GATUNDU SOUTH SUB- COUNTY
GEOGRAPHY
312/1
MARKING SCHEME
SECTION A:

1. a) Time at Accra 0^o Greenwich meridian.
Difference in degrees is 35^o
1^o - 4 min
35^o - ?
35 x 4 = 140 min = 2hrs 20min
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
- Vulcanicty
- 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

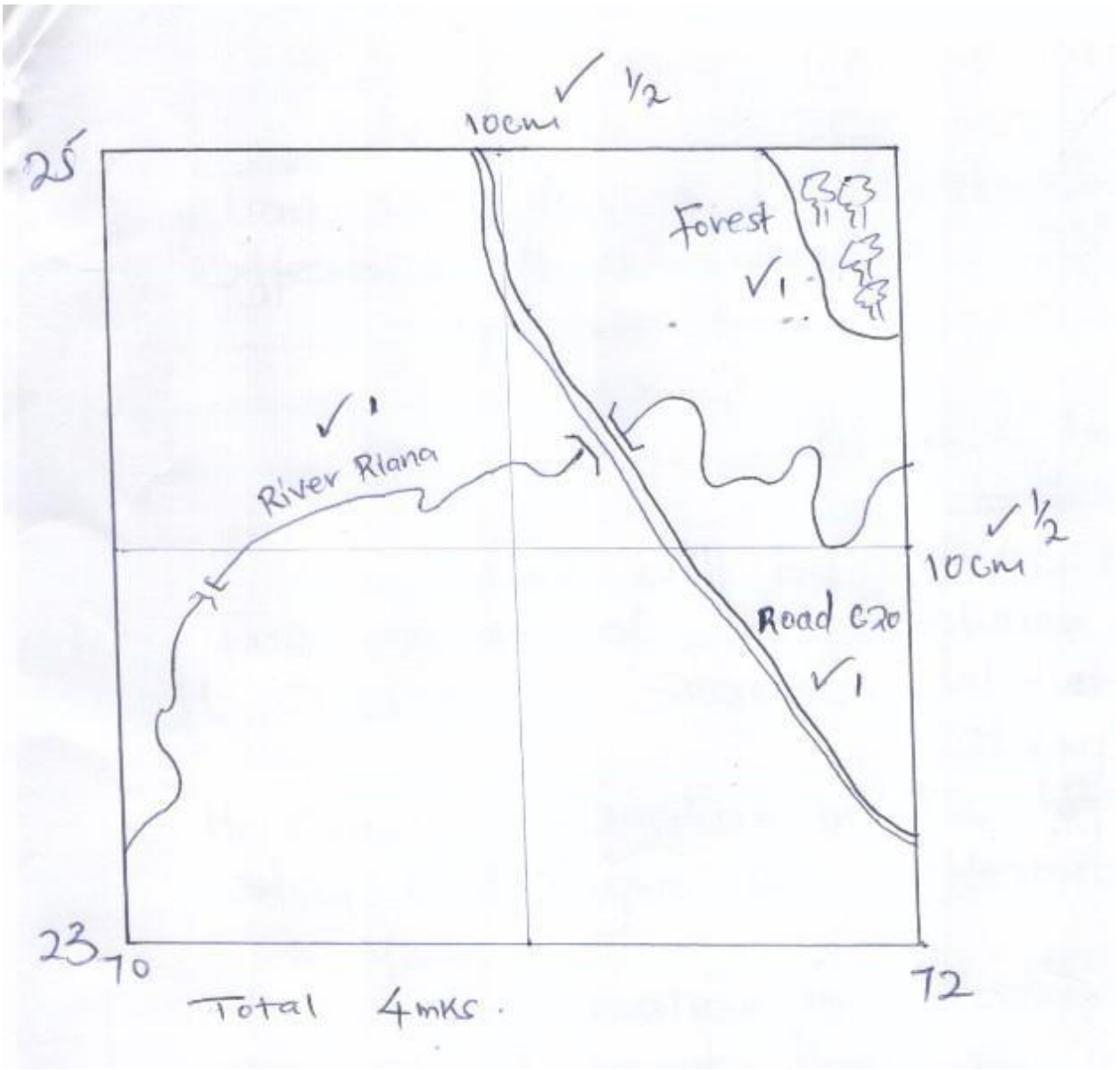
5. MAP WORK

a) Two Districts found in the are
- South Nyanza
- Kisii

b) Between latitude $0^o\ 30^o$s and $0^o\ 45^o$s
Between longitude – $34^o\ 30^o$s and 34^o 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 x 1 $Km^2 = 5Km^2$

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^{o} 52'

ii) Population Density of 13 houses
13 x 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.

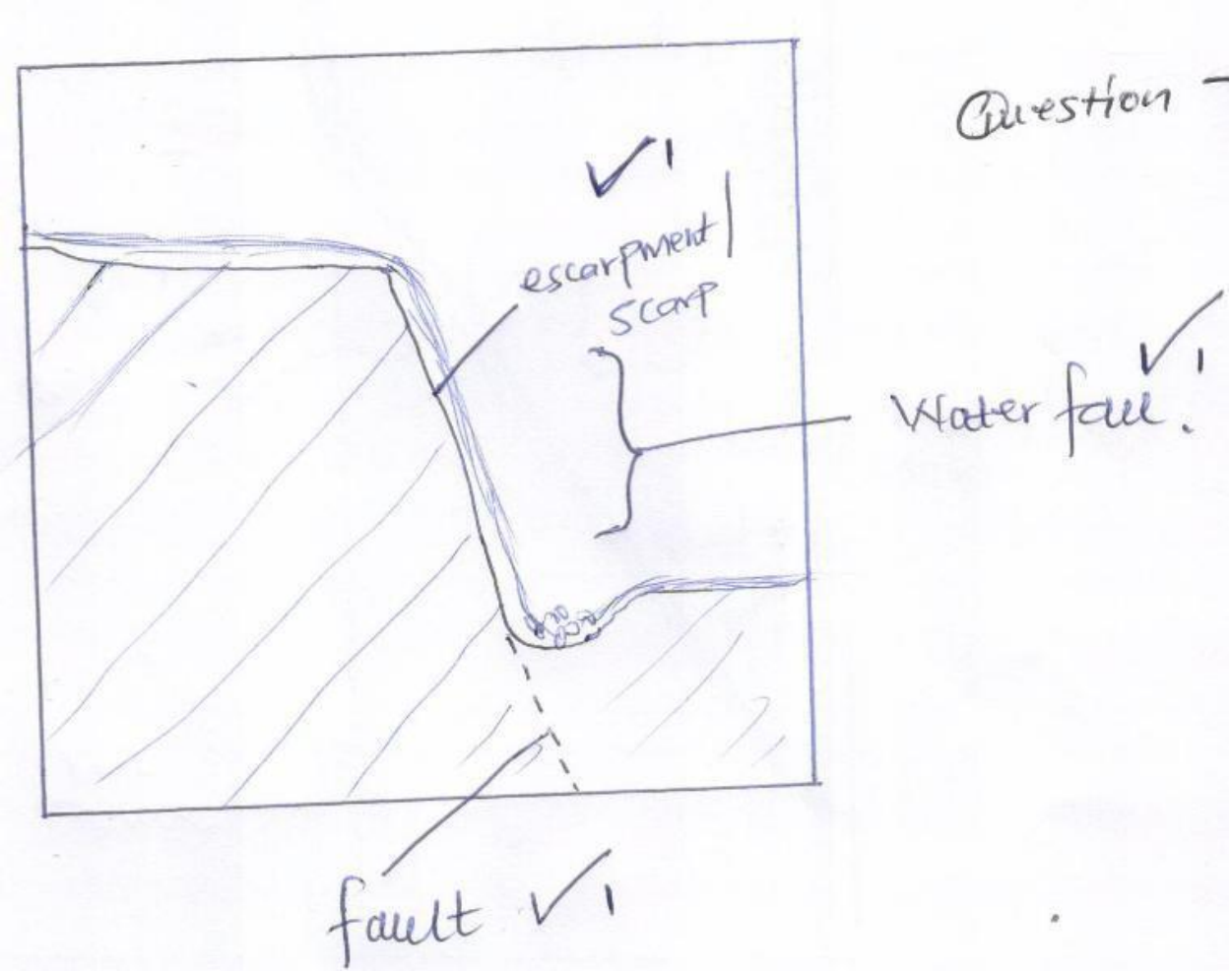
6. a) River Erosion by.

Solution: As the river flows, the flowing water dissolves, soluble minerals amd 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 detta 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) Dendrintic: 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.

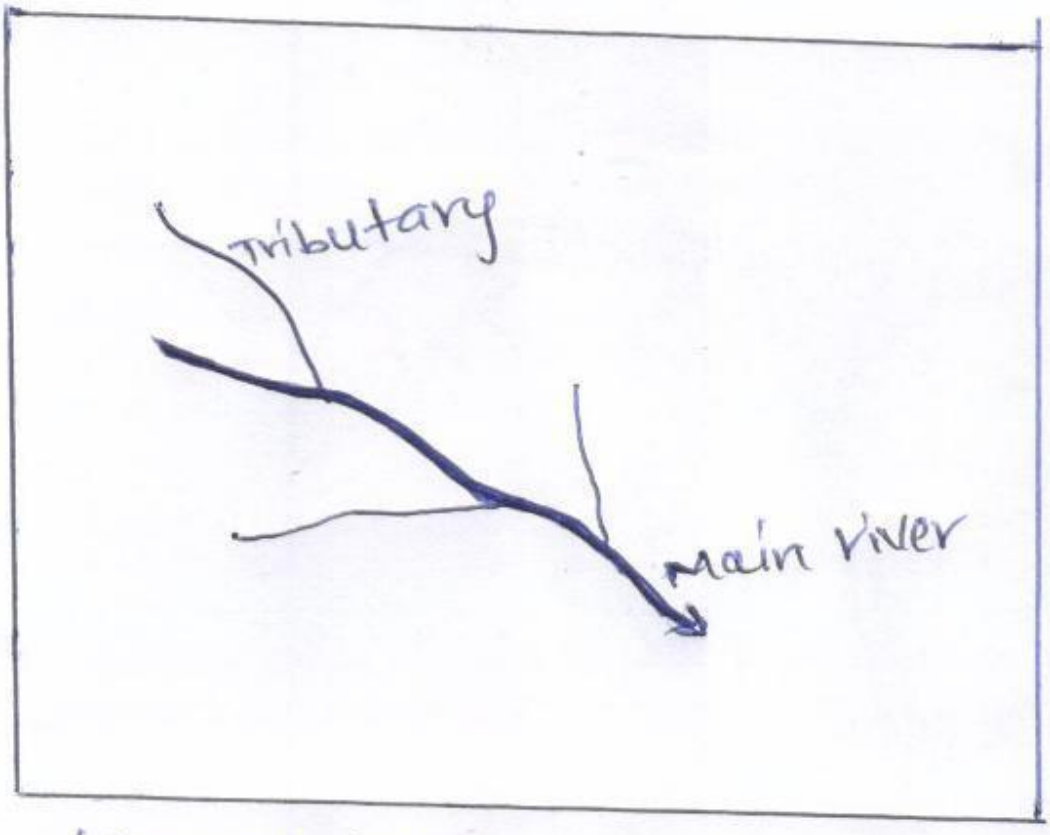


Diagram 1mk.
Text 2mks

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.

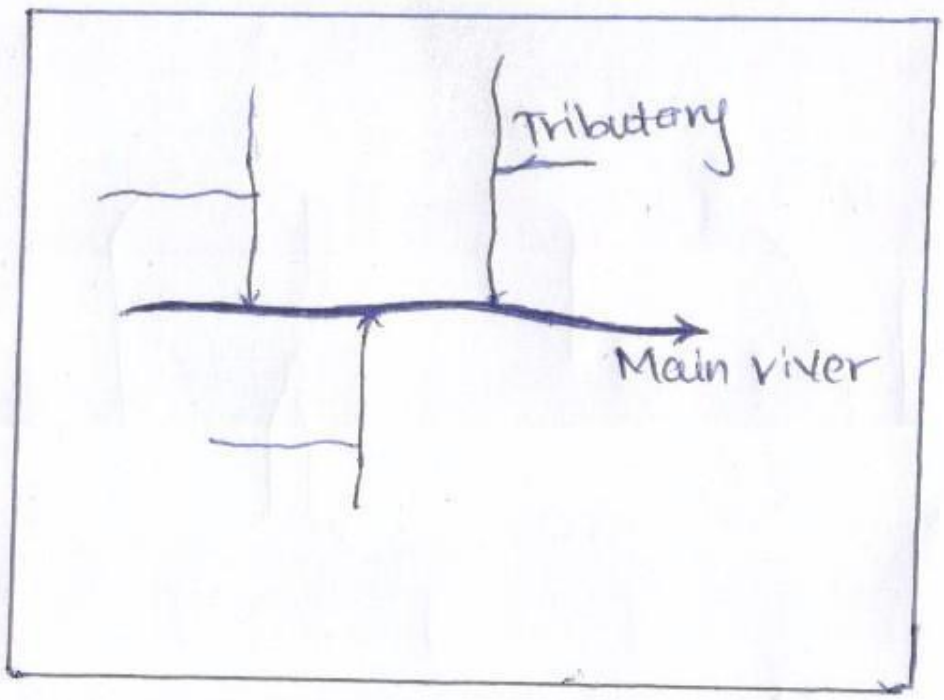


Diagram 1mk
Text 2mks

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 smoothened 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.

- A fforestation and reafforestastion 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 alternatives 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 oasis which are sources of water for Nomadic communities.
- Desert landscapes provide good sites of resting military weapons.
- Salts that are used for salt production
- Desert features e.g rock pedestals are tourist attractions. (4 x2) (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 vulcanicity (6mks)
- Loss of life and property
- Weathered volcanic materials e.g granite make soil infertile
- Volcanic landscape is rugged thus limiting settlement.
- Volcanic landscape create barrier to transport and communication.
- Lee ward 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 vulcanicity.

(i) Advantages of diving 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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Provided a map of Oyugis sheet 130/1