

END OF TERM 3 EXAM 2019 GEOGRAPHY, FORM TWO, MARKING SCHEME

1. a) Define the term planet (2mks)
 - A planet is a large and fairly spherical heavenly body in space which revolves round a star. (All 2mks)
- b) State three characteristics of planet Mercury (3mks)
 - It takes the shortest duration to complete a revolution.
 - It is the smallest planet.
 - It has no natural satellite
 - It is the second hottest planet.
 - It is the planet nearest to the sun. (Any 3 x 1 (3mks))
- c) Explain two reasons why the interior of the earth is very hot. (4mks)
 - The earth still retains the original heat which it had before it started cooling – During its formation, the outer parts cooled faster than the inner parts.
 - Breakdown of radioactive elements. Through nuclear fission a lot of heat is released and trapped in the interior
 - Weight of overlying materials. Crustal rocks and other material exert a lot of pressure towards the center of the earth which generates a lot of heat in the interior. (Any 2 x 2 4mks)
2. a) Differentiate between relative humidity and absolute humidity. (2mks)
 - Relative humidity is the ratio of absolute humidity of a given mass of air to the maximum amount of moisture that the mass of air can hold at the same temperature while absolute humidity is the given mass of air at a particular temperature. All 2 mks Contrast to be complete to score
- b) Suppose air contains 5gm/m^3 of water vapour at 22°C . If the same air can hold a maximum of 10gm/m^3 at the same temperature, calculate the relative humidity. (2mks)
$$= \frac{\text{Absolute humidity}}{\text{Max. moisture the air can hold}} \times 100$$
$$\frac{1.5\text{gm/m}^3 \times 100\%}{10\text{gm/m}^3} = 50\%$$
- c) With the aid of a well labeled diagram, describe how aerographic rain is formed. (7mks)
 - A waterbody such as a lake or sea is heated by solar radiation causing some water to evaporate
 - Warm moist air from the waterbody is driven by wind towards land
 - The moist air is forced to rise on a mountain side
 - As the air rises it expands leading to cooling
 - Further cooling of moisture leads to condensation forming clouds.

- when the clouds are heavy, they release the water as relief rainfall mainly on the windward side of the mountain

DIAGRAM

3. a) Describe how igneous rocks are formed. (4mks)

- High temperatures underneath the earth causes materials to be in molten form.
- High pressure underneath pushes the molten magma through line of weakness such as faults or vents.
- If the pressure is low, magma may fail to reach the earth surface
 - ❖ Such magma cools and solidifies inside the crust to form intrusive igneous rocks
- If the pressure is high, the magma may fail to reaches the earth surface as lava.
 - ❖ The lava cools and solidifies on the surface forming extrusive igneous rock
 - ❖ (Must be mentioned to score maximum marks (4 x 1 4mks)

b) Give three examples of mechanically formed sedimentary rocks. (3mks)

- Sandstone

- Grit
- Shale
- Loess
- Mundstone
- Claystone
- Siltstone
- Breccia
- Conglomerate
- Boulderclay Any 3 x 1 (3mks)

4. The diagram below represents shaft mining.

a) Identify the parts labeled X,Y and Z (3mks)

X – Main shaft

Y – Horizontal tunnel

Z – Lift/Cage (All 3 x 1 3mks)

b) Describe how gold is processed in South Africa. (4mks)

- When the ore containing the gold is brought to the earth surface , its crushed into fine powder
- The fine powder is then stirred in a solution of sodium Ganide or potassium cyanide
- Sodium or potassium cyanide dissolves the gold particles and then mixed with Zinc dust causing gold to preapitate
- The gold is then smelted and moulded into bars. Sequence to be followed All 4 x 1 (4mks)

5. a) Differentiate between faulting and folding. (2mks)
- **Faulting is a process through which crustal rocks fracture due to tectonic force while folding is the process of crustal distortion which causes young sedimentary rocks to bend upwards or downwards. (both must be correct to score all 2mks)**
- b) The diagram below shows parts of a fault
- i) Name the part marked A, B and C (3mks)
- A – Throw**
B- Down throw
C- Faultscarp/ Escapment All 3 x 1 3mks)
- ii) State four causes of vulcanicity (4mks)
- **Underground water which comes into contact with hot rocks.**
 - **High temperature in the interior which changes solid rocks to molten form**
 - **High pressure in the interior due to earth movements.**
 - **Faulting which creates lines of weakness on the crust (All 4 x 1 4mks)**
- iii) Explain three effects of earthquakes on the crust. (6mks)
- **Vibration on rocks due to earthquakes triggers off landslides on the earth surface.**
 - **Earthquakes can cause raising or lowering of parts of the sea floor ie. Sagami Bay in Japan**
 - **Submarine earthquakes cause a huge sea wave called Tsunami.**
 - **Earthquakes cause weaklines to occur on the crust which may lead to passage of magma leading to vulcanicity.**
 - **Rocks of the crust may be displaced laterally during an earthquake . Any 3 x 2 6mks**

6. The table below shows rainfall and temperature figures of a station in Africa

Month	J	F	M	A	M	JN	JL	A	S	O	N	D
Temperature in ⁰ c	24	24	23	22	19	17	16	18	19	20	22	23
Rainfall in mm	109	122	130	76	52	34	28	38	70	108	121	120

- a) Calculate the mean annual temperature for the station. (2mks)

$$\underline{24 + 24 + 23 + 22 + 19 + 17 + 16 + 18 + 19 + 20 + 23 + 22}$$

$$12$$

$$= \frac{247}{12}$$

$$= 20.58^{\circ}\text{C}$$

- b) Calculate the annual rainfall total for the station. (2mks)

$$\underline{109 + 122 + 130 + 76 + 52 + 34 + 28 + 38 + 70 + 108 + 121 + 120}$$

=10008mm

- c) Describe the climatic characteristics for the station. (6mks)
- **The hottest months are January and February (24⁰c) while lowest temperature is experience during July (16⁰c)**
 - **The wettest month is March (130mm) while the driest month is July (28mm)**
 - **The station receive a high mean annual temperature of 20.58⁰c**
 - **The station receives a high mean annual rainfall total of 1008mm**
 - **Rainfall regine for the station is single maximum (Octomber to March)**
 - **Rainfall falls throughout the year. (No distint absolutely dry month)**
 - **Rainfall is high when temperature is high**
 - **Annual temperature range is moderate (8⁰c)**
 - **The station experience a hot and wet climate**
7. The world map below shows some climatic and vegetation zones.
- a) Identify the climatic regions marked A and B (2mks)
- A – Tundra climate**
- B – Warm temperature western margin/Mediterranean climate. All 2 x 1 2mks)**
- b) Name the temperature grasslands marked K, L and M (3mks)
- K- Praires**
- L – Pampas**
- M - Downs**
- c) Describe the characteristics of the vegetation zone marked X (6mks)
- **The type of vegetation in the region marked is tropical rainforest**
 - **The forest trees from three canopies**
 - **Trees grow close to each other with little or no undergrowth**
 - **Threes are tall with large, straight and smooth trunks**
 - **Some very tall trees have buttress roots for support**
 - **Trees species are mainly hardwoods which take long to mature**
 - **The middle canopy has lianas and epiphytes**
 - **Most of the trees have broad and evergreen leaves**
 - **The forest consists of mixed variety of tree species**
 - **The forest floor consists of leaf litter which rots quickly. Any 6 x 1 6mks**
8. The world map below shows some climatic and vegetation zones.