FORM TWO TERM 2 2019
GEOGRAPHY
MARKING SCHEME

SECTION A

1. a) What is the time at station Y 30^{o}W when the time at point Z 20^{o}E is 4.00 p.m.

$30 + 20 = 50^{o}$

$1^{o} = 4$ min

$50^{o} = ?$

$50 \times 4 = \frac{200}{60} = 3$ hrs 20 min

Time at Y = 4.00

+ 3.20

7.20 p.m. (2 mks)

b) Three effects of revolution of the earth.
- Changes the position of midday sun at different types of the year
- Varying length of day and night
- Causes lunar eclipse
- Causes four seasons

(Any 3 x 1 = 3 mks)

2. a) Effects of the following forces on the shape of the earth.
i) Centrifugal force – causes bulging at the equator
ii) Centripetal force – pulls poles towards each other and causing flattening
iii) Gravitation force – pulls towards the centre causing rounding effect

(3 x 1 = 3 mks)

b) Why the interior of the earth is hot.
- Pressure exerted by overlying rock masses
- Radioactivity/Radioactive decay
- Process of cooling – outer part cooled faster than inner part therefore inner part retains much of original heat

(Any 2 x 1 = 2 mks)

3. Conditions for formation of dew.
- Daytime should be warm to accelerate evaporation for provision of water vapour
- Calm air so that air can remain in contact with ground long enough to be cooled below its dew point
- A cloudless night as this accelerates the rate at which the earth loses the heat during the night

(3 x 1 = 3 mks)

4. Characteristics of extrusive rocks.
   - Forms small crystals
   - Fine grained/fine texture
   - Some are porous
   - Cooling and solidification is extremely rapidly

(3 x 1 = 3 mks)

5. a) Reasons why it is necessary to study the plate tectonic theory.
   - It explains the current position of continents
   - Enables one to understand the creation of structural landforms
   - Explains the destruction of structural landforms
   - Helps one to understand how the earth maintains balance/isostacy
   - Explains the causes of earthquakes/volcanicity

(Any 2 x 1 = 2 mks)

b) Name two types of tectonic plate boundaries.
   - Divergence/Extension/Constructive
   - Convergence/Compressional/Destructive
   - Transform/Conservative

(Any 2 x 1 = 2 mks)

SECTION B

6. a) Types of maps studied in geography.
   - Topographical maps
   - Atlas maps
   - Sketch maps

(3 x 1 = 3 mks)

b) Ways of locating places on maps.
   - Use of place names
   - Use of latitudes and longitudes
   - Use of grid references
   - Use of direction/bearing/distances

(3 x 1 = 3 mks)

c) Marginal information on a map sheet.
   - Map series
   - Sheet name/title
   - Sheet index number
   - Grid system
   - Scales
   - Key
   - Edition/publisher/copyright
   - Latitudes and longitudes

(Any 4 x 1 = 4 mks)

d) i)The total annual rainfall

2038mm (2 mks)

ii) Wettest month
July (1 mk)

iii) Annual range of temperature
$30 - 23 = 7^{o}c$ (2 mks)

iv) Mean annual rainfall
$2038 \div 12 = 169.83mm$ (2 mks)

v) The hottest month
October (1 mk)

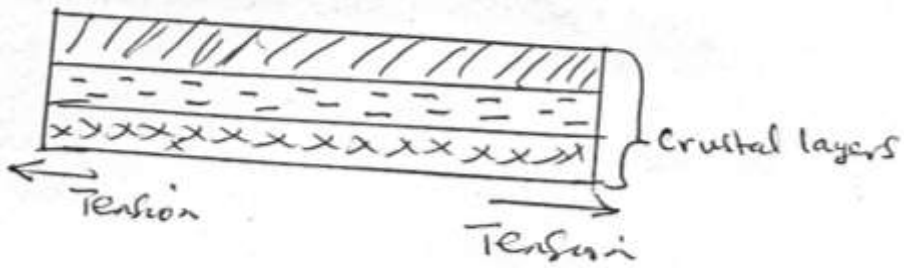
e) Instruments which could have been used to collect the data in the table above.
- Rain gauge
- Thermometer

(2 x 1 = 2 mks)

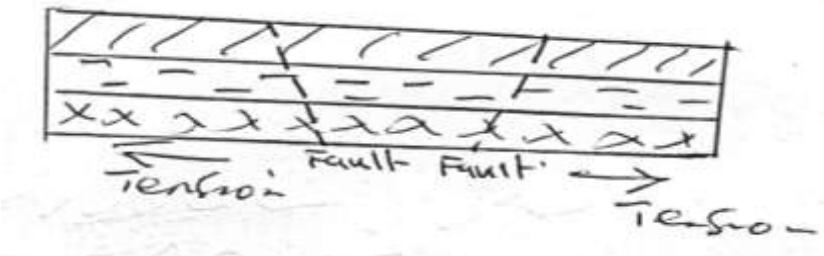
7. a) Relief features formed as a result of faulting.
- Tilt block
- Escarpment/fault scarp
- Block mountain/horst
- Fault steps

(Any 3 x 1 = 3 mks)

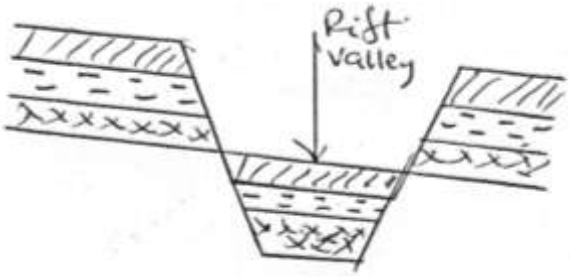
b) Formation of rift valley through tension force.
- Crusted rocks are subjected to tension force



- Continued tensional forces results to the development of normal parallel faults.



- The middle block sinks as the side blocks are pulled apart.



Diag – 4
Text – 4
8

c) Reasons why it is important to carry out a pre-visit.
- To familiarize with the area of study
- To enable them draw a route map
- Enables them to prepare a work schedule
- Enables them to identify the relevant tools/equipment of study
- Enables them to prepare financially/estimate cost
- Enables them to estimate time for the study
- Enables them to contact people whose assistance will be needed during the study
- To assess the suitability of the area for the study
- Enables them to draw objectives/hypothesis
- Enables them to identify suitable method of data collection
- Enables them to identify the possible problems and look for solution in advance

(Any 4 x 1 = 4 mks)

8. a) i) Three features found in rift valley of Kenya.
- Hot springs
- Crater/caldera/crater lake
- Volcanic cones/mountains
- Lava plateaus/plain
- Plug dome/spines
- Ash and cinder cones
- Fumuroles/solfatara

(Any 3 x 1 = 3 mks)

ii) Two negative effects of vulcanicity in Kenya.
- Some volcanic features create barriers making construction of transport and communication lines expensive
- Rugged nature of volcanic landscapes make settlement and agriculture difficult
- Volcanic mountain range create a rain shadow effect which result in aridity
- Recent volcanic lava flows have poorly developed soils unsuitable for agriculture

(Any 2 x 1 = 2 mks)

iii) Describe the characteristic of composite volcano.
- It has a vent or pipe

- It is composed of alternating layers or ash/and lava
- It is conical in shape/steep sided
- It has side vents
- It has conelets/parasitic cones on the sides
- At the peak it may have caldera/crater/plug

(Any 3 x 1 = 3 mks)

b) i) Name two types of earthquake waves.
- Primary/push/p-waves
- Secondary/shear/s-waves
- Longitudinal/l-waves

(Any 2 x 1 = 2 mks)

ii) Five ways in which the earth's crust is affected by earthquake.
- Earthquake cause lateral/vertical displacement of rocks
- They cause raising/lowering/uplifting and warping of parts of the sea floor
- Cause raising/lowering of land
- They cause landslides/slumps
- They lead to faulting of the crust
- They lead to volcanic eruptions

(Any 5 x 1 = 5 mks)

9. a) What is a rock?
- A rock is an aggregate of mineral particles forming part of the earth's crust.

(2 mks)

b) Classify the rocks listed in the table below.

Name of rock	**Class**
Marble	Metamorphic
Gneiss	Metamorphic
Peridotite	Igneous
Sandstone	Sedimentary
Granite	Igneous

(5 x 1 = 5 mks)

c) i) Methods of estimating the age of rocks.
- Radio-carbon dating
- Relative dating
- Absolute dating

(Any 2 x 1 = 2 mks)

ii) Factors that influence metamorphism in rocks.
- Resistance of the rock to crushing
- Grain size of the rock being changed

- Porosity of the rocks
- Solubility of the constituents of the rocks
- Chemical action of the minerals
- Stability of the minerals that are produced

(Any 4 x 1 = 4 mks)

d) Characteristics of sedimentary rocks.
- They are stratified
- They contain fossils
- They are non-crystalline
- They are formed from sediments
- They are formed from sediments of pre-existing rocks

(Any 2 x 1 = 2 mks)

10. a) i) Examples of non-metallic minerals.
- Diatomite
- Coal
- Soda ash
- Soap stone
- Fluorspar
- Limestone
- Gemstone
- Salt

(Any 2 x 1 = 2 mks)

ii) Minerals mined in the following areas in East Africa.
I. Kereita in Limuru Kenya – Carbon (IV) oxide
II. Geita in Tanzania – Coal
III. Kilembe in Uganda – Copper

(3 x 1 = 3 mks)

b) Describe how shaft mining is carried out.
- Vertical shafts are sunk beneath the earth's crust to the mineral deposit
- Horizontal tunnels are dug to reach the minerals
- Props/beams are erected to the support of the roof of the tunnel
- Mineral is dug, blasted or drilled
- Minerals are transported by rail tracks or conveyor belts from the bottom to the surface

Sequence must be followed (5 x 1 = 5 mks)

c) Name three conditions necessary for the formation of petroleum.
- Pressure of sedimentary rocks
- Presence of organic remains and fossils
- Presence of porous rocks

- Presence of non-porous rocks
- Presence of pressure to compress the organic remains

(Any 3 x 1 = 3 mks)

d) State two effects of mining on environment.
- Pollution from poisonous gases and dust causing respiratory diseases
- Dereliction of land
- Mining leads to soil erosion
- Loss of biodiversity

(Any 2 x 1 = 2 mks)