THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATION COUNCIL OF TANZANIA

FORM TWO NATIONAL ASSESSMENT

013 **GEOGRAPHY**

Time: 2:30 Hours **ANSWERS** **Year: 2006.**

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.

Multiple Choice Questions

i. The farthest position from the sun in the orbit of the earth is called:
A. Lunar eclipse
B. Aphelion
C. Umbra
D. Perihelion
Answer: B. Aphelion
Reason: Aphelion is the point in the earth's orbit where it is farthest from the sun.

ii. The angular distance measured in degrees North and South of the Equator is known as:
A. Great circles
B. Longitude
C. Altitude
D. Latitude
Answer: D. Latitude
Reason: Latitude measures the distance in degrees north or south of the equator.

iii. The atmosphere is said to be humid only when:
A. It contains water vapour
B. It is unsaturated with water vapour
C. It is saturated with water vapour
D. It does not contain water vapour
Answer: C. It is saturated with water vapour
Reason: Humidity refers to the amount of water vapor in the air, and "humid" conditions imply saturation.

iv. A statement scale of one centimetre representing half a kilometre can be represented in representative fraction as:
A. 1:250,000
B. 1:50,000
C. 1:100,000
D. 1:25,000
Answer: B. 1:50,000
Reason: One centimetre on the map equals 50,000 centimetres (or 0.5 km) in reality.

v. Water and air currents do not move in straight lines due to the spinning effect of the earth. The term used to describe this situation is:
A. Deflation
B. Reflection
C. Direction
D. Deflection
Answer: D. Deflection

Reason: The Coriolis effect causes the deflection of air and water currents due to the earth's rotation.

vi. If it is 3.00 PM at Mwanza 33°E in Tanzania, what will be the time at Tehran 50°E in Iran?

A. 4:08 PM
B. 1:52 PM
C. 10:00 AM
D. 10:08 PM

Answer: A. 4:08 PM

Reason: The difference in longitude (17°) translates to a time difference of 68 minutes (17 × 4 minutes per degree).

vii. Siberia is to the East of the International Date Line (IDL) and Alaska is to the West. If one from Siberia crosses the line to Alaska, he/she:

A. Gains a day
B. Loses a day
C. Gains and loses a day at the same time
D. None of the above

Answer: B. Loses a day

Reason: Crossing from east to west across the IDL results in losing a calendar day.

viii. Dar es Salaam at sea level has a temperature of 32°C. What will be the temperature of a place in Arusha 1,500 metres above sea level?

A. 41°C
B. 23°C
C. 9°C
D. 0.6°C

Answer: B. 23°C

Reason: The temperature drops approximately 6.5°C for every 1,000 meters in altitude.

ix. One of the following groups are features of the ocean floor:

A. Ridge, basin, plateau and waterfalls
B. Continental shelf, basin and waterfalls
C. Trench, continental shelf and continental slope
D. Horst, plain, basin and volcano

Answer: C. Trench, continental shelf and continental slope

Reason: These are all features associated with the ocean floor.

x. The Grid reference of station X is 612825. What are the numbers of the Eastings and the Northings?

A. 825 are Northings and 612 are Eastings
B. 282 are Eastings and 625 are Northings
C. 825 are Eastings and 612 are Northings
D. 228 are Northings and 825 are Eastings

Answer: A. 825 are Northings and 612 are Eastings

Reason: In grid referencing, the first three digits represent the Eastings and the last three digits represent the Northings.

2. Matching Items

Column A
(i) Solar eclipse
(ii) Geography
(iii) Climate
(iv) Doldrum
(v) Magma
(vi) Galaxy
(vii) Rift Valley
(viii) Isohyets
(ix) Lee Ward
(x) Topographical maps

Column B
A. Solar system including all stars
B. It is said to be the results of tension and compression forces
C. The lines drawn on the map showing the areas with the same amount of rainfall
D. Is said to be the results of tension forces only
E. The side of a mountain facing away from the wind direction
F. When the moon passes between the sun and the earth
G. A science that studies man in relation to his environment
H. The lines drawn on the map showing the areas with the same temperature
I. Molten materials below the crust
J. Maps showing areas with the same temperature
K. When the sun passes between the moon and the earth
L. Represent relief and man-made features
M. Areas of the equator which experience low pressure while the temperature is high
N. The average weather condition recorded over a long period, about 35 years

Answers
(i) F
(ii) G
(iii) N
(iv) M
(v) I
(vi) A
(vii) B
(viii) C

(ix) E
(x) L

3.Write TRUE or FALSE against the statements given:

(i) A scale is one of the essentials of a good map. TRUE
(ii) The earth's orbit is more spherical than elliptical in shape. FALSE
(iii) Lake Nyasa is an example of depression Lakes. TRUE
(iv) The hot desert regions have a very small diurnal range of temperature. FALSE
(v) The following are the forms of precipitations: rain, snow, and hail. TRUE
(vi) The Equator is the line which divides the earth into two hemispheres. TRUE
(vii) Mercury is the largest planet in the Solar System. FALSE
(viii) The bearing of a place is given by reading starting from the North moving in a clockwise direction. TRUE
(ix) Westerly winds do not move from North Pole to the Horse Latitudes. TRUE
(x) Geography deals with earth's features only. FALSE

4. (a) Carefully study the climatic data given for station X and then answer the questions that follow:

Month	J	F	M	A	M	J	J	A	S	O	N	D
Temp °C	30	30	30	31	32	38	37	37	35	34	31	30
Rainfall (mm)	10	20	26	15	8	0	0	0	12	18	15	10

(i) Calculate the annual range of temperature.
Highest temperature: 38°C
Lowest temperature: 30°C
Annual range = 38 - 30 = 8°C

Answer: 8°C

(ii) Determine the annual rainfall.
Rainfall (sum of monthly values):
10 + 20 + 26 + 15 + 8 + 0 + 0 + 0 + 12 + 18 + 15 + 10 = 134 mm

Answer: 134 mm

(iii) Calculate the mean annual temperature.
Mean temperature = (Sum of monthly temperatures) ÷ 12
= (30 + 30 + 30 + 31 + 32 + 38 + 37 + 37 + 35 + 34 + 31 + 30) ÷ 12
= 385 ÷ 12 = 32.08°C

Answer: 32.08°C

(iv) What type of climate does station X experience? Give reasons.
Type of climate: Semi-arid
Reasons: Low annual rainfall and high temperatures.

Answer: Semi-arid

(v) Suggest the hemisphere in which station X is located.
Answer: Northern Hemisphere
Reason: Higher temperatures occur mid-year, indicating summer in the Northern Hemisphere.

(b)
(i) Define:
a map
A map is a representation of the earth's surface or part of it drawn to scale on a flat surface.
a scale
Scale is the ratio between a distance on the map and the actual distance on the ground.

(ii) List down four essentials of a map.
- Title
- Scale
- Key or legend
- Compass direction

(iii) In station P on a map, an area covered by thick forest was found to be 12 full squares and 26 half squares. Calculate the area of the thick forest in square kilometres.
Total area = (12 full squares) + (26 half squares × 0.5)
= 12 + 13 = 25 square kilometres

Answer: 25 square kilometres

(iv) If the map distance of Ruvu river is 29 centimetres, calculate actual distance of Ruvu river in kilometres given that the map scale is 1:25,000.
Actual distance = Map distance × Scale factor
= 29 × 25,000 ÷ 100,000 (convert to kilometres)
= 7.25 kilometres

Answer: 7.25 kilometres

(v) Change the scale 1:25,000 into a statement scale.
1 cm on the map represents 0.25 kilometres or 250 meters.

Answer: 1 cm to 0.25 km

5 (a) Explain two advantages of wind energy:
(i) It is a renewable energy source, ensuring long-term sustainability.
(ii) It does not produce greenhouse gases, making it environmentally friendly.

(b) Mention four problems facing the timber industry in the Congo Basin:
(i) Poor infrastructure for transportation of timber.
(ii) High levels of illegal logging.
(iii) Political instability in the region.
(iv) Lack of modern technology for efficient timber harvesting.

5 (c) (i) Define the term agriculture:
Agriculture is the practice of cultivating the soil, growing crops, and rearing animals for food, fiber, and other products.

(c) (ii) List down two types of subsistence farming in practice:
- Shifting cultivation
- Mixed farming

(d) What are the aims of land reclamation?
(i) To increase the amount of arable land for farming.
(ii) To reduce environmental degradation and improve land productivity.

(e) Identify four types of human activities:
(i) Agriculture
(ii) Mining
(iii) Fishing
(iv) Tourism

(f) State four factors which favour the development of tourism:
(i) Availability of attractive natural and cultural sites.
(ii) Good infrastructure, including roads, airports, and hotels.
(iii) Political stability and safety for tourists.
(iv) Favorable climate and weather conditions.

(g) Outline four problems associated with harnessing Hydro-Electric Power (H.E.P):
(i) High initial cost of construction.
(ii) Displacement of people and wildlife due to dam construction.
(iii) Sedimentation in reservoirs reducing efficiency over time.
(iv) Dependence on water availability, which can be affected by droughts.

(h) What are the factors that led to the development of sheep farming in Australia?
(i) Availability of large tracts of grazing land.
(ii) Favorable climate for sheep rearing.

(iii) High demand for wool and mutton in international markets.
(iv) Advanced farming techniques and technology.

(i) Give four advantages of extracting gas from Songosongo:
(i) It provides a reliable source of clean energy.
(ii) It creates employment opportunities for local communities.
(iii) It reduces dependency on imported energy sources.
(iv) It contributes to the national economy through revenue generation.

(j) Outline four effects of water shortage in the society:
(i) Reduced agricultural productivity leading to food insecurity.
(ii) Increased prevalence of waterborne diseases due to poor sanitation.
(iii) Conflict over limited water resources.
(iv) Reduced industrial and economic activities that depend on water.

6. High population pressure refers to the situation where the number of people exceeds the resources available to sustain them, leading to overexploitation of natural resources. Forest resources, which include timber, non-timber products, and ecosystem services, are greatly affected by this pressure. The high demand for agricultural land, fuelwood, and building materials leads to deforestation and forest degradation. This disrupts the ecological balance, reduces biodiversity, and contributes to climate change.

One way to address the issue is by promoting agroforestry practices. This involves integrating trees with crops and livestock on the same land, reducing the need to clear forests for agriculture. Agroforestry provides both economic benefits to farmers and ecological stability.

Increasing public awareness about the importance of forests and the consequences of deforestation can also play a crucial role. Educational campaigns can encourage communities to use forest resources responsibly and support conservation efforts.

Enforcing laws and policies that regulate logging and promote sustainable forest management is essential. This includes measures to prevent illegal logging and ensure that forest harvesting is done in an environmentally friendly manner.

Reforestation and afforestation initiatives are another effective solution. Planting new trees in degraded areas and expanding forest cover can help restore ecosystems and ensure the availability of forest resources for future generations.

In conclusion, high population pressure poses significant challenges to forest resources. However, sustainable management practices, community involvement, and government policies can mitigate these effects and ensure the long-term survival of forests.

7. Transport refers to the movement of people, goods, and services from one place to another. It plays a crucial role in economic development, connecting markets, facilitating trade, and improving access to essential services. Despite its importance, Tanzania's transport sector faces numerous challenges.

Poor infrastructure, such as unpaved roads and limited railway networks, hinders efficient transportation, particularly in rural areas. This limits access to markets and increases transportation costs for goods and services.

The high cost of maintaining and expanding transport infrastructure is another issue. Insufficient funding and investment result in slow development and deterioration of existing roads, railways, and ports.

Traffic congestion in urban areas poses significant problems. The lack of well-planned public transport systems and increasing numbers of private vehicles lead to delays and economic losses.

Insufficient investment in modern transport technologies reduces efficiency. Many parts of Tanzania still rely on outdated methods, making transportation slow and unreliable.

Corruption and mismanagement in the transport sector exacerbate these problems. Misallocation of funds and lack of accountability hinder progress and discourage private investment.

To address these challenges, the government should invest in modernizing infrastructure, including roads, railways, and ports. Proper urban planning can reduce congestion, while promoting public-private partnerships can enhance efficiency and funding in the sector. Strengthening governance and reducing corruption are also vital for sustainable development.

8. Mining involves the extraction of valuable minerals and resources from the earth. It plays a significant role in economic development by providing employment opportunities, generating revenue, and supporting industrial growth.

The mining industry contributes to foreign exchange earnings as mineral exports bring substantial income to the country. This supports national budgets and helps reduce trade deficits.

Mining stimulates local economies by creating jobs in mining regions. Workers benefit from direct employment, while local businesses grow by supplying goods and services to mining operations.

The industry also promotes infrastructure development. Roads, schools, and health facilities are often built near mining sites, benefiting local communities.

Mining provides raw materials for various industries, including construction, energy, and manufacturing. These materials are essential for the production of goods and services that drive economic growth.

However, mining activities must be conducted sustainably to minimize environmental degradation and ensure that local communities benefit. Responsible management can balance economic benefits with environmental and social considerations.

In conclusion, the mining industry is an essential pillar of economic development. Its contributions to revenue, employment, and industrial growth make it a critical sector, but sustainability must always be prioritized.

9. Manufacturing refers to the transformation of raw materials into finished goods through industrial processes. In Tanzania, this sector faces several challenges that hinder its growth and development.

Limited access to capital and modern technology prevents manufacturers from improving productivity. Many industries rely on outdated equipment, which affects efficiency and product quality.

Poor infrastructure, including unreliable electricity supply and inadequate transportation networks, increases production costs. This reduces competitiveness in local and international markets.

The lack of skilled labor limits the adoption of advanced technologies and innovation in the manufacturing process. This affects the ability to produce high-quality goods.

High taxation and bureaucratic hurdles discourage investment in the sector. Businesses face lengthy procedures and high costs to operate, which stifles growth.

Dependence on imported raw materials exposes manufacturers to currency fluctuations and increases production costs. This reliance weakens the sector's ability to compete globally.

To address these issues, the government should invest in infrastructure development, including reliable power supply and transportation. Vocational training programs can develop a skilled workforce, while reducing taxation and simplifying regulations can encourage investment in manufacturing.

10. Water is a vital resource for life and economic activities. Conserving water resources involves sustainable use and management to ensure availability for current and future generations. Conservation is critical due to increasing demand caused by population growth, industrialization, and climate change.

Rainwater harvesting is an effective way to conserve water. Collecting and storing rainwater for domestic and agricultural use reduces dependency on other water sources and ensures availability during dry seasons.

Efficient irrigation techniques, such as drip irrigation, minimize water wastage in agriculture. This is essential as agriculture is one of the largest consumers of water globally.

Protecting water catchment areas through reforestation and preventing pollution is necessary. Maintaining healthy ecosystems ensures a stable water cycle and availability of clean water.

Public awareness campaigns can encourage water-saving practices at the individual and community levels. Fixing leaks, using water-efficient appliances, and reducing water wastage are practices that can significantly conserve water.

Governments should implement policies promoting sustainable water management. Investing in infrastructure such as dams and reservoirs helps store and distribute water efficiently.

In conclusion, conserving water resources is essential for addressing water scarcity and ensuring sustainable development. Effective strategies and collective efforts can secure water availability for future generations.