**
- Historical factors
- Political stability
- Cultural factors
- Physical factors ie Rainfall, Relief, water bodies.

4. **Problems facing commercial poultry farming in Kenya.**
- Pest and diseases
- Economic factors
- Defence.   *4 x 1 = 4mks*

5. **Reasons why wildlife conservation is encouraged in Kenya.**
- Wildlife is a source of employment
- Attract tourist hence source of foreign income
- Utilize the marginal areas
- Lead to development of transport
- Source of income from domestic tourists
- Prevent soil erosion
- Raw materials for industries.   *4 x 1 = 4mks*

6. **a) A PIE – CHART SHOWING WHEAT PRODUCTION IN THE WORLD.**
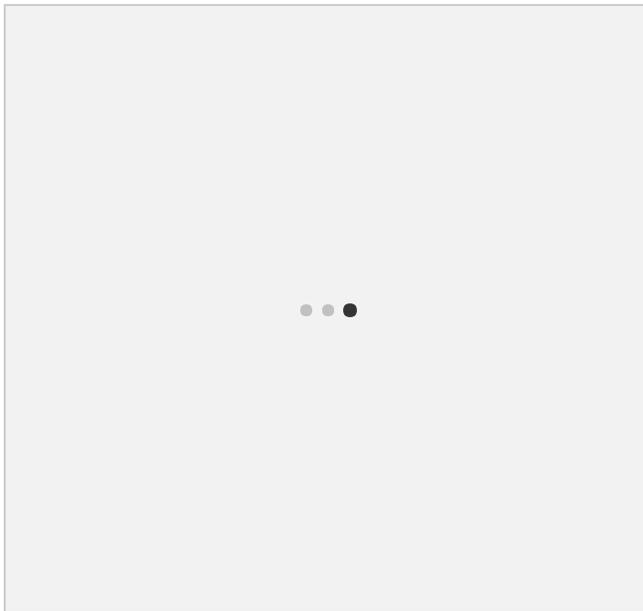
Asia	126^0
Europe	79.2
N. America	68.4
USSR	57.6
Others	28.8
Total	5mks

b)   **Districts in Kenya where wheat is grown on commercial scales.**
     i)   Uasin Gishu
        Nakuru
        Nyandarua
        Trans-Nzoia
        Narok   *2 x 1 = 2mks*

   ii**) Wheat producing provinces of Canada.**
      -    Saskatchewan
      -    Alberta
      -    Manitoba   *2 x 1 = 2mks*

    c)   **Conditions favouring wheat farming in Kenya.**
  -   Average temperature not exceeding 20^0c or not fall below -6^0c.
  -   Rainfall - Between 400mm – 110mm
  -   Dry season - During the harvesting period
  -   Soils - Either light clay or heavy loam soils which are relatively stiff and gives the plant a firm support

- Topography - an open, rolling topography which provides adequate drainage and facilitates the use of machinery.   *3 x 2 = 3mks*
NB/ well explained points.

d)   **Factors which enable Canada to provide more wheat than Kenya.**
- Extensive tracks of land - Most of the population live in urban centres thus there are vast lands countryside. This situation has enabled large scale mechanised wheat cultivation.
- Elaborate transport network - It has elaborate railway network that criss-crosses prairies. This has enhanced the transportation services of wheat and labour to urban markets and coastal ports.
- Soils   - Humus has accumulated for years since the prairie grass has not been disturbed for centuries. The soils are rich in phosphorus and potassium.

- Topography - Undulating topography making the soils to be well drained mechanised labour is also provided.
- Climate -   With summer temperature of 15^0 and mean annual rainfall of 500mm; wheat growing is successful, sunny weather in Autumn enable ripening and harvesting to take place.
- Markets -   Large population offer a sizeable domestic market. It is also exported to other countries.   *5 x 2 = 10mks*

7. **a) i) Fishing grounds of the world.**
- North west Atlantic
- North East Atlantic
- Southern Atlantic (West coast) of south America and Namibia Coast
- North East Pacific
- North west Pacific.   *3 x 1 = 3mks*

ii**) Factors necessary for fishing**
- Presence of plankton
- Nature of the coastline
- Level of Technology
- Ready market
- Accessibility
- Presence of cold ocean currents   *3 x 1 = 3mks*

b) **Why fishing is more developed in Uganda.**
- A good portion of L. Victoria is in Uganda which contain Tilapia
- Uganda people have accepted fish as food
- Most of Uganda lakes are fresh water type e.g L. Kyoga
- Uganda has a major river R. Nile and other permanent watercourses.
- Fish farming is more widely practised.   *4 x 1 = 4mks*

c) **i) Problem facing fishing in Kenya.**
- Decline of fish due to overfishing
- Lack of skills to manage the fisheries
- Inadequate capital to purchase equipments
- Lack of local market due to different tastes
- Lack of well developed means of communication
- Competition from other fishing countries e.g Japan

- Introduction of Nile Perch in L. Victoria which has led to the elimination of other species.
- Lack of refrigerated facilities
- Lack of motorised boats.   *4 x 1 = 4mks*

ii) Modern methods
- Seining
- Trawling
- Line fishing   *3mks*

d) **Factors that have favoured the development of fishing in Japan.**
-   Meeting of a warm and cold current offering conditions for the growth of planktons
-   Modern methods of fishing
-   Long history of fishing in Japan – taught in high institution of learning
-   Indented coastline which provide good fishing ports
-   Fiords provide good breeding grounds for fish
-   Ready market – provided by the high population of Japan
-   Availability of capital to by motorised ship
-   Refrigerated ship
-   Presence of co-operatives which give advance loans to the fishermen.
-   Availability of boat – making raw materials.   *4 x 2 = 4mks*

8. a) Pekerra
    -   Hola
    -   Bura   3mks

    b) **- Gently sloping land which allow free flow of water by gravity.**
    -   Black cotton soils suitable for rice growing
    -   Inadequate and unreliable rainfall
    -   Sparsely populated land leading to few people being resettled
    -   Availability of water for irrigation from R. Thiba and Nyamindi
    -   Availability of labour from the detainees.   *4 x 1 = 4mks*
            NB/ points must be well explained.

    c) **Benefits of Gezira irrigation scheme**
    -   Nomadic people have been settled
    -   Wasted land is now in use
    -   High income leading to raising standards of living
    -   Provision of social amenities e.g schools, churches etc
    -   Infrastructure has been improved e.g roads and railways.
    -   Production of HEP from Roseires dam.
    -   Floods have been controlled
    -   Water for irrigation is now available throughout the year as it is dam in the reseivors
    -   Damming of the Nile created a tourist attraction
    -   Fishing was developed
    -   Textile industries and related industries have been developed
                                                        8 x 1 = 8mks

d) **Problem of Gezira.**
- Water born diseases
- Pest and diseases e.g boll, weevils and quelea bird.
- Fluctuation of cotton prices in the world market
- Low profits as labourers are hired especially in picking cotton.
- Siltation in the dams and canals is very frequent and once this occur, the amount of water to be used for irrigation is reduces.
- Salinity - due to high rate of evaporation in the lake
- Weeds growing in the Canals chock them.
- Building of the dam has robbed the farmers down-stream of fertility alluvial soils.

6 x 1 = 6mks.

9. a) i) Nomadic pastoralism is the movement of people and their animals in search of pastures.

ii) **Examples of Nomadic Pastoralists.**
- Maasai
- Fulani
- Nubia
- Hotentots
- Tuareg. *2 x 1 = 2mks*

b) **Factors for beef development in Argentina.**
- Cattle rearing on flat and low areas which provide good natural grazing landscape with good pastures.
- Availability of fertile soils washed from foothills of Andes by rain and rivers
- Well distributed rainfall throughout the year - 1000mm which favours the growth of good pasture and avail water for cattle
- The sub-tropical temperatures with summer temperature rising above 24^0c and lowest 10^0c favours the growth of grass
- Since winters are not extremely cold grass grow throughout the year.
- Presence of on-shore moist winds from the North which bring reliable rainfall
- Introduction of European cattle breeds which are good quality cattle
- Refrigeration facilities and availability of market in the European countries
- Availability of planted Alfafa with high nutrients content
- Cattle ranches in Argentina are better organised and fairly mechanised
- Developed Railway network for transporting beef cattle to the factories.

c) **Problems facing Nomadic pastoralists.**
- Prolonged drought
- Lack of market for their animal products
- Attack by wild animals
- Exploitation by middlemen
- Pest and diseases
- Untimed fire outbreaks
- Remoteness of the areas where they are found
- Poor quality breeds of animals *6 x 1 = 6mks*

d) **Changes to improve nomadic pastoral areas in Kenya.**

- Educating the nomadic herders on the need to reduce the number of their herds.
- Introducing pedigree British cattle to cross with the indigenous breeds.
- Training vertinary personnel to provide vertinary services
- Planting drought resistant and more nourishing grasses in the marginal areas.
- Establishing ranching co-operative societies to give loans to the nomadic pastoralist.
- Co-operatives also to reduce soil erosion, provide market facilities water and teach the ranchers better methods in cattle keeping.
- Introduction of ranches.   *5 x 2 = 10mks.*