

GATUNDU SOUTH SUB- COUNTY

GEOGRAPHY

312/1

MARKING SCHEME

SECTION A:

1. a) Time at Accra 0° Greenwich meridian.
Difference in degrees is 35°
 1° - 4 min
 35° - ?
 $35 \times 4 = 140 \text{ min} = 2\text{hrs } 20\text{min}$
Time will be 4.40 a.m (2mks)
- b) Two effects of the Revolution of the earth
- It causes variation in the lengths of day and night at different times of the year.
 - It causes variation in position of midday sun at different times of the year. (2mks)
- c) Two reasons for spherical shape of the earth.
- The force of gravity which causes the roundness.
 - Centrifugal force which causes the bulging of the equator.
 - Centripetal force that causes the flattening at the poles (2mks)
2. a) Differentiation of Absolute and relative humidity.
Absolute humidity is the actual amount of water vapour or moisture in a given mass of air at a particular temperature, while relative humidity is the maximum amount of moisture that the same mass of air can hold at the same temperature.
- b) A weather station: this is a place set aside where all weather elements are observed, measured and recorded. (2mks)
- c) Any constituent of Atmosphere (1mk)
- Gases
 - Dust particles
 - Water vapour
 - Smoke particles
3. a) Three natural causes of earthquakes
- Vulcanicity

- Tectonic movements
- Gravitative pressure
- Isostatic adjustment. (3mks)

- b) Two precautions – taken against earthquake destruction are.
- Avoid settling in earthquakes prone areas
 - Building earthquake resistant structures e.g Bridges.
 - Early or timely warning of occurrence of earthquakes.
 - Construction of dykes along the coast to prevent tsunamis. (2mks)

- a) Two types of slow mass wasting
- Soil creep
- Rock creep
- Solifluction
- Talus creep (2mks)

- b) Three negative effects of mass wasting on the physical environment.
- Formation of derelict land which spoil the beauty of the land.
 - Landslides may cause rivers to change courses thus reducing the volume of water downstream. (3mks)

4. a) Diagram on limestone area.
 X – stalactite
 Y – limestone pillar. (2mks)
- b) Karst scenery – is the limestone region with unique features. (1mk)

SECTION B

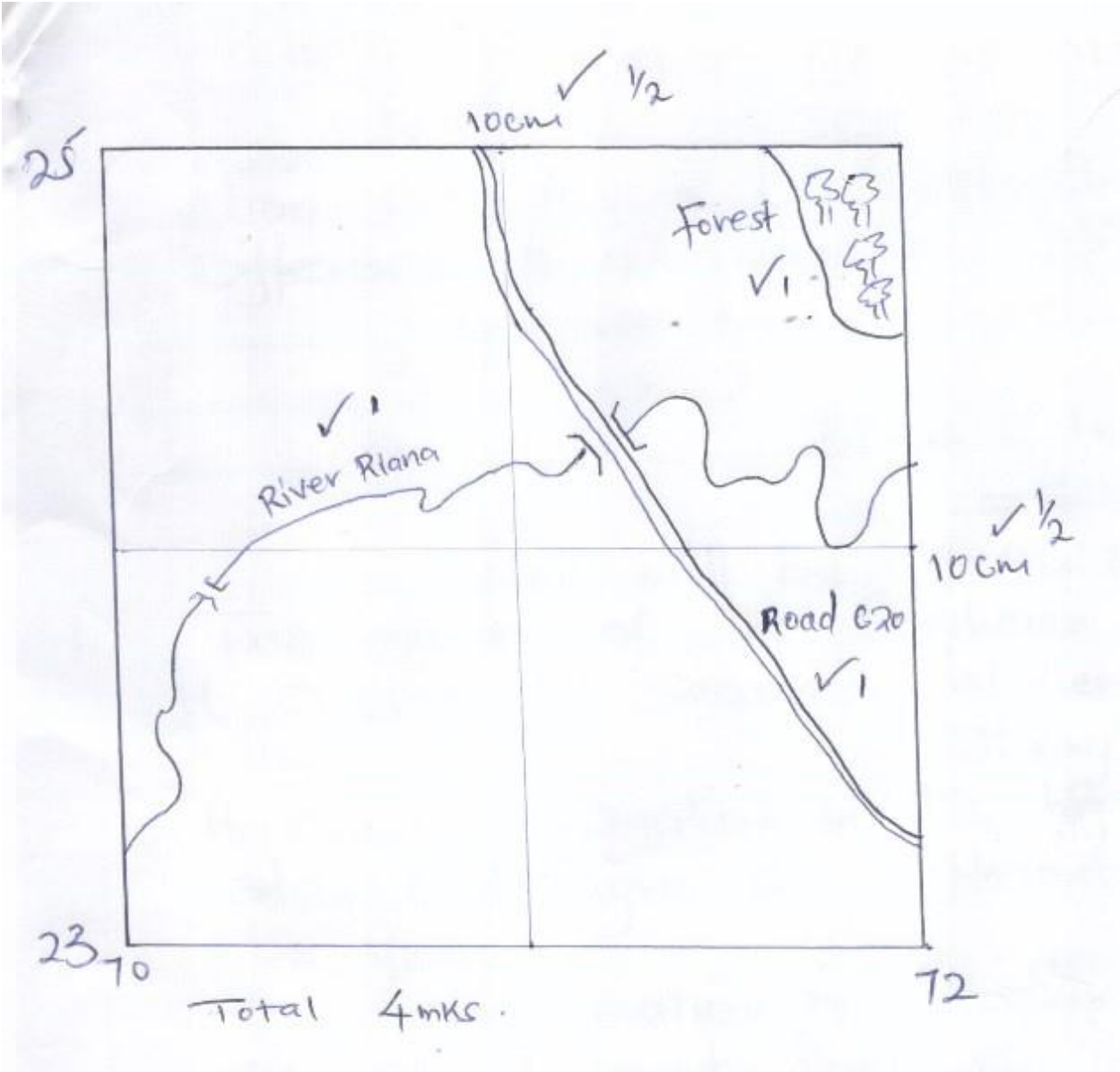
5. MAP WORK

- a) Two Districts found in the are
- South Nyanza
 - Kisii
- b) Between latitude 0° 30's and 0° 45's
 Between longitude – 34° 30's and 34° 45 E
 Area covered by Kisii Township
 Complete square - = 1
 Incomplete square $\frac{8}{2} = \frac{4}{5}$
 Area of a Grid square is $5 \times 1 \text{ Km}^2 = 5\text{Km}^2$

Square of 10cm to 10 cm

Eastings 70 and 72

Northings 23 and 25



e. Citing Evidence of Social Services
Service

Evidence

- | | |
|-------------------|---------------|
| 1. Health Medical | Dispensary |
| 2. Education | School |
| 3. Administration | Chiefs office |
| 4. Transport | Road |
| 5. Recreation | Rest House |

f (i) Magnetic variation $0^{\circ} 52'$

ii) Population Density of 13 houses

$13 \times 4 = 52$ people

Area of Grid square is 1Km^2 50

52 people per square Km

g. Describing the relief . Covered by the area.

- The lowest attitude is 3900m in the North East of the map.

- The Highest altitude is 5980m 6000m in the south West of the map.

_ The landscape is generally mountainous or hilly in the western and Northern parts.

- The land is gently sloping in the South East and West has steep slopes.

Description of the Drainage of the map.

- The area has many permanent rivers e.g River Riana.

- The main drainage feature in the area are rivers.

- The main Rivers are River Riana, River Maungo, River Awach Tende.

- The area has dams e.g Tinga Dam

- Rivers along Northing 40 flow towards the North.

- There is a disappearing river in Grid square 7527.

- River Riana forms a dendritic drainage patterns with its tributaries in the South East of the mapped area.

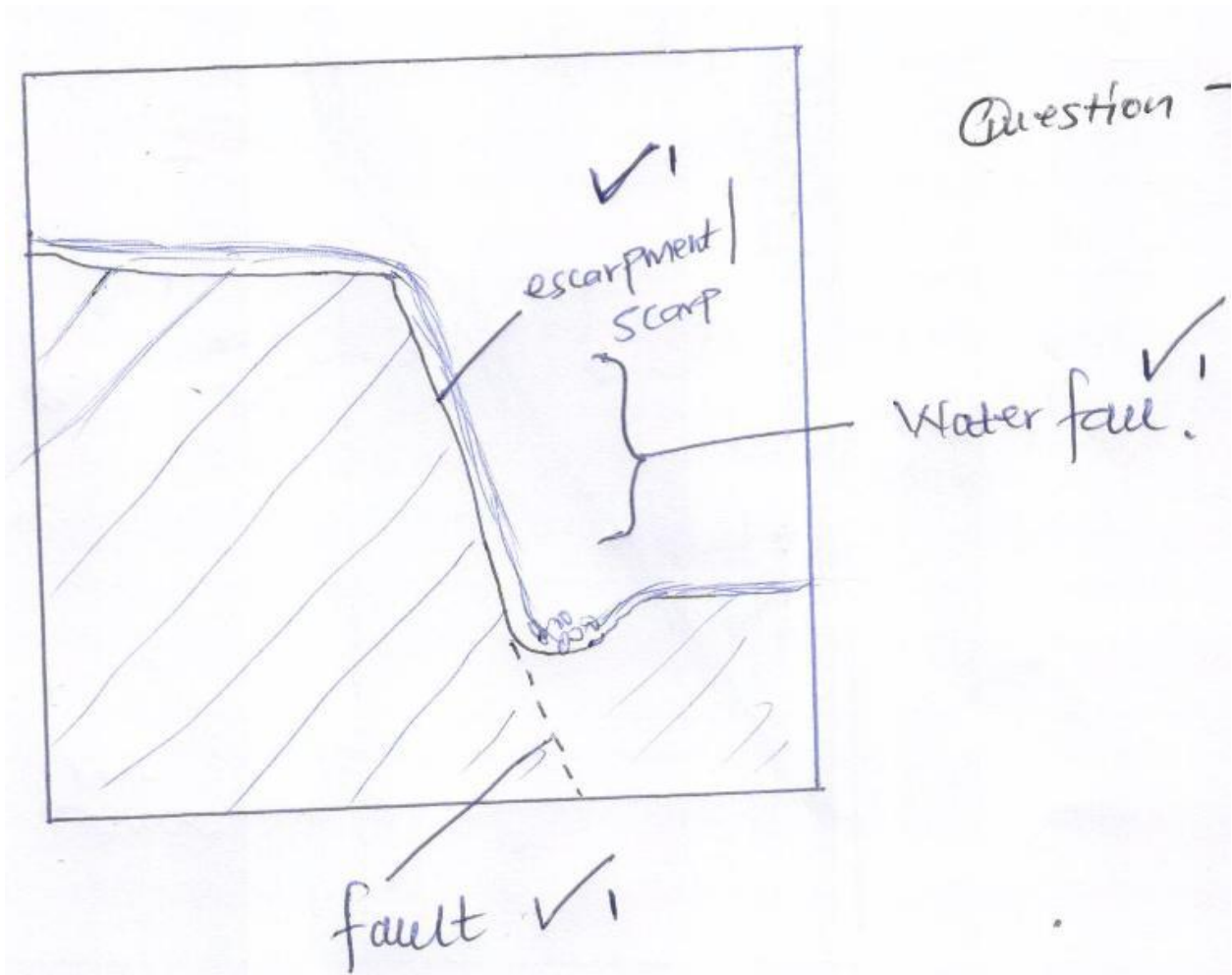
6. a) River Erosion by.

Solution: As the river flows, the flowing water dissolves, soluble minerals and remove them in solution from the rocks.

Abrasion: The rocks transported by water are used to scratch, scour and guide the riverbed and banks, this way the river dislodges rocks and transports them downstream.

(b) How a waterfall forms over a fault scarp.

- Faulting occurs along a river valley
- Downward displacement of rocks follows
- An escarpment is then formed.
- The river descends the scarp through a water fall.



- c) Three conditions necessary for delta formation
- Large quantities of sediments carried by the river to the mouth

- Low velocity at the mouth and a gentle slope
- Weak sea waves
- High rate of deposition than the rate of removal of silt at the river mouth

d) Description of

- i) Dendritic: This develops in areas with rocks of uniform structure
Tributaries form the main river at acute angles forming a shape like of a tree with branches.

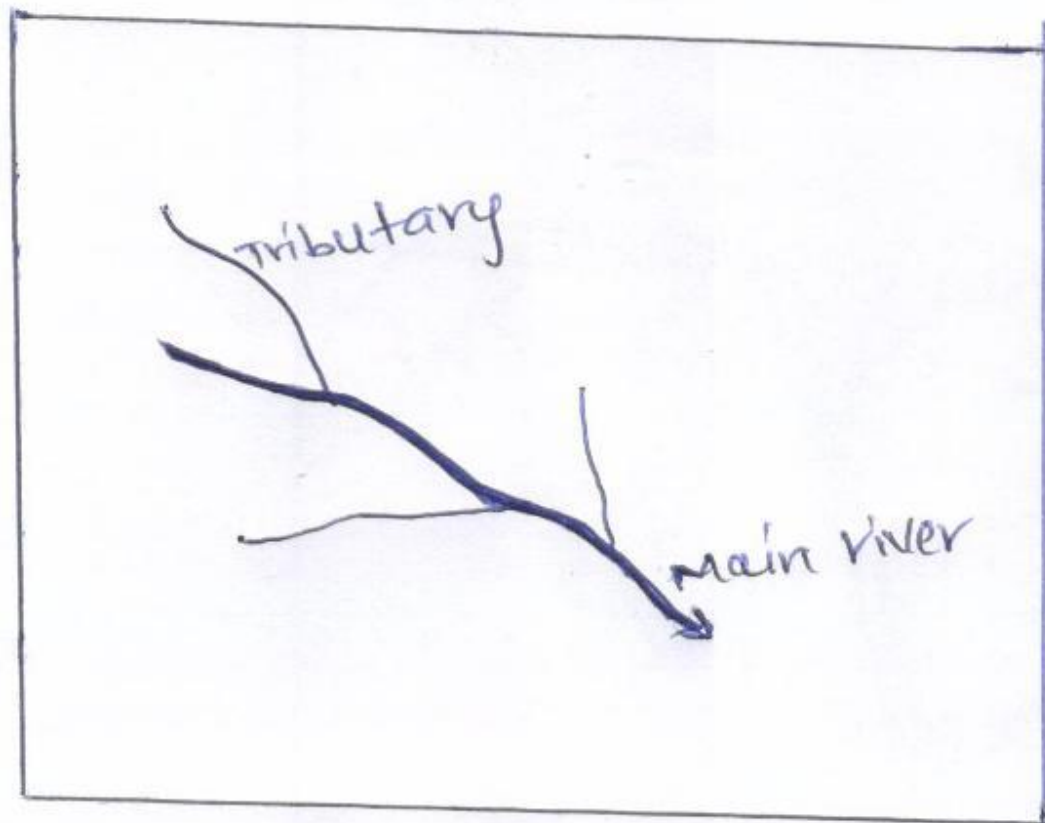


Diagram 1mk.
Text 2mks

- ii) Trellis: Occurs in areas of alternating layers of hard and soft rocks.
The tributaries join the main river at right angles.
The Main River and tributaries form a rectilinear patterns.

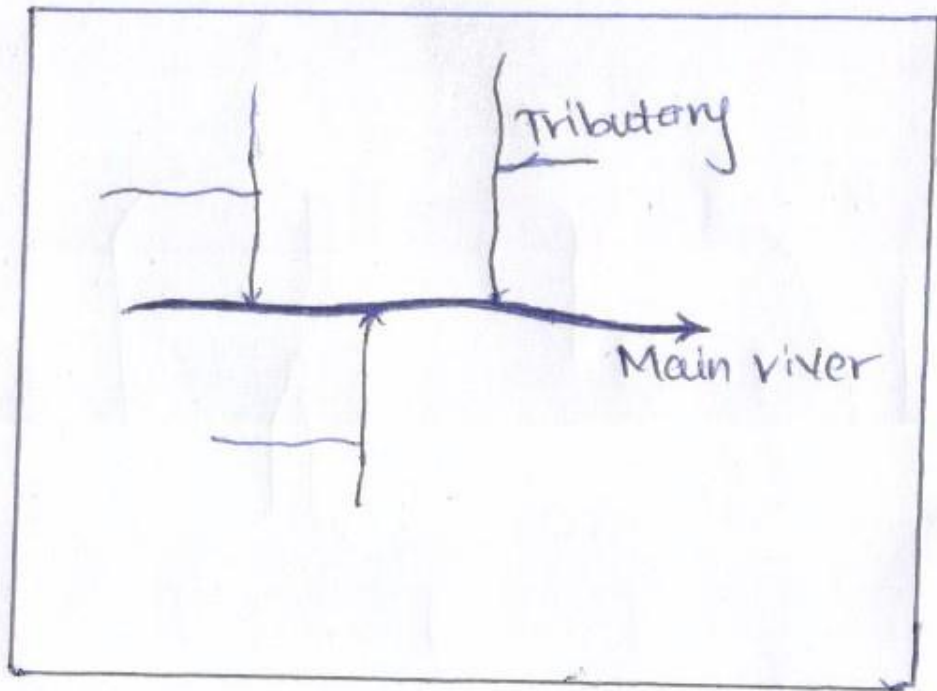


Diagram Ink
Text 2mks

- e) Reasons why some lakes in the Rift valley have fresh water.
- They have surface outlets/rivers which excess salt deposits are carried away.
 - Some have underground outlets which drain the salts that would have accumulated in the bed.
 - Some experience low rates of evaporation because they are located in low temperature areas.
 - The lakes have regular in flow of fresh water which dilutes the salts. (6mks)
7. a) Defination
- i) Glaciation is the process by which moving ice erodes, transports and deposits materials on the earth's surface. (2mks)
- ii) Ice- bergs – This is a large mass of ice that floats on water/ sea or ocean. (2mks)
- b) Formation of the following feature.
- (i) Roche Mountanee
- As ice moves it meets a resistant rock out crop through abrasion the upstream is smoothed while the downstream is eroded by plucking leading to steep and Rugged leaward, side, this produces a resistant rock with a smooth up streams and rugged leeward.
- Rock basin: Ice erosion by abrasion and plucking on the main valley leads to formation of a glacial trough. Through abrasion the less resistant rocks on the base of glacial trough are deepened. This leads to formation of a hollow known as a rock basin.
- c) i)Features formed by glacial deposition in lowland areas.
- Erratics
 - Boulder trains
 - Till
 - Drumlins
 - Esker
 - Kame
 - Out wash plains (2mks)
- iii) Three ways in which a glaciated land scape is of significance to human activities.
- Glacial erosion exposes valuable minerals which are easily exploited
 - Fiord provides suitable bleeding grounds for fish.
 - Glacial lakes provide water for domestic and industrial use.

- Hanging valleys form waterfalls which provide sites for generating Hydroelectricity
- Alluvial fans and out wash plains provide fertile soils for agriculture. (6mks)

d. Name three mountains in East Africa where glaciers are found.

- Mt. Kenya
- Mt. Kilimanjaro
- Mt. Ruwenzori (3mks)

8. a) (i) Name two types of desert landscapes

- Sandy deserts
- Rocky deserts
- Stony desserts (2mks)

(ii) Describe wind transport on desert surface.

- Surface creep: Heavy stones are rolled by wind currents for short distances (2mks)
- Saltation: Medium sized particles are rolled along the ground and then lifted by wind currents to the air and then dropped. They are moved in a series of short jumps along the desert. (2mks)

b) Field study in an arid area.

- State three reasons for a pre-visit
- Familiarize with area of study
- Determine routes to follow
- Decide routes on the methods of data collection and recording.
- know equipment/materials to carry
- Identify likely problems and seek solution. (3mks)

(ii) Mention two follow up – activities to engage in-

- Writing a report
- Displaying photographs
- Holding class discussions on the findings
- Sketching the features observed
- Analyzing collected data and drawing conclusion.
- Drawing diagrams of observed features. (2mks)

(iii) Measures that can be taken to curb the spread of Aridity and desertification.

- Afforestation and reforestation to reduce the rate of evaporation.
 - Irrigating dry lands
 - Introduction of energy saving jikos to reduce pressure on forests.
 - Stabilizing sand dunes by planting barriers at the fringes of deserts
 - Introduction of alternative forms of fuel to reduce wood consumption.
 - Controlling industrialization to reduce emission of CO₂ which causes global warming. (6mks)
- iv) Ways in which desert features influence human activities.
- Loess regions have very fertile soils suitable for agriculture.
 - Some deflation hollows contain oases which are sources of water for nomadic communities.
 - Desert landscapes provide good sites for resting military weapons.
 - Salts that are used for salt production
 - Desert features e.g. rock pedestals are tourist attractions. (4 x 2) (8mks)
9. a) (i) Three ways through which a caldera is formed
- By violent eruptions explosion or eruption at ground level and a hollow is formed
 - By block subsidence
 - By outward collapsing (3mks)
- (ii) Three negative effects of volcanicity (6mks)
- Loss of life and property
 - Weathered volcanic materials e.g. granite make soil infertile
 - Volcanic landscape is rugged thus limiting settlement.
 - Volcanic landscape creates a barrier to transport and communication.
 - Leeward side of volcanic mountains receive very little rainfall thus discouraging economic activities e.g. agriculture
- b) You are planning to carry out a field study on areas affected by volcanicity.
- (i) Advantages of doing a class
- It saves time
 - It encourages participation of all members of class
 - It will facilitate more interaction among the group (2mks)
- (ii) Problems encountered during the field work study.
- Unfavorable weather e.g. heavy rain extremely high temperature.
 - Accidents in the field – steep slopes.
 - Inaccessibility of some areas with volcanic features. (3mks)

c) (i) Three types of tectonic plates

- Extension/ constructive, divergent. This is when plates move away from each other.
- Compressional /convergent/destructive – Is when two plates move towards each other.
- Transform/shear/transcurrent – Two plate slides past one another along transform fault. (6mks)

(ii) Two types of earth movement making earth to stretch or shorten.

- Horizontal Earth movement. (1mk)

(iii) Effects of faulting on drainage

- Block Mountain receive heavy rainfall on windward side and it's a catchment area.
- Land subsidence caused by faulting may form a depression which fills with water to form a lake.
- When faulting occurs across a river, the river may disappear completely.
- Block mountains cause reverse drainage e.g Kagera River which flows eastwards yet it used to flow west wards. (4mks)
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GATUNDU SOUTH SUB- COUNTY EVALUATION 2018

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Provided a map of Oyugis sheet 130/1

