**MARKING SCHEME SENIOR 4 2019**

 **COMPREHENSIVE ASSESSMENT EXAM OF END OF YEAR**

 **GEOGRAPHY**

**SECTION A**: **This section is compulsory** **(50 marks)**

 1. Describe the characteristics topographic maps. **(3marks)**

* They are large scale maps with scales such as 1:50,000.
* They are drawn basing on accurate surveys.
* They are drawn on sheets which have reference numbers.
* They show detailed data compared to other types of maps.
* They have all elements of a good map such as the title, scale, key, frame and compass.

2. How does a sedimentary rock become a metamorphic rock? **(2marks)**

* Any rock (igneous, sedimentary, or metamorphic) can become a metamorphic rock. If rocks are buried deep in the Earth at high temperatures and pressures, they form new minerals and textures all without melting. If melting occurs, magma is formed, starting the rock cycle all over again

3. (a) Differentiate between Impelled Migration and Seasonal Migration. **(2marks)**

* Impelled Migration Here, no one is forced to migrate but due to some push factors such as war, hunger and other difficult conditions, people decide to leave while Seasonal Migration,sometimes people move during specific seasons such as crop harvesting and climate to work and then go back when the season is over.

 (b). Explain the negative effects of migration to the country of destination. **(5marks)**

* Unemployment The increase in population as a result of the presence of immigrants creates a shortage of employment opportunities.
* Growth of slums, the immigrants especially those who move from rural to urban areas lead to the development of slums.
* Increased crime rates some immigrants move into their host areas with bad social habits endangering the security of the host areas.
* Congestion in towns Immigrants cause congestion in their host areas, the increasing population in urban areas is responsible for the congestion witnessed in the various urban centres.
* Disease outbreaks Immigrants sometimes carry over diseases from their source areas into their host areas.

5.Describe three ways through which the strength of an earthquake is measured**. (4marks)**

* The strength of an earthquake is measured by its intensity.
* Intensity measures how strong and hard the earthquake shakes the ground.
* It is measured on Mercalli scale.
* The strength of an earthquake is measured by its magnitude.
* It is measured on Richter scale correct method.

 6. **How does climate affect the flora and fauna in a country? Explain. (6marks)**

* Temperature – along with humidity in the air, precipitation and soil determines the character and the extent of vegetation is different in low temperature regions than in high temperature regions.
* Photoperiod – refers to duration of sunlight experience in a region. This variation is due to a number of factors like altitude, latitude, season and duration of the day.
* Precipitation – the major source of precipitation in India is rainfall. Areas of heavy rainfall have more dense vegetation as compared to areas of less rainfall.

 7. Explain the reasons for establishment of villagization settlement schemes in Rwanda. **(6marks)**

* To improve the living standards of the people.
* To promote peace and unity among the Rwandese people.
* To utilise the natural resources around the country.
* To provide better social services to its citizens.
* To provide general education and other social services.
* To implement the government’s policies and programs.
* To find land for landless people in the country.

8. Describe two factors that causes metamorphic rocks to form. **(4mnarks)**

## Pressure, a phenomenon called "burial pressure" causes metamorphic rock to form. Pressure increases because of the weight of other rocks. This weight produces regional metamorphism. The pressure can crush other rock to form metamorphic rock. Metamorphic rocks of this type located on fault lines are known as "mylonites."

## Heat, deep within the earth where temperatures rise, regional metamorphism occurs. Heat emits from molten rock. It can heat rock to temperatures near melting and change the chemical composition of the rock.

9.Critically observe the photograph below, explain the challenges these people likely to face. **(5marks)**



* High spread of contiguous diseases
* High rate of accidents
* High rate of criminal and robbery
* Overcrowding in tax park
* a lot of sunshine

10. Compare and contrast mechanical and chemical weathering**. (4marks)**

* Mechanical weathering is basically weathering that only changes in structure or size, no chemicals related. An example of mechanical weathering is ice wedging. it breaks the rocks, but no chemicals helped break it down and it did not change color, on the other hand chemical weathering can change in size or structure, but what makes it chemical weathering is if also had an impact on the color, for instance oxidation . the product of oxidation is rust. Rust changes the color. That is the difference between the two types of weathering.

11. Explain how sediment becomes a sedimentary rock**. (3marks)**

* For sediment to become sedimentary rock, it usually undergoes burial, compaction, and cementation, clastic sedimentary rocks are the result of weathering and erosion of source rocks, which turns them into pieces—clasts—of rocks and minerals. They are most often transported by water and deposited as layers of sediment.

 12. How does the amount of precipitation affect the amount of weathering? **(3marks)**

* Rainfall and temperature can affect the rate in which rocks weather. High temperatures and greater rainfall increase the rate of chemical weathering. Minerals in a rock buried in soil will therefore break down more rapidly than minerals in a rock that is exposed to air.

13. Explain how the following factors influence climate in Rwanda:

## (i) The shape of the land. (2marks)

* Climate can be affected by mountains. Mountains receive more rainfall than low lying areas because as air is forced over the higher ground it cools, causing moist air to condense and fall out as rainfall. The higher the place is above sea level the colder it will be.  This happens because as altitude increases, air becomes thinner and is less able to absorb and retain heat. That is why you may see snow on the top of mountains all year round.

 (ii)Prevailing winds. **(2marks**)

* The dominant air currents that affect climate are known as prevailing winds. For instance, warm winds that travel over water tend to collect moisture as they travel; the water vapor in the air will condense as it moves into colder climates, which is why temperate coastal areas often receive heavy rainfall.

**SECTION B: Attempt all questions. (50marks)**

14. You intend to carry out a field study on the effects of mass wasting within the local environment.

 (i)Describe two methods of data collection that you would use for the study. **(4 marks)**

* Observing.
* Administering questionnaires.
* Photographing/video recording.
* Reading from secondary sources/view in films/video clips.

(ii) Explain four negative effects of mass wasting on the physical environment that you are likely to identify. **(4marks)**

* Destruction of vegetation.
* Dereliction of land /scars
* Blockage of rivers.
* Exposure of land to soil erosion.

(iii) Give two follow-up activities you would be involved in after the field study.**(2marks)**

* Data analysis/discussion about findings.
* Report writing.
* Data presentation.
* Consulting geography teachers.
* Display photographs taken.
* Drawing conclusions.

 15. Describe the any three main causes of sheet erosion.**(3marks)**

* Rainfall or rain drops.
* Clear cutting of forest lands.
* Poor soil management.

(b). Suppose you are appointed to be an agricultural extension officer in your district, show how you would conserve sheet erosion.**(7marks)**

* **Build terraces**, terracing is a very good method of soil conservation. A terrace is a leveled section of a hilly cultivated area.
* **Planting of trees** where it is not existed or existing in order to conserve soil.
* No-till farming is a way of growing crops without disturbing it through tillage.
* **Contour Plowing,** this practice of farming on slopes takes into account the slope gradient and the elevation of soil along the slope.
* Crop rotation is practiced. It is a method of growing a series of dissimilar crops in an area. Crop rotation also helps in the improvement of soil structure and fertility.
* Watering soil is a good measure of soil conservation, watering the soil along with plants growing in it is a way to prevent soil erosion caused by wind.
* Planting native crops is beneficial for soil conservation. If non-native plants are grown, fields should be bordered by indigenous crops to prevent soil erosion, thus achieving soil conservation.
* Application of artificial and organic fertilizers
* Mulching

16. With help of examples discuss the significance of the relief features to the development of Rwanda. **(10marks)**

* The plateaus and basins formed by folding have enabled the growth of crops, human settlement and the construction of transport and communication networks.
* 2 The highlands formed by folding have influenced the climate of the areas where they are found especially rainfall formation.
* The formation of lakes in valleys has encouraged fishing and sand harvesting.
* Folding leads to the formation of hills which are tourist attraction sites. Tourists contribute to the economy of the country by bringing in foreign exchange that supports other sectors of the economy.
* Landforms formed through faulting like the Great Rift Valley are important tourist attraction sites.
* Features such as Lake Kivu act as a source of water for River Rusizi. The many rivers and lakes in the country provide water for domestic and industrial uses.
* The escarpments and fault scarps along rivers e.g. River Rusizi are important for the generation of hydroelectric power.
* Volcanic landforms like the lava plateaus break down giving rise to fertile volcanic soils that are suitable for plant growth.
* Volcanic landscapes like the volcanoes in the Northern Province provide beautiful sceneries that attract tourists who bring in foreign exchange to the country.
* Volcanic mountains modify the climate of the surrounding areas through formation of rainfall.
* Lava from volcanic eruptions block the flow of rivers leading to the formation of lava dammed lakes such as Lakes Burera and Ruhondo. The lakes provide water for use and can be used for fishing and transport.
* Volcanic landscapes are associated with minerals such as Wolfram, Tungsten and Tin.

 17. Differentiate between industrialization and Urbanization.**(2marks)**

* **I**ndustrialization is the period of social and economic change that transforms a human group from an agrarian society into an industrial society, involving the extensive re-organisation of an economy for the purpose of manufacturing while Urbanization is the movement of people from the country to towns and cities. The term also refers to the expansion of cities, that is growth of urban areas.

 (b). With the aid of examples, discuss the effects of Urbanizations tosocio-economic developments of Rwanda**.(8marks)**

* Urban centres provide employment opportunities to many people because of the various activities.
* Urban areas provide people with high standards of living through the provision of facilities such as piped water, electricity and good housing facilities.
* Urban areas enable the provision of modern transport and communication facilities such as good roads, telephones and the internet.
* Urbanisation helps the government to be able to raise its revenue through taxes and other levies that are taxed on urban facilities like roads, water, house rents and land rates.
* Urban centres provide markets for goods that are produced in the rural areas especially agricultural products.
* People acquire skills in urban areas which they use in the transformation of rural areas.
* Urbanisation brings about unity among different people through friendship and intermarriages hence creating a united society.
* Urbanisation brings about easy access to social infrastructure such better schools, hospitals and recreational facilities such as stadia.
* Urbanisation leads to the development of industries due to the presence of ready market.
* Urbanizations reduce the problem of land shortage. Many people are accommodated in small areas. However, it has negative effects. Unemployment, Environmental pollution, Deforestation that occurs due to the need for space for expansion and timber for building, Decline in agriculture due to rural-urban migration, Congestion of people posing a risk of infections and the spread of other diseases, High rates of crime and other social ills that arise due to the large number of idle youths, Loss of culture that occurs because of mixing of people from different cultural backgrounds and development of slums.

18.Discuss the setbacks hinders the development of energy production in Rwanda. **(10marks)**

* Limited technological advancement, this forces the country to depend on foreign nations., this increases the cost of energy production.
* Poor economic structures, this has limited the market for power and energy since a large proportion of the population is not economically empowered
* Illiteracy Due to illiteracy, part of the rural population in the country is hesitant to use electricity.
* Climatic changes much of Rwanda still uses hydroelectric power which depends on the availability of water in the rivers. When there is drought the production of electricity is affected.
* The break-down of facilities Due to poor technology, sometimes breakdown of machines disrupt power generation and distribution. Sometimes, the country has to depend on expatriate expertise. This causes delays and is also expensive raising the cost of power production.
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* Lack of adequate capital setting up of power stations is a very capital intensive venture. The capital needed is usually not readily available because of other competing needs.
* Limited alternative sources of power Due to the use and dependence on hydro electricity, the other alternative sources of energy have not been developed. This creates a power shortage in the country whenever it fails.
* Limited research, research is very important in harnessing power. The ability and resources to research further on hydroelectricity power production as well as in other alternative sources of energy is limited.
* Inaccessibility of some areas that are power potential sites, due to the hilly and mountainous terrain of the country, it is difficult to construct roads and other infrastructure. This limits access to other areas that are power generation potential sites.
* Silting and flooding A majority of the rivers in Rwanda carry a lot of eroded materials from the mountainous areas. They end up depositing a lot of silt and mud on their river beds. The silt may interfere with the generation of power.
* Water weeds, the heavy presence of water weeds interferes with the flow of rivers and thus the flow of water that is required in the generation of hydroelectricity.
* Opposition from the conservationists The generation of hydroelectricity is sometimes hindered by conservationists who are opposed to the damming of rivers for environmental conservation reasons.