Term 1 - 2023

GEOGRAPHY

MARKING SCHEME

FORM THREE

1. (a)

* Centrifugal force
* Centripetal force
* Grailtational force. 2 @ 1=2mks*.*

(b)

* Pollen grains
* Soot
* Dust / ash
* Salt particles 2 @ 1=2mks*.*

2. (a)

* By intensity (Mercalli Scale)
* By magnitude (Ritcher Scale) 2 @ 1 = 2mks*.*

(b)

* Intensity or strength of compressional forces.
* Nature / age/hardness/elasticity of the rocks.
* Temperature within the rocks. 3 @ 1 = 3mks*.*

3. (a)

* Are dense
* Are dark gray in colour
* Are layered
* Are low clouds
* Bear some rains
* Appear in uniform texture. 3 @ 1= 3mks*.*

(b)

* Attitude
* Temperature\
* Earth rotation 2 @ 1=2mks*.*

4. (a)

* Magma movement within the crust.
* Isostatic adjustment between sima and sial
* Convectional currents in the mantle
* Gravitative pressure. 2 @ 1=2mks*.*

(b)

* Convergent/destructive boundaries.
* Divergent/constructive boundaries.
* Transform/conservative boundaries. 3 @ 1= 3mks*.*

5. (a)

* Increased precipation in the source area.
* Occurrence of river capture.
* Regional uplift of the land.
* Change in rock resistance.
* Fall in sea level.
* Subsidence of the land. 3 @ 1 = 3mks*.*

(b)

* Steep river gradient
* V-shaped valley
* High stream velocity
* Active vertical erosion
* Straight river channel

Common features: rapids waterfalls, Interlocking spurs. 3 @ 1 = 3mks*.*

**SECTION B.**

6. (a) (i) 1o 31’ 2 @ = 2 mks*.*

(ii) Forest vegetation

River

Valley

Steep slope. 2 @ 1 = 2mks*.*

(iii) 0750 ±0.10 1 @ 2 = 2mks*.*

1. (i)
   * There are numerous permanent rivers.
   * There are numerous dams/reservoirs.
   * Some rivers flow from western towards the eastern sides.
   * Main rivers form dendritic drainage pattern.
   * River Amboni has meanders.
   * Most rivers start from the forested areas. 4 @ 1 = 4mks*.*

(ii) **ACTIVITY EVIDENCE**

* + Trading - Presence of markets/shops
  + Quarrying - Presence of a quarry
  + Transportation - Presence of roads.
  + Lumbering - presence of sawmills
  + Processing - coffee factory
  + Tourism - Aberdare National Park

4 @ 1= 4mks*.*

1. (i) & (ii)

*.*

**🗸**

(c) (ii) Length of rectangle = 10 cm

Actual length of the area

= (20 x 50,000) cm

= 1000 000cm*.*

New scale = 10cm🗸

1000 000cm🗸

= 1:00000 2 @ 1 = 2mks*.*

1. (i) Incomplete squares 21 ÷2 = 10.5 km2

Complete squares 4 ×1 = 4 km2

TOTAL = 14.5 ±0.5

1 @ 2 = 2mks*.*

(ii)

* Writing a report
* Analysing photographs
* Giving a public lecture on the findings
* Discussing the findings. 3 @ 1 = 3mks*.*

7. (a) (i)  **PLUTONIC ROCKS VOLCANIC ROCKS**

* Form from magma Form from lava
* Cool slowly Cool rapidly
* Have coarse texture Have fine texture
* Consist of large crystals Consist of small crystal
* Form below the earth’s surface Form on the earths surface
* Large grains Small grains 4 @ 1 = 4mks*.*

(ii)

* Dolerite
* Porphyrite
* Lamprophyre
* Diabase
* Porphyry
* Granophyre 2 @ 1 = 2mks*.*

(b)

* By deposition in layers of sediments broken down from pre-existing rocks.
* By deposition in layers, of the remains of dead plants and animals.
* By deposition, in layers of particles of salt formed by evaporation of water.

3 @ 2 = 6mks*.*

7. (c) (i)

* Rock texture size of grains
* Arrangements of rock grains
* Minerals composition of the rock
* Rock colour
* Rock hardness
* Degree of jointing
* Rock solubility
* Rock density. 3 @ 1 = 3mks*.*

(ii)

* Taking notes
* Filling in questionnaires
* Drawing / sketching diagrams
* Taking photographs
* Labeling rock specimens/ samples. 3 @ 1 = 3mks*.*

(d) (i)

**SEDIMENTARY IGNEOUS METAMORPHIC**

Flint Gabbro Hornblende

Haematile Augite Graphite

6 @ ½ = 3mks*.*

1. Hammer – for breaking rocks

Magnifying lens – for viewing tiny rock particles.

Polythene bag – for holding rock samples.

Dilute hydrochloric acid – for determining the presence of carbonate compounds. 4 @ 1 = 4mks*.*

(e)

* Weather into fertile soils
* Forms scenic charm for attraction to tourists
* Act as water reservoirs
* Form materials for building and construction.
* Contain valuable minerals
* Act as habitat for wildlife. 2 @ 1 = 2mks*.*

8. (a) **Weathering** is the disintegration and decomposition of rocks at or near the earth’s surface in situ while **Mass wasting** is the movement of weathered rock materials down a slope, under the influence of gravity. 1 @ 2 = 2mks*.*

1. (i) Climate
   * Temperature cause rock minerals to expand and contract in alternation.
   * Rain water react with rock minerals leading to chemical weathering.
   * Temperature speeds up the rate of chemical weathering. 2 @ 1 = 2mks*.*

(ii) Plants and animals

* Plant roots expand cracks in rocks through penetration.
* Burrowing animals aerate the soil which facilitate chemical weathering.
* Hoofed animals trample on rocks leading to disintegration.
* Low plants like algae, mosses and lichens, keep rock surface wet facilitating chemical weathering
* Humic acid produced by plant roots and decaying plants matter cause rock decay.
* Urine from animals causes chemical weathering. 2 @ 1 = 2mks*.*

. (c) (**i) Exfoliation**

* During the day rock masses are subjected to heat from the sun.
* Surface minerals become hotter than those in the interior of the rock.
* At night the surface minerals cool and contract faster than those inside.
* Cracks develop on the surface layers.
* The surface layers of rock peel off like an onion. 3 @ 1 = 3mks*.*

(ii) **Carbonation**

* Rain water mixes with carbon dioxide in the atmosphere to form a weak carbonic acid.
* The acid formed react with calcium carbonate in the rock to form a bicarbonate.
* The bicarbonate formed become dissolved in water and then carried away in solution. 3 @ 1 =3mks*.*

1. **Frost Action**

* Melt water enters cracks in rocks
* When temperatures fall the water freezes and expand in volume.
* The cracks become enlarged.
* The rock structure weakens and the rock breaks into angular blocks.

3 @ 1 = 3mks*.*

(d)

* Materials accumulate at the base of a slope to form deep fertile soils.
* Features resulting from mass wasting attract tourists.
* Materials may accumulates across a river valley to form a lake.
* Cause of loss of lives whenever it occurs in a settled area.
* Cause damage to property.
* Cause erosion of cultivable soils.
* May cause slope retreat. 3 @ 2 = 6mks*.*

(e) (i)

* Seeking permission from relevant authority.
* Preparing a working schedule.
* Conduct a reconnaissance study.
* Select methods of collecting and recording data.
* Assembling relevant survey instruments.
* Making reference from secondary sources. 2 @ 1 = 2mks*.*

(ii)

* Accidents e.g from falling rocks.
* Biting by snakes, insects ect.
* Interruptions by adverse conditions of weather.

2 @ 1 = 2mk*.*

9. a) Types of forests marked

X- Temperate evergreen

Y- Tropical rainforest

Grass lands marked

K- Prairies

M- Tundra

1. It is temperate ever green forest

- They have broad leaves trees

- They contain some deciduous trees within the forests

- In some areas there is thicker undergrowth than that of the tropical rainforests

- Common trees include oaks, maple, hemlock, walnut and dogwood

- They contain hardwoods such e.g. cedar and eucalyptus

5x1=5mks

c) i) Give the names of the types of grassland vegetation found in

South Africa- Veldt

Australia- Downs

1. -They have needle like leaves help to reduce the loss of water from the trees in winter when there is no moisture to be absorbed from the soil

-The leaves have a waxy skin which protects them from the winter cold

-The trees have a conical shape and flexible branches that allow snow to slide off easily

-Most trees are evergreen so as to have maximum utilization of sunlight during the short

growing season

-Tree trunks are flexible to enable them sway without breaking during the strong winter

winds

-The trees have a widely spread shallow root system for utilization of moisture from the top

soil since most of the time the subsoil is frozen. 4x2mks

d) i) -Collecting data

-Recording data

2x1=2mks

1. -Savanna/ short grass

-Woodland

-Temperate/ rain forest

-Bamboo forest

-Heath and moorland

-Snow and bare rock

3x1=3mks

1. -Rugged terrain/ inaccessibility

-Harsh weather conditions e.g. rain, cold temperatures

-Tiresome/Fatigue 2x1=2mks

10. (a) (i) River regime is the seasonal fluctuation in a river volume. 1mk

(ii) Involves wearing down of river channel by the load transported by the water.

(iii) the load knocks against the river banks and river bed eroding them. 2mks

(b) (i) W – Bluffs

X – Flood Plain

Z – Raised river bed. 3mks

(ii) Formations of natural levees – feature Y-levees

* + They are raised river banks made of alluvial materials.
  + When the river spills materials over its banks some are deposited there.
  + Repeated deposition causes the river banks to be raised forming the levees. 3mks

(iii)

* + The river bed is source of building materials such as smoothed gravel, pebbles and sand.
  + Some alluvial sediment may contain valuable minerals like gold, diamonds.
  + Alluvial deposits has fertile soils for agriculture.
  + The river is prone to flooding leading to loss of property and lives.
  + The river water can be a medium of spreading harmful water borne diseases. 5mks

1. (i) Trellis drainage pattern
   * In this pattern, tributaries join the main river at right angles.
   * The minor tributaries also join the main tributaries at right angles.
   * Main river is called the consequent river, main tributaries the subsequent river, the minor tributaries the obsequent and the last are the secondary consequent.
   * They occur in landscapes with scarps and folded areas. any 5x1 = 5mks

(ii) Formation of an ox-bow lake

* + Formed when a river begins to meander its course.
  + Lateral erosion dominates the outer side of the bend while deposition takes place on the inner bank.
  + Lateral erosion results in the reduction of the neck of land between the bends.
  + The neck of land is eventually worn away.
  + Deposition on the meander sides blocks off the meander which forms a lake.
  + The river abandons the meander and follows the newly created short cut.
  + The abandoned meander contains water and forms an ox-bow lake.