THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATION COUNCIL OF TANZANIA

FORM TWO SECONDARY EDUCATION EXAMINATION, 2004

0013 GEOGRAPHY

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

Instructions

1. This paper consists of sections A and B.
2. Answer **all** questions in section A and two questions from section B.
3. All writings must be in **blue** or **black** ink.
4. Communication devices and any unauthorized materials are **not** allowed in the assessment room.
5. Write your **Assessment Number** at the top right hand corner of every page.

SECTION A

1. (i) In Geography the term rotation means:
A. the movement of the sun
B. the movement of one body around another
C. the spinning of a body on its axis
D. the rise of the moon in the east
C
Reason: Rotation in Geography refers to the spinning of a body, like the Earth, on its axis, causing day and night. Option B describes revolution, A and D are unrelated.

(ii) The planet which is known to support life is the:
A. sun
B. moon
C. earth
D. mercury
C
Reason: Earth is the only planet known to support life due to its suitable conditions (water, atmosphere, temperature). The sun is a star, the moon is a satellite, and Mercury lacks life-supporting conditions.

(iii) The grid reference of station X is 261582. What are the numbers of the Eastings and the Northings?
A. 583 are Eastings and 261 are Northings
B. 158 are Eastings and 262 are Northings
C. 582 are Northings and 261 are Eastings
D. 651 are Northings and 582 are Eastings
C
Reason: In a six-digit grid reference, the first three digits are Eastings (261), and the last three are Northings (582). Thus, 582 are Northings and 261 are Eastings.

(iv) Dar es Salaam at sea level has a temperature reaching 30 C. Determine the temperature of Arusha situated at 1,500 metres above sea level.
A. 21 C
B. 39 C
C. 9 C
D. 23 C
A
Reason: Temperature decreases at 0.6°C per 100m (lapse rate). Altitude difference = 1500 − 0 = 1500m. Decrease = 1500/100 × 0.6 = 9°C. Temperature at Arusha = 30 − 9 = 21°C.

(v) The structure of the earth is composed of:
A. carbon and sodium
B. crust, mantle and core
C. silicon and alumina
D. sima and sial

B
Reason: The Earth's structure consists of the crust (outer layer), mantle (middle layer), and core (inner layer). Options C and D refer to compositional elements, not structural layers; A is incorrect.

(vi) Fold mountains are formed by:
A. outflow and spread of lava over land
B. sinking of the earth's crust
C. wrinkling of the earth's crust
D. faulting
C
Reason: Fold mountains form by the wrinkling (folding) of the Earth's crust due to compressional forces, as in the Himalayas. A refers to volcanic activity, B to rifting, and D to block mountains.

(vii) Which of the following tropical climates has the largest diurnal temperature range?
A. Tropical monsoon
B. Hot deserts
C. Mediterranean
D. Cold deserts
B
Reason: Hot deserts have the largest diurnal temperature range (e.g., 40°C day, 5°C night) due to lack of moisture and cloud cover. Monsoon and equatorial climates have smaller ranges; Mediterranean is not tropical; cold deserts are not specified as tropical.

(viii) At which longitude will it be 2.00 p.m. when it is 11.00 a.m. at 10 W?
A. 35 E
B. 45 E
C. 35 W
D. 10 E
A
Reason: Time difference: 2:00 p.m. − 11:00 a.m. = 3 hours. 1 hour = 15°. 3 hours = 45° east of 10°W. 10°W + 45° = 35°E.

(ix) Wind Vane is an instrument used for:
A. recording wind velocity
B. recording temperature
C. measuring air pressure
D. showing direction of wind
D
Reason: A wind vane shows the direction of the wind. Velocity is measured by an anemometer, temperature by a thermometer, and air pressure by a barometer.

(x) A representative scale of can be represented by a statement scale of:
A. 0.5 to 2.5 km
B. 2cm to 25 km

C. one cm to 2.5 km
D. One cm to 250,000 cm
Note: The question is incomplete (missing the representative scale). Assuming a common Form Two scale like 1:250,000:
C
Reason: 1:250,000 means 1 cm = 250,000 cm. Convert: 250,000 cm = 2,500 m = 2.5 km. Thus, 1 cm to 2.5 km. Option D is numerically correct but not a statement scale format.

2. Match the items in COLUMN A with the corresponding items in COLUMN B by writing the letter of the correct item in COLUMN B against its corresponding number in COLUMN A.

COLUMN A	**COLUMN B**
(i) The cause of day and night	F. Rotation of the earth
(ii) Cardinal points of a compass	D. North, East, South, West
(iii) International Date Line	J. 180 West and East
(iv) Meteors	M. Piece of hard matter falling from outer space
(v) Beach	E. Area between high tide and low tide
(vi) Mozambique ocean current	K. Warm current
(vii) Isotherms	B. Lines joining places with the same temperature
(viii) Characterized by two rainfall maxima	H. The equatorial region
(ix) Temperature decreases with an increase of altitude	G. Lapse rate
(x) Contours and spot height	N. Methods used to show relief features on a map

3. Write TRUE or FALSE against the statements given:

(i) Back bearing is the bearing of an observer from the object.

FALSE (Back bearing is the bearing from the object to the observer, the reverse of the forward bearing.)

(ii) The only continent that is crossed by both Tropics of Cancer and Capricorn is America.

FALSE (No continent is crossed by both tropics. The Tropic of Cancer crosses North America, Africa, and Asia; the Tropic of Capricorn crosses South America, Africa, and Australia.)

(iii) All longitudes are great circles.

TRUE (All longitudes are great circles as they pass through both poles, dividing the Earth into equal halves.)

(iv) Orbit is the path of the moon and the earth in the universe.

FALSE (Orbit is the path of a celestial body around another, e.g., Earth around the sun or moon around Earth, not "in the universe.")

(v) Lake Tanganyika is a good example of a Rift Valley lake.

TRUE (Lake Tanganyika lies in the East African Rift Valley, formed by tectonic activity.)

(vi) Industrialization is not an agent of air pollution.

FALSE (Industrialization causes air pollution through emissions from factories, vehicles, etc.)

(vii) Elements of weather are the same as the elements of climate.

TRUE (Both include temperature, rainfall, humidity, etc., but climate is long-term, weather is short-term.)

(viii) The side of the mountain that faces the direction of the wind is known as the windward side.

TRUE (The windward side faces the wind, receiving more rainfall.)

(ix) An area of low pressure where wind blows inward in circular motion is known as a depression.

TRUE (A depression is a low-pressure system with inward, circular wind motion, often bringing rain.)

(x) A map is not a scaled presentation of a place.

FALSE (A map is a scaled representation of a place, showing features proportionally.)

5. (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	23	22	21	20	18	15	12	10	17	18	18	19
Rainfall (mm)	10	15	20	50	130	180	175	150	100	70	18	15

(i) What is the annual range of temperature for station X?
Answer: Max = 23°C (January), Min = 10°C (August). Range = 23 − 10 = 13°C
Answer: 13°C
(ii) Calculate the total annual rainfall.
Answer: 10 + 15 + 20 + 50 + 130 + 180 + 175 + 150 + 100 + 70 + 18 + 15 = 933 mm
Answer: 933 mm
(iii) What type of climate does the station experience? (Give two reasons)
Mediterranean climate
Reasons:

- Hot, dry summers (e.g., July–August: 12–10°C, 175–150 mm) and cooler, wet winters (e.g., January: 23°C, 10 mm).
- Moderate rainfall (933 mm) with a distinct seasonal pattern, typical of Mediterranean climates.

(iv) In which climatic region is the station located?
Temperate region (Mediterranean climates are typically found in temperate latitudes, e.g., around 30°–40° N/S).
(v) Suggest two types of crops grown in the area.

- Grapes (for wine, common in Mediterranean climates)
- Olives (thrive in dry summers and wet winters)

(b) Study the following sketch map and answer the questions that follow.
Scale 1: 50,000
The map likely includes a lake, river, and other features, with a scale of 1 cm = 0.5 km (1:50,000).
(i) Mention any three methods which may be used to measure the area of the lake.

- Grid square method (counting squares covering the lake)
- Planimeter (instrument to trace and calculate area)
- Geometric method (approximating the lake as a shape, e.g., rectangle, and calculating area)

(ii) List three methods which can be used to measure the distance of the river.

- Using a ruler along the river's path and converting with the scale
- Using a piece of string to trace the river's curves, then measuring the string
- Using a pair of dividers to step along the river's length and convert to real distance

(iii) How is the scale of this map represented?

- Representative fraction (1:50,000)
- Statement scale (1 cm to 0.5 km)
- Linear scale (a line showing distances, e.g., 1 cm = 0.5 km)

(iv) List down three important things to be considered when using maps

- Check the scale to convert map distances to real distances
- Use the key (legend) to understand symbols
- Identify the north direction for orientation
- (a) Give three necessary conditions for the construction of Hydro-Electric Power (HEP) station.
- Steady water supply (e.g., from a river or dam)
- Steep gradient or high head for water flow
- Suitable site for dam construction (e.g., narrow valley)

(b) State three ways of dealing with water pollution in Tanzania.

- Enforce laws against industrial waste dumping in rivers
- Promote community education on proper waste disposal
- Construct sewage treatment plants to treat water before release

(c) What limits cotton production in the Cotton Belt of the USA?

- Soil exhaustion from monoculture
- Pests like the boll weevil
- Competition from synthetic fibers reducing demand

(d) What are the problems associated with oil drilling?

- Environmental pollution (e.g., oil spills)
- Habitat destruction (e.g., in marine or forest areas)
- Health risks to workers (e.g., exposure to chemicals)

(e) Define the following terms:
(i) Zero grazing
Rearing livestock in a confined area (e.g., shed) where feed is brought to them.
(ii) Land reclamation
The process of converting unusable land (e.g., swamps, deserts) into productive land for agriculture or other uses.

(f) Suggest three ways of minimizing the use of fuel wood at family level.

- Use energy-efficient stoves to reduce wood consumption
- Switch to alternative energy sources like solar cookers
- Plant trees to ensure a sustainable wood supply

(g) Write down three methods of soil conservation.

- Contour plowing to reduce runoff
- Afforestation to stabilize soil with roots
- Terracing on slopes to prevent erosion

(h) State three economic importance of manufacturing industry in Africa.

- Creates jobs, reducing unemployment
- Increases export earnings through processed goods
- Reduces dependency on imported goods

(i) Outline three economic significance of mineral exploitation to any country.

- Generates revenue through exports

- Attracts foreign investment
- Creates employment opportunities

(j) Mention three gender discrimination for women in Tanzania.

- Limited access to land ownership
- Unequal pay for similar work
- Restricted access to education and training opportunities

SECTION B

6. Outline the problems of marine transport

One major problem of marine transport is **poor infrastructure**. Many ports and harbors in developing countries like Tanzania lack modern equipment and facilities, making the loading and unloading of goods slow and inefficient.

Another significant issue is **limited safety measures**. Marine transport can be risky due to inadequate navigation systems, poorly maintained vessels, and lack of emergency services in case of accidents at sea.

High operational costs also hinder the development of marine transport. Fuel costs, maintenance of ships, and port charges can be very high, making it expensive for businesses and discouraging investment.

There is also the problem of **piracy and security threats** in some coastal areas. These dangers make marine transport less attractive, particularly for international shipping lines.

Lastly, **seasonal weather changes** such as strong winds, heavy rains, and cyclones can disrupt marine transportation, causing delays and damage to cargo and infrastructure.

7. Briefly explain the significance of developing agricultural sector in terms of social and economic development in Tanzania

Employment creation is one of the most important benefits. Agriculture employs the majority of Tanzanians, especially in rural areas, helping to reduce unemployment and poverty.

The agricultural sector **supports food security** by ensuring that there is sufficient food production to meet the needs of the growing population, thus reducing hunger and malnutrition.

Agriculture contributes to national income through exports like coffee, tea, and cashew nuts, which bring in foreign exchange that helps improve the economy.

Rural development is largely driven by agriculture. Investment in farming leads to the development of infrastructure such as roads, schools, and health services in rural communities.

Social stability is promoted when people have productive work and can meet their basic needs. A strong agricultural sector reduces urban migration and the social pressures it creates in cities.

8. Write down the important conditions for developing tourism in Tanzania

One essential condition is the **development of infrastructure** such as roads, airports, hotels, and communication networks, which are necessary for attracting and accommodating tourists.

Security and political stability are also crucial. Tourists are more likely to visit places where they feel safe and where there is little risk of political unrest or violence.

Conservation of natural attractions like national parks, beaches, and historical sites must be prioritized to preserve the beauty and uniqueness of Tanzania's tourism offerings.

Skilled workforce in hospitality and tourism is important to ensure quality services. Training programs should be offered to improve the professionalism of tour guides, hotel staff, and other service providers.

Lastly, **effective marketing and promotion** of Tanzanian tourist destinations through international and local platforms is necessary to increase visibility and attract more visitors.

9. Elaborate the problems which are encountered by most women in establishing business

Limited access to capital is a major issue. Many women lack the collateral required to secure loans from banks and financial institutions to start or expand businesses.

Cultural and societal norms often discourage women from engaging in business, particularly in male-dominated sectors, limiting their opportunities and confidence.

Lack of education and training is another barrier. Some women lack the necessary skills and knowledge in areas such as business management, marketing, and finance.

Heavy domestic responsibilities such as caring for children and managing households leave women with little time and energy to focus on entrepreneurial activities.

Lastly, **legal and regulatory challenges** can be more difficult for women, especially if they are unaware of procedures or face discrimination in acquiring business licenses or registering enterprises.

10. Describe the advantages of developing solar energy

Renewable and sustainable: Solar energy is a clean and renewable source of power that does not deplete over time, making it an excellent long-term solution for energy needs.

Environmentally friendly: Unlike fossil fuels, solar energy does not produce harmful emissions, thus helping to reduce pollution and combat climate change.

Low operating costs: After the initial installation, the cost of maintaining and operating solar energy systems is relatively low, offering long-term economic benefits.

Energy access in remote areas: Solar energy can be deployed in rural or off-grid locations, improving access to electricity and enhancing the quality of life in underserved communities.

Job creation and innovation: The solar industry creates employment opportunities in manufacturing, installation, and maintenance, and encourages technological innovation in energy solutions.