SMZ

ZANZIBAR EXAMINATIONS COUNCIL

FORM THREE ENTRANCE EXAMINATION

031 **GEOGRAPHY**

Time: 2:30 Hours **ANSWERS** **saturday, 02nd december 2017.**

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. Choose the correct answer from the given alternatives by writing its letter in the table below.

i) The word 'geo' stands for
A: Graphen
B: The earth
C: Graphio
D: Geographer
Answer: B: The earth
The prefix "geo" originates from the Greek word for Earth, signifying its relation to geographical and geological studies.

ii) A horizontal movement of ocean water
A: Ocean currents
B: Ocean height
C: Ocean waves
D: Ocean views
Answer: A: Ocean currents
Ocean currents refer to large-scale horizontal water movements in the ocean caused by wind, salinity differences, and Earth's rotation.

iii) It is mainly grown in West Africa
A: Wheat
B: Sugarcane
C: Cocoa
D: Rice
Answer: C: Cocoa
Cocoa is a major cash crop in West Africa, with countries like Ghana and Ivory Coast being top producers.

iv) Global warming refers to the
A: Decrease in the average temperature of the Earth's atmosphere
B: Increase in the average water vapor of the Earth's atmosphere
C: Increase in the average moisture of the Earth's atmosphere
D: Increase in the average temperature of the Earth's atmosphere
Answer: D: Increase in the average temperature of the Earth's atmosphere
Global warming describes the rise in Earth's surface temperature due to increased greenhouse gas emissions.

v) Through rotation, there is the difference of
A: Four minutes for every one hour
B: Four minutes for every one degree
C: Four minutes for every fifteen degrees
D: Four degrees for every one minute
Answer: B: Four minutes for every one degree
Earth rotates 360 degrees in 24 hours, which translates to a 4-minute difference per degree of longitude.

vi) The seasonal movement of people with their animals
A: Livestock keeping
B: Terracing
C: Transhumance
D: Contour ploughing
Answer: C: Transhumance
Transhumance is the seasonal migration of pastoralists and their livestock between lowlands and highlands for grazing.

vii) A common time to the same time zone is called
A: IDL
B: Standard time
C: Local time
D: Greenwich
Answer: B: Standard time
Standard time is the uniform time used across a particular time zone for synchronization.

viii) It is found in India
A: Thar desert
B: Atacama desert
C: Sahara desert
D: Mohave desert
Answer: A: Thar desert
The Thar Desert is located in northwestern India and eastern Pakistan.

ix) The planet which has almost the same size as the Earth
A: Neptune
B: Mars
C: Venus
D: Mercury
Answer: C: Venus
Venus is often referred to as Earth's twin because of its similar size, mass, and composition.

x) The climate having the largest diurnal temperature range
A: Savanna climate
B: Mediterranean climate
C: Equatorial climate
D: Hot desert climate
Answer: D: Hot desert climate
Hot desert climates experience extreme temperature differences between day and night due to the absence of moisture.

2. Match the items in COLUMN A with the responses in COLUMN B by writing the letter of the correct answer in the table below.

COLUMN A
i) New Zealand
ii) Lake Superior
iii) Ocean ridge
iv) Ural Mountains
v) Antarctica
vi) Cape
vii) Rift valley
viii) Unguja Island
ix) South America
x) Host

COLUMN B
A: Bordered by Atlantic Ocean to the west
B: Long, fairly narrow raised part of ocean floor
C: Graben
D: Included in Australia
E: Bordered by Atlantic Ocean to the east
F: Separates North and South America
G: Is an oceanic island
H: The depression which occupies water
I: Found in North America
J: Separates Europe and Asia
K: Having high temperature
L: Is a continental island
M: A piece of land projected to the sea
N: Having very low temperature

Answers
i) D: Included in Australia
New Zealand is geographically part of the continent of Oceania and close to Australia.

ii) I: Found in North America
Lake Superior is one of the Great Lakes located in North America.

iii) B: Long, fairly narrow raised part of ocean floor
Ocean ridges are underwater mountain systems formed by tectonic activity.

iv) J: Separates Europe and Asia
The Ural Mountains act as the boundary between Europe and Asia.

v) N: Having very low temperature
Antarctica is the coldest continent, with extremely low temperatures.

vi) M: A piece of land projected to the sea
A cape is a pointed piece of land that extends into a body of water.

vii) C: Graben
Rift valleys are large depressions formed by the downward displacement of land between two tectonic plates.

viii) L: Is a continental island
Unguja Island, part of Zanzibar, is considered a continental island due to its geological connection to mainland Africa.

ix) A: Bordered by Atlantic Ocean to the west
South America is bordered by the Atlantic Ocean on its eastern coast.

x) H: The depression which occupies water
A host can refer to a water-filled depression, often forming lakes or seas.

3. Write T if the statement is correct and F if the statement is incorrect in the table below.

i) Meteorites may lead to the formation of hills.
Answer: T
Meteorite impacts can create craters that may form raised landforms over time.

ii) GIS specialists making maps by using computers.
Answer: T
Geographic Information Systems (GIS) use computers to create, analyze, and interpret maps.

iii) The distances of all planets from the sun are equal.
Answer: F
Each planet in the solar system orbits the sun at different distances.

iv) The annual mean temperature is the difference between the maximum and the minimum temperature.
Answer: F
The annual mean temperature is the average of all monthly mean temperatures, not a difference.

v) A sketch map is a roughly drawn map.
Answer: T
A sketch map is a simplified, hand-drawn representation of an area, often used for quick references

.vi) ITCZ is an area around the equator where winds that carry moisture meet.
Answer: T
The Inter-Tropical Convergence Zone (ITCZ) is a region near the equator where trade winds converge, leading to heavy rainfall.

vii) The Mars belongs to the Milky Way.
Answer: T
Mars is a planet within our solar system, which is part of the Milky Way galaxy.

viii) Traditional method of weather forecast involves the use of radars.
Answer: F
Traditional weather forecasting relies on observation of natural phenomena like clouds, winds, and animal behavior, not radars.

ix) Climatic change is influenced by greenhouse gases.
Answer: T
Greenhouse gases like carbon dioxide and methane trap heat in the atmosphere, leading to climate change.

x) Valleys having fertile soil to support agriculture.
Answer: T
Valleys often have fertile alluvial soil, making them suitable for agricultural activities.

4. a) What is Geography?
Geography is the study of the Earth's physical features, atmosphere, and human interactions with the environment. It encompasses the analysis of spatial relationships between land, resources, climate, and human activities. Geography helps in understanding the distribution of physical and cultural phenomena across the Earth.

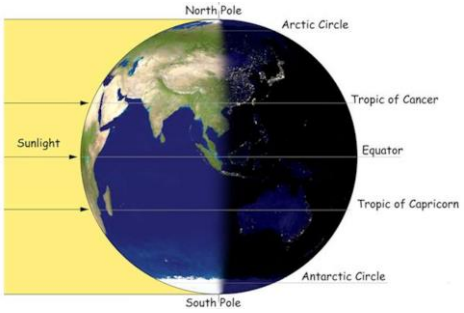
b) State two importance of studying Geography in our daily life.
i) Geography helps in planning and decision-making by providing knowledge about natural resources, land use, and environmental conservation. For example, it aids in urban planning, agriculture, and disaster management.
ii) It promotes cultural understanding and global awareness by studying different regions, their cultures, and how they interact with their environments, fostering cooperation and empathy among people.

c) Explain the interrelationship between land, plants, animals, and humankind as geographical phenomena.
Land serves as the foundation for plants, providing the soil and nutrients necessary for their growth. Plants, in turn, contribute to the land's fertility through organic matter, creating habitats for animals and humans. Animals rely on plants for food and play a role in pollination and seed dispersal, maintaining ecosystems. Humans depend on land for agriculture, plants for food and medicine, and animals for sustenance and economic activities. This interconnectedness highlights the balance needed for sustainable resource management and environmental conservation.

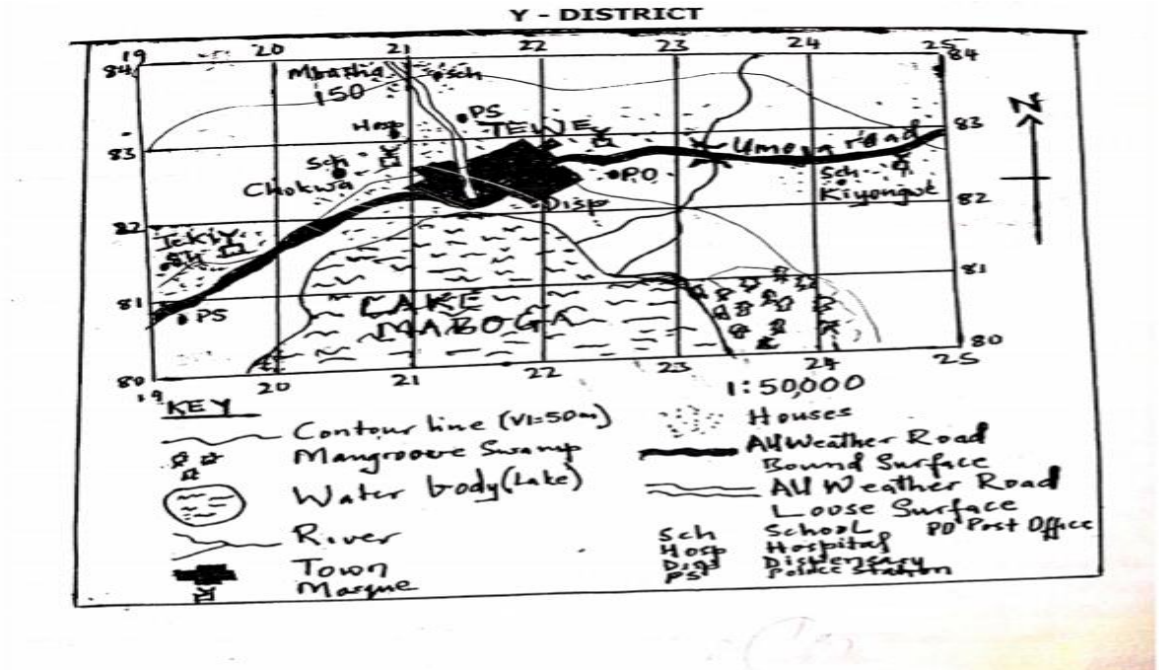
5. a) Define the term revolution.
Revolution refers to the Earth's movement around the Sun in an elliptical orbit, taking approximately 365.25 days to complete one cycle. This motion causes the changing seasons, as different parts of the Earth receive varying amounts of solar energy throughout the year.

b) Briefly explain the term solstice.
A solstice occurs when the Sun reaches its highest or lowest point in the sky relative to the equator, marking the longest or shortest day of the year. The summer solstice happens around June 21st, with the longest daylight hours, while the winter solstice occurs around December 21st, with the shortest daylight hours.

c) Draw a clear diagram to show varying lengths of day and night as results of revolution.
To create this diagram:
- Draw a circle to represent the Earth and label the equator, Tropic of Cancer, and Tropic of Capricorn.
- Illustrate the Sun's rays hitting the Earth at different angles during solstices and equinoxes.
- Indicate longer days in the hemisphere tilted toward the Sun (summer) and shorter days in the opposite hemisphere (winter).



6. Study carefully the sketch map below then answer the questions that follow



a) Calculate the area covered by Lake Maboga in square kilometers (km^2).
To calculate the area of Lake Maboga, measure the dimensions of the lake on the map using the scale provided (1:50,000). If the map dimensions of the lake are 4 cm by 3 cm:
1 cm on the map represents 0.5 km on the ground.
Area = Length × Width
= (4 × 0.5) × (3 × 0.5)
= 2 × 1.5 = 3 km^2

b) What are the uses of the title and key of the above map?
The title identifies the purpose and focus of the map, such as the region or subject it represents (e.g., "Y District Map"). The key explains the symbols and colors used on the map to represent features like rivers, roads, and settlements, helping users interpret the map accurately.

c) By using examples from the map, name any two methods of showing position on a map.
i) Latitude and longitude
Latitude and longitude lines, such as 22°N and 45°E, help to pinpoint specific locations on the map.
ii) Grid reference
The map's grid system, as shown in the six-figure grid references, allows precise identification of locations, such as Lake Maboga or nearby schools.

7. a) Define the term magnetic variation.
Magnetic variation, or declination, is the angular difference between true north (geographical north) and magnetic north (the direction a compass needle points). This variation changes depending on location and time due to shifts in Earth's magnetic field.

b) Differentiate between direction and orientation of maps.
Direction refers to the course or path one follows to reach a destination, often expressed in terms like north, south, east, or west. Orientation, on the other hand, involves aligning the map with the Earth's cardinal directions to correctly relate the map to the physical world.

c) i) Write the compass bearing for the following compass directions.
SSE (South-Southeast): 157.5°
ENE (East-Northeast): 67.5°

ii) Write the compass direction for the following compass bearings.
225°: SW (Southwest)
180°: S (South)

8. Explain five disadvantages of water transport system in East Africa.

Water transport is a mode of transportation that involves the movement of goods and people using waterways such as rivers, lakes, and oceans. In East Africa, this system plays a significant role in linking coastal and inland areas, but it faces several challenges that hinder its efficiency and reliability. Water transport systems, though essential, have limitations that affect their performance and contribution to regional development.

One of the major disadvantages of water transport is its slow speed compared to other modes of transportation like road or air. This makes it unsuitable for transporting perishable goods or meeting urgent deadlines. The time taken to move goods or people across water bodies can be significantly prolonged, reducing its practicality for certain uses.

Another limitation is its dependence on weather conditions. Navigation is often disrupted by storms, heavy rains, or floods, which pose risks to vessels and passengers. This unpredictability reduces its reliability as a consistent mode of transport.

Limited accessibility is also a significant issue. Many areas in East Africa lack adequate ports, docks, or inland water routes, restricting the reach of water transport. This prevents some regions from benefiting from this mode of transportation and limits trade opportunities.

High maintenance costs further complicate the efficiency of water transport. The upkeep of vessels, ports, and related infrastructure requires significant investment, which many developing countries in the region struggle to afford. This financial burden impacts the overall development of the sector.

Lastly, water transport systems contribute to environmental degradation through pollution. Oil spills, waste discharge from vessels, and other pollutants harm aquatic ecosystems and reduce water quality, affecting biodiversity and the livelihoods of communities dependent on these water bodies.

9. "Mining industry has number of effects to the environment." Indicate any four ways for minimizing those effects.

Mining refers to the extraction of valuable minerals or other geological materials from the Earth. While it is an important economic activity, the mining industry has significant environmental effects, including deforestation, pollution, land degradation, and loss of biodiversity. These impacts necessitate proactive measures to mitigate the damage and ensure sustainability in mining practices.

One way to minimize the effects of mining is by implementing advanced technology and sustainable methods. Techniques such as using eco-friendly machinery and reducing waste generation help to preserve the environment. These methods ensure that mining activities cause minimal disruption to ecosystems.

Enforcing strict regulations is another effective measure. Governments must introduce policies that require mining companies to adhere to environmental standards, such as proper waste disposal, land reclamation, and reforestation. Such regulations ensure accountability and promote responsible mining practices.

Community education and involvement play a crucial role in mitigating mining's impact. Educating local communities about conservation and involving them in environmental monitoring encourages collective efforts to reduce mining's adverse effects. This approach fosters a sense of responsibility and sustainable resource management.

Lastly, promoting reforestation and afforestation in mined areas helps restore vegetation cover, prevent erosion, and enhance biodiversity. Planting trees and rehabilitating degraded lands ensure that ecosystems recover after mining operations cease, contributing to long-term environmental health.

10. Analyze the importance of solar and wind power in USA.

Solar and wind power are renewable energy sources that harness natural elements like sunlight and wind to generate electricity. In the United States, these energy sources have gained significant importance as the nation transitions toward sustainable energy systems. The use of solar and wind power addresses environmental concerns, enhances energy security, and supports economic growth.

Solar and wind power significantly reduce dependence on fossil fuels, which are major contributors to greenhouse gas emissions and climate change. By shifting to renewable energy, the USA can lower its carbon footprint and combat global warming effectively. This transition also reduces air pollution, leading to improved public health and environmental quality.

Renewable energy sources enhance energy security by diversifying the nation's energy mix. Solar and wind power provide a sustainable supply of energy, reducing reliance on imported fuels and ensuring stability in energy availability. This is especially important in mitigating the risks associated with fluctuating global oil and gas prices.

Economic benefits are another critical aspect of solar and wind power. The expansion of these industries has created numerous job opportunities in manufacturing, installation, and maintenance. Investments in renewable energy infrastructure stimulate local economies and contribute to national growth.

Furthermore, solar and wind power support rural development by utilizing open spaces for energy production. Wind farms and solar panels installed in rural areas provide additional income to landowners and contribute to community development projects.

11. Describe problems facing large scale agriculture in Tanzania.

Large-scale agriculture involves the production of crops and livestock on a vast area of land, often using modern technology and techniques. In Tanzania, large-scale agriculture plays a crucial role in the economy, providing food and employment. However, it faces several challenges that hinder its productivity and sustainability.

A significant issue is the limited access to modern agricultural technology and machinery. Many farmers rely on outdated tools and methods, reducing efficiency and yields. This limits the sector's ability to compete in global markets and meet growing food demands.

Water scarcity and inadequate irrigation systems are also major challenges. Large-scale agriculture often depends on rainfall, which is unreliable and insufficient during dry seasons. This over-reliance on rain-fed agriculture limits productivity and affects food security.

Land conflicts between farmers and pastoralists pose another obstacle. Disputes over land ownership and usage create tensions that disrupt agricultural activities and threaten social stability. Resolving these conflicts requires effective land management policies and equitable distribution of resources.

Pests and diseases also affect crop yields and livestock health, leading to significant economic losses. The lack of effective pest control measures and veterinary services exacerbates this problem, further reducing productivity.

Lastly, poor infrastructure, such as inadequate roads and storage facilities, hampers the transportation and preservation of agricultural produce. This results in post-harvest losses and limits access to markets, affecting farmers' incomes and overall sector growth.

12. Explain the types of underground water.

Underground water refers to water that exists beneath the Earth's surface, stored in soil, rock layers, or aquifers. It is a vital resource for domestic, agricultural, and industrial use, especially in regions with limited surface water availability. There are two main types of underground water, each with distinct characteristics and importance.

Confined aquifers are water reservoirs trapped between impermeable layers of rock or clay, under pressure. These aquifers are often accessed through wells, and the water is typically clean due to its isolation from surface contaminants. However, extracting water from confined aquifers requires advanced technology and significant investment.

Unconfined aquifers, on the other hand, are water bodies situated above an impermeable layer and directly connected to the surface. They are recharged by rainfall and surface water, making them more accessible. However, their proximity to the surface also makes them vulnerable to contamination from pollutants such as chemicals and waste.

Perched water tables represent another form of underground water. These occur when water is trapped above a localized impermeable layer within an unconfined aquifer. While perched water tables provide additional sources of water, they are typically smaller and less reliable compared to larger aquifers.

Each type of underground water is essential for sustaining life and supporting economic activities. Proper management and conservation of these resources are crucial to ensure their availability for future generations.