THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATION COUNCIL OF TANZANIA

FORM TWO SECONDARY EDUCATION EXAMINATION, 2000

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) The lines on a map joining places with the same rainfall are called:
A. Isotherms
B. Isohyets
C. Isobars
D. Contours
B
Reason: Isohyets are lines on a map that connect points with the same amount of rainfall. Isotherms connect points with the same temperature, isobars with the same pressure, and contours with the same elevation.

(ii) The Earth takes approximately how many hours to complete one rotation?
A. 365
B. 24
C. 12
D. 48
B
Reason: The Earth completes one rotation on its axis in approximately 24 hours, which causes the cycle of day and night.

(iii) The type of mountain formed by the eruption of magma is called:
A. Fold mountain
B. Block mountain
C. Volcanic mountain
D. Residual mountain
C
Reason: Volcanic mountains, such as Mount Kilimanjaro, are formed by the eruption of magma from the Earth's interior. Fold mountains form due to compression, block mountains from faulting, and residual mountains from erosion.

(iv) The main source of energy for the Earth's climate system is:
A. The moon
B. The sun
C. The wind
D. The oceans
B
Reason: The sun provides solar energy, which drives the Earth's climate system through processes like heating, evaporation, and wind generation. The moon, wind, and oceans play roles but are not the primary source.

(v) The main cash crop grown in the Kilombero Valley in Tanzania is:
A. Cotton
B. Sugarcane

C. Coffee
D. Tea
B
Reason: The Kilombero Valley is known for its sugarcane production, particularly through large-scale plantations like the Kilombero Sugar Company.

(vi) If it is 9:00 a.m. at Nairobi (36°E), what time is it at Accra (0°)?
A. 6:36 a.m.
B. 11:24 a.m.
C. 6:24 a.m.
D. 10:00 a.m.
A
Reason: Time difference: 15° = 1 hour. Difference = 36°E − 0° = 36°. Time difference = 36/15 = 2 hours 24 minutes (Accra is behind). 9:00 a.m. − 2:24 = 6:36 a.m.

(vii) The compass bearing of North-West is:
A. 045°
B. 135°
C. 225°
D. 315°
D
Reason: North-West (NW) is 45° west of North (0°). Bearing = 360 − 45 = 315°.

(viii) Which of the following is a renewable resource?
A. Oil
B. Coal
C. Water
D. Natural gas
C
Reason: Water is a renewable resource as it can be replenished through the water cycle. Oil, coal, and natural gas are non-renewable as they take millions of years to form.

(ix) The process of turning raw materials into finished goods is called:
A. Agriculture
B. Mining
C. Manufacturing
D. Fishing
C
Reason: Manufacturing involves converting raw materials into finished products, e.g., turning cotton into fabric. Agriculture produces raw materials, mining extracts minerals, and fishing harvests fish.

(x) The main problem facing the transport sector in Tanzania is:
A. Good road networks
B. Poor infrastructure

C. High number of vehicles
D. Modern technology
B
Reason: Poor infrastructure, such as inadequate roads and railways, is a major challenge for the transport sector in Tanzania, hindering the movement of goods and people.

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) Latitude	A. Lines running parallel to the Equator
(ii) Convectional rainfall	B. Caused by intense solar heating
(iii) Plantation agriculture	C. Large-scale farming of one crop
(iv) Weathering	D. Breaking down of rocks into smaller pieces
(v) Tourism	E. Visiting places for leisure and recreation

3. Write TRUE or FALSE against the statement given:
(i) The Equator passes through Tanzania.
TRUE (The Equator passes through northern Tanzania, near Lake Victoria.)
(ii) All maps have a scale of 1:50,000.
FALSE (Maps can have various scales, e.g., 1:100,000 or 1:10,000, depending on the purpose.)
(iii) Overexploitation of forests can lead to desertification.
TRUE (Removing trees can cause soil erosion and desertification by reducing vegetation cover.)
(iv) A hygrometer measures rainfall.
FALSE (A hygrometer measures humidity; a rain gauge measures rainfall.)
(v) The Earth revolves around the moon.
FALSE (The Earth revolves around the sun; the moon revolves around the Earth.)
(vi) Volcanic mountains are formed by the eruption of magma.
TRUE (Volcanic mountains form from magma eruptions, e.g., Mount Kilimanjaro.)
(vii) Small-scale farming is mainly for export.
FALSE (Small-scale farming in Tanzania is mainly for subsistence, not export.)
(viii) The Prime Meridian is located at 90 degrees longitude.
FALSE (The Prime Meridian is at 0° longitude, passing through Greenwich.)
(ix) Wind blows from low pressure to high pressure areas.
FALSE (Wind blows from high pressure to low pressure areas due to pressure gradients.)
(x) Tourism can lead to environmental degradation.
TRUE (Tourism can cause deforestation, pollution, and habitat destruction if not managed sustainably.)

4. (a) Study the map provided then answer the questions that follow:
Scale: 1:50,000
A simple map with points T and U, a swamp, and grid references (e.g., T at 210140, U at 230160). The swamp is assumed to be a rectangular feature on the map.

(i) Calculate the area of the swamp on the map.
Answer: Assume the swamp is a rectangle on the map, 4 cm × 2 cm. Scale 1:50,000 means 1 cm = 0.5 km (50,000 cm = 500 m = 0.5 km). Area on map = 4 × 2 = 8 cm². 1 cm² = 0.5 × 0.5 = 0.25 km². Area = 8 × 0.25 = 2 km².
Answer: 2 km²

(ii) Find the bearing of point T from point U.
Answer: T (210140), U (230160). Eastings difference = 210 − 230 = -20 (west). Northings difference = 140 − 160 = -20 (south). Direction is southwest. Bearing = 180 + 45 = 225°.
Answer: 225°

(iii) Give the direction of point U from point T.
Answer: If T to U is 225° (southwest), U to T is the opposite: 225 − 180 = 045° (northeast).
Answer: Northeast

(iv) State the grid reference of point T and point U.
Answer: Based on assumption: T = 210140, U = 230160.
Answer: T: 210140, U: 230160

(b) Study the climatic data for Station V and answer:
MONTH: J | F | M | A | M | J | J | A | S | O | N | D
Temp. (°C): 25 | 25 | 24 | 23 | 22 | 21 | 21 | 22 | 23 | 24 | 24 | 25
Rainfall (mm): 180 | 160 | 140 | 90 | 40 | 20 | 10 | 15 | 30 | 70 | 110 | 150

(i) Calculate the mean annual temperature
To calculate the mean annual temperature:
Mean temperature=Sum of monthly temperatures/12
Sum of monthly temperatures:
= 25 + 25 + 24 + 23 + 22 + 21 + 21 + 22 + 23 + 24 + 24 + 25 = 279°C
Mean=279/12
= 23.25^0C

(ii) Calculate the total annual rainfall
Total rainfall = 180 + 160 + 140 + 90 + 40 + 20 + 10 + 15 + 30 + 70 + 110 + 150 = 1015 mm

(iii) Determine the annual range of temperature
Annual range = Highest temperature – Lowest temperature
= 25°C – 21°C = 4°C

(iv) Suggest the type of climate at Station V
The data shows high rainfall, especially in the early and late months of the year, and small temperature variation.

Thus, the type of climate is likely: Equatorial climate.

(v) Mention two effects of high temperatures in the area

- Increased evaporation can lead to drying up of water sources and soil moisture loss, affecting agriculture.
- Heat-related health issues such as dehydration and heatstroke can become more common in humans and animals.

(c) Give three uses of water in agriculture

- Irrigation to supply water to crops during dry periods.
- Livestock hydration, providing water for drinking by farm animals.
- Washing and cleaning tools, barns, and harvested produce.

(d) Mention three types of maps

- Topographic maps – show elevation and landforms.
- Political maps – display boundaries, cities, and countries.
- Climate maps – represent weather and climate patterns.

(e) List three problems facing the fishing industry in Tanzania

- Overfishing which depletes fish populations.
- Use of poor fishing equipment leading to low productivity.
- Water pollution which harms aquatic life.

(f) List three methods of sustainable resource use

- Recycling and reuse to reduce resource extraction.
- Afforestation and reforestation to restore forest resources.
- Controlled grazing and farming to prevent land degradation.

(g) Name three major tourist attractions in Tanzania

- Mount Kilimanjaro – the highest peak in Africa.
- Serengeti National Park – famous for wildlife and migration.
- Zanzibar beaches – known for white sands and historical Stone Town.

SECTION B

5. Explain three effects of the Earth's revolution

- Change of seasons – The Earth's tilt and revolution cause different parts to receive varying sunlight, leading to seasons.
- Variation in day length – Days are longer or shorter depending on the Earth's position in its orbit.
- Apparent movement of the sun – The sun appears to move between the Tropics, affecting climate zones.

6. Describe three problems facing small-scale agriculture in Tanzania

- Lack of modern tools – Farmers often use traditional tools, reducing efficiency.

- Unreliable rainfall – Rain-fed farming suffers from droughts or floods.
- Limited access to credit and markets – Farmers struggle to invest or sell their produce at good prices.

7. Mention three ways to improve tourism in Tanzania
   - Improve infrastructure like roads, airports, and accommodations.
   - Enhance marketing of tourist destinations internationally.
   - Ensure safety and security for tourists through effective policing and policies.

8. Outline three differences between renewable and non-renewable resources
   - Renewable resources can regenerate naturally (e.g., solar, wind), while non-renewable cannot (e.g., coal, oil).
   - Renewable resources are generally sustainable; non-renewables deplete over time.
   - Renewables cause less pollution, while non-renewables often contribute to environmental harm.

9. Explain three factors that influence the location of industries
   - Availability of raw materials – Industries are often located near sources of inputs to reduce transport costs.
   - Access to markets – Proximity to customers helps reduce distribution costs and improve sales.
   - Availability of labor – Areas with a skilled or cheap labor force attract industrial development.