THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATION COUNCIL OF TANZANIA

FORM TWO NATIONAL ASSESSMENT

013 **GEOGRAPHY**

Time: 2:30 Hours **ANSWERS** **Tuesday, 12th November 2018.**

Instructions

1. This paper consists of sections A, B, and C.
2. Answer **all** questions in the spaces provided.
3. Section A and C carry **fifteen (15)** marks each and section B carries **seventy (70)** mark s.
4. All writings must be in **blue** or **black** ink.
5. Communication devices and any unauthorized materials are **not** allowed in the assessment room.
6. Write your **Assessment Number** at the top right hand corner of every page.

1. For each of the items (i-x), choose the correct answer from the given alternatives and write its letter in the box provided.

(i) The furthest position from the sun in the orbit of the earth is called
A. Equinox
B. Aphelion
C. Perihelion
D. Solstice
Answer: B (Aphelion)
Aphelion is the point in the Earth's orbit where it is farthest from the Sun.

(ii) Which type of mountains results from the eruption of molten rocks from the earth interior?
A. Volcanic mountain
B. Block mountain
C. Residual mountain
D. Fold mountain
Answer: A (Volcanic mountain)
Volcanic mountains are formed by the accumulation of lava and ash from volcanic eruptions.

(iii) Which one of the following instruments is not a component of a weather station?
A. Rain gauge
B. Wind vane
C. Microscope
D. Stevenson screen
Answer: C (Microscope)
A microscope is not used in weather stations, as it is not related to weather measurement.

(iv) The time which is recorded along the same meridian is called
A. Local Mean Time
B. Greenwich Mean Time
C. Great Mean Time
D. Standard Time
Answer: A (Local Mean Time)
Local Mean Time is the time measured based on the position of the sun at a particular longitude.

(v) Which type of climate among the following is different from the other?
A. Mediterranean
B. Savanna
C. Hot desert
D. Equatorial
Answer: A (Mediterranean)
The Mediterranean climate is distinct because it has wet winters and dry summers, unlike the other tropical climates.

(vi) Which scale is the largest among the following?
A. 1:25,000
B. 1:500,000
C. 1:50,000
D. 1:10,000
Answer: D (1:10,000)
The smaller the denominator in a map scale, the larger the scale, providing more detail.

(vii) Which one of the following features are correct sets of the ocean floor?
A. Ridge, basin, plateau, and waterfall
B. Continental shelf, basin, and waterfall
C. Trench, continental shelf, and continental slope
D. Horst, plain, and volcano
Answer: C (Trench, continental shelf, and continental slope)
These are typical features found on the ocean floor.

(viii) A ship moves to the west and crosses the International Date Line, what happens in regard to time gained or lost?
A. No time is gained or lost
B. One whole day is lost
C. One whole day is gained
D. One whole day is repeated
Answer: C (One whole day is gained)
Crossing the International Date Line westward adds one day to the calendar.

(ix) The height above the sea level is called
A. Altitude
B. Contour
C. Latitude
D. Ocean
Answer: A (Altitude)
Altitude refers to the vertical distance above sea level.

(x) Which one among the following is not an importance value of forest?
A. Support life of varied species
B. Modify climate
C. Accelerates soil erosion
D. Home for animals and birds
Answer: C (Accelerates soil erosion)
Forests help prevent soil erosion rather than accelerating it.

2. Match each item in List A with responses in List B by writing the letter of the correct response below the corresponding item number in the table provided.

List A
(i) A line where a date is changed or where calendar days begin.
(ii) The time when the length of day and night are equal over all places on the earth's surface.
(iii) The phenomena which occur when the moon passes between the sun and the earth.
(iv) The arrangement of the planets and solid objects in space in relation to the sun.
(v) The lines used in plotting routes for ships crossing large stretches of ocean waters and aircraft.

List B
A. Great circles
B. Solar system
C. Solar eclipse
D. Moon eclipse
E. Revolution of the sun
F. International Date Line
G. Equinox

Answers
(i) F (International Date Line)
(ii) G (Equinox)
(iii) C (Solar eclipse)
(iv) B (Solar system)
(v) A (Great circles)

3. In each of the following items (i-x), write True if the statement is correct or False if the statement is not correct.

(i) Industrialization is not an agent of environmental pollution.
False. Industrialization often contributes to environmental pollution through emissions, waste disposal, and resource consumption.

(ii) One among the major characteristics of equatorial climate is high temperature and heavy rainfall throughout the year.
True. Equatorial climates are characterized by consistently high temperatures and abundant rainfall year-round.

(iii) The continent that is crossed by both tropics of Cancer and Capricorn is Africa.
True. Africa is the only continent intersected by both the Tropic of Cancer in the north and the Tropic of Capricorn in the south.

(iv) The side of a mountain that faces the direction of the wind is known as Leeward side.

False. The side of a mountain facing the wind is called the windward side; the leeward side is sheltered from the wind.

(v) Asteroids are solid heavenly bodies revolving around the sun mostly between Mars and Jupiter.
True. Asteroids are rocky bodies orbiting the sun, primarily located in the asteroid belt between Mars and Jupiter.

(vi) Lake Victoria, Kyoga, Superior, and Chad are among the Rift valley lakes.
False. While Lake Victoria and Lake Kyoga are associated with the East African Rift, Lake Superior and Lake Chad are not Rift Valley lakes.

(vii) Population pressures especially in big cities in Tanzania do not accelerate the improvement of social services.
False. Population pressures in large cities often strain existing social services, hindering their improvement.

(viii) The use of solar energy minimizes environmental degradation.
True. Solar energy is a clean, renewable resource that reduces environmental degradation compared to fossil fuels.

(ix) Representative Fraction (RF) is a way of expressing the scale of a map by the use of word statement.
False. RF expresses map scale as a ratio or fraction, not in words.

(x) Equinoxes mean equal day and night hours at all latitude.
True. During equinoxes, day and night are approximately equal in length across all latitudes.

4. (a) Briefly explain the concept of human activities.

Human activities encompass all actions carried out by humans that impact the environment and society. These include economic pursuits like agriculture, industry, and services, as well as cultural, social, and political activities. Human activities shape landscapes, influence ecosystems, and drive social development.

(b) Name four types of primary human activities.
(i) Agriculture
(ii) Fishing
(iii) Mining
(iv) Forestry

(c) Giving two examples, differentiate between primary and secondary human activities.

Primary human activities involve the extraction and production of natural resources. Examples include agriculture, where crops are cultivated, and mining, where minerals are extracted. Secondary human

activities pertain to the processing and manufacturing of goods from primary resources. For instance, turning iron ore into steel or processing wheat into flour.

(d) Name six benefits of livestock keeping in Tanzania.
(i) Source of Food: Provides meat, milk, and other animal products essential for nutrition.
(ii) Income Generation: Livestock products can be sold, offering financial income to farmers.
(iii) Employment Opportunities: Engages a significant portion of the population in various related jobs.
(iv) Soil Fertility: Animal manure enhances soil fertility, boosting agricultural productivity.
(v) Cultural Significance: Livestock play a vital role in traditional ceremonies and social status.
(vi) Draft Power: Animals like oxen are used for plowing fields, aiding in farming activities.

5. Study the sketch map provided and answer the questions that follow.

(a) Name the types of scale which have been used to represent this map.
(i) Representative Fraction (RF) Scale
(ii) Linear (or Bar) Scale

These scales are commonly used in cartography to represent the relationship between distances on the map and actual distances on the ground. The Representative Fraction expresses this relationship as a ratio (e.g., 1:50,000), indicating that one unit on the map equals 50,000 units in reality. The Linear Scale, depicted as a line or bar, visually shows this relationship, allowing users to measure distances directly on the map.

(b) Mention three ways which can be used to measure the distance of the road in the sketch map.
(i) Using a ruler with the map's scale: Measure the road's length on the map with a ruler, then apply the map's scale to convert this measurement to real-world distance.
(ii) Using a map wheel (opisometer): Trace the road's path with the wheel; the device calculates the distance based on the map's scale.
(iii) Using a piece of string: Lay the string along the road's path, straighten it to measure its length, and then use the map's scale to determine the actual distance.

(c) Briefly describe three important basic components of a map.
(i) Title: Indicates the subject or area covered by the map, providing users with immediate context about its content.
(ii) Legend (or Key): Explains the symbols, colors, and lines used on the map, enabling users to interpret the represented information accurately.
(iii) Scale: Shows the relationship between distances on the map and actual distances on the ground, essential for measuring real-world dimensions.

(d) Convert the given scale into a statement.
Assuming the Representative Fraction (RF) scale is 1:50,000, the statement scale would be: "One centimeter on the map represents 500 meters on the ground." This means that each centimeter measured on the map corresponds to 500 meters in reality.

(e) Mention three methods which can be used to calculate the area of the forest shown on the sketched map.
(i) Grid square method: Overlay a grid of known dimensions on the map, count the full and partial squares covering the forest area, and calculate the total area by summing these squares.
(ii) Using a planimeter: An instrument that traces the perimeter of the forest on the map to measure its area directly, providing precise calculations.
(iii) Digital software (GIS tools): Utilize Geographic Information System (GIS) software to digitize the forest boundary on the map; the software computes the enclosed area accurately.

These methods vary in precision and complexity, with digital tools offering higher accuracy, especially for irregularly shaped areas.

6. Study the following climatic table and answer the questions that follow.

(a) Suggest the type of climate of station Y.
The type of climate of station Y is equatorial climate. This is indicated by consistently high temperatures throughout the year, ranging from 22.5°C to 26.1°C, and significant annual rainfall.

(b) Calculate the daily mean temperature.
The daily mean temperature is calculated by summing up the monthly temperatures and dividing by 12.
Daily mean temperature = (22.5 + 25 + 25 + 25.5 + 25.5 + 25.5 + 25.5 + 25.5 + 26.1 + 26.1 + 26.1 + 26.1) ÷ 12 = 25.2°C

(c) Find the mean annual temperature.
The mean annual temperature is the same as the daily mean temperature in this case, which is 25.2°C.

(d) Find the annual rainfall for station Y.
The annual rainfall is calculated by summing up the monthly rainfall values.
Annual rainfall = 198 + 340 + 431 + 350 + 280 + 230 + 160 + 71 + 15 + 15 + 12 + 66 = 2,168 mm

(e) Mention any four crops that can be grown in station Y.
(i) Maize
(ii) Rice
(iii) Bananas
(iv) Cocoa

7. Describe six consequences of water shortage to the communities.

Water scarcity significantly impacts communities, leading to various challenges. Firstly, health issues arise as limited access to clean water forces individuals to use contaminated sources, increasing the prevalence of waterborne diseases such as cholera and dysentery. Secondly, agricultural productivity declines due to insufficient water for irrigation, resulting in reduced crop yields and food shortages. This situation exacerbates food insecurity and malnutrition within affected populations.

Economic development is hindered as industries reliant on water, including manufacturing and energy production, face operational challenges. This leads to decreased productivity and potential job losses, affecting the overall economic stability of the community. Educational opportunities diminish, particularly for girls, who often bear the responsibility of fetching water over long distances. This time-consuming task reduces their school attendance and limits educational attainment.

Environmental degradation occurs as ecosystems dependent on water suffer. Wetlands dry up, biodiversity decreases, and the natural balance is disrupted, leading to long-term ecological consequences. Lastly, social conflicts may arise over the allocation of scarce water resources. Competition between agricultural, industrial, and domestic users can lead to tensions, potentially escalating into disputes and undermining community cohesion.

8. Explain five problems caused by the mining industry in Tanzania.

The mining industry in Tanzania presents several challenges. Environmental degradation is a significant issue, with mining activities leading to deforestation, soil erosion, and contamination of water sources due to the release of harmful chemicals. Additionally, conflicts over land rights are prevalent. The displacement of local communities to make way for mining operations often results in disputes and tensions between mining companies and indigenous populations.

Health risks are another concern, as exposure to mining pollutants has been linked to respiratory problems and other health issues among workers and nearby residents. Moreover, economic disparities can be exacerbated. While mining can contribute to national revenue, local communities may not see proportional economic benefits, leading to feelings of marginalization. Lastly, regulatory challenges persist. Ensuring compliance with environmental and safety standards is difficult, and inadequate enforcement can lead to exploitation and unsafe working conditions.

9. Describe six characteristics of small-scale agriculture.

Small-scale agriculture is typically characterized by limited land use, with farmers cultivating small plots, often less than two hectares. This practice is labor-intensive, relying heavily on manual labor and traditional farming methods rather than mechanization. The production is primarily subsistence-oriented, aiming to meet the food needs of the farmer's household, with any surplus sold in local markets.

Farmers often have limited access to capital and credit, restricting their ability to invest in improved seeds, fertilizers, or technology. Crop diversity is common, with farmers growing a variety of crops to ensure food security and reduce risk. Additionally, small-scale agriculture is often deeply integrated into local communities, with farming practices reflecting cultural traditions and knowledge passed down through generations.

10. Elaborate five advantages of developing solar energy in Tanzania.

Developing solar energy in Tanzania offers numerous benefits. Firstly, it provides a renewable and sustainable energy source, reducing reliance on fossil fuels and contributing to environmental conservation. Secondly, solar energy can enhance energy access in remote and rural areas, where extending the national grid is challenging, thereby improving living standards and economic opportunities.

It promotes energy independence, decreasing the country's vulnerability to global energy price fluctuations and supply disruptions. The development of the solar industry can create employment opportunities in installation, maintenance, and manufacturing sectors, stimulating economic growth. Lastly, utilizing solar energy can lead to long-term cost savings for consumers, as the ongoing costs after installation are relatively low compared to conventional energy sources.