THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATION COUNCIL OF TANZANIA

FORM TWO SECONDARY EDUCATION EXAMINATION, 2009

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) Geography is the study of:
A. soil and the atmosphere
B. human activities and his environment
C. the physical environment
D. the human environment
B
Reason: Geography studies the interaction between human activities and their environment, encompassing both physical and human aspects. Soil and atmosphere (A) are too narrow, while C and D focus only on one aspect.

(ii) If it is 3.00 p.m. at Mwanza 33 E in Tanzania, what will be the time at Bangladesh 50 E?
A. 10.00 a.m.
B. 4.32 p.m.
C. 4.08 p.m.
D. 5.00 p.m.
C
Reason: Time difference is calculated based on longitude: 15° = 1 hour. Difference between 50°E and 33°E is 17°. Time difference = 17/15 × 60 = 68 minutes. At 3:00 p.m. in Mwanza, add 68 minutes: 3:00 p.m. + 1 hr 8 min = 4:08 p.m.

(iii) The distance between two crests is called:
A. anticline
B. syncline
C. trough
D. wave length
D
Reason: Wavelength is the distance between two consecutive crests in a wave. Anticline and syncline are geological folds, and trough is the lowest point of a wave.

(iv) Pastoralism whereby animals are given feeds in a shed without making them go out in the field is called:
A. zero grazing
B. nomadic pastoralism
C. mixed pastoralism
D. sedentary pastoralism
A
Reason: Zero grazing involves keeping animals in sheds and providing feed, unlike nomadic (moving herds), mixed (pastoralism with farming), or sedentary (fixed grazing).

(v) If the temperature at Morogoro 800m is 20 C, what will be the temperature at Karatu 1400m above sea level?
A. 40.0 C

B. 31.6 C
C. 24.4 C
D. 24.3 C
None
Reason: Temperature decreases at 0.6°C per 100m (lapse rate). Altitude difference = 1400 − 800 = 600m. Temperature drop = 600/100 × 0.6 = 3.6°C. Temperature at Karatu = 20 − 3.6 = 16.4°C. None of the options match, suggesting a possible error in options.

(vi) Water and air currents do not move in straight lines due to spinning effect of the earth. The term used to describe this is:
A. deflection
B. reflection
C. direction
D. refraction
A
Reason: The Coriolis effect, due to Earth's rotation, causes deflection of water and air currents. Reflection, refraction, and direction are unrelated to this phenomenon.

(vii) WSW compass direction is equivalent to the following compass bearing:
A. 247.5
B. 135
C. 225
D. 250
A
Reason: WSW is West-South-West, at 247.5° (22.5° south of west, which is 270° − 22.5°). Other bearings correspond to different directions (e.g., 135° is SE).

(viii) Which of the following mountains is a block mountain?
A. Atlas
B. Ruwenzori
C. Rocky
D. Drakensberg
B
Reason: Ruwenzori is a block mountain, formed by faulting and uplifting of Earth's crust. Atlas, Rocky, and Drakensberg are fold or volcanic mountains.

(ix) If the ground distance between two points is 13km, what will be the map distance if the scale is 1cm to 0.5km?
A. 13.0 cm
B. 26cm
C. 13.0km
D. 6.5cm
B

Reason: Scale 1 cm = 0.5 km. Map distance = ground distance / scale factor = 13 km / 0.5 km/cm = 26 cm.

(x) Which of the following resources are non-renewable?
A. Biogas, oil and wind
B. Coal, gas and oil
C. Geo-thermal, biogas and solar energy
D. Wind, coal and electricity
B
Reason: Coal, gas, and oil are non-renewable, as they are finite fossil fuels. Biogas, wind, geothermal, and solar are renewable; electricity is not a resource.

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

COLUMN A	**COLUMN B**
(i) Adding excess waste substances in the environment	L. Pollution
(ii) Common rainfall in the tropics	F. Convectional rainfall
(iii) Objects with leading heads and bright tails	E. Comets
(iv) Refers to the process of preserving water for proper or sustainable use	Q. Water conservation
(v) The wind which blows from the sea to the land	M. Sea breeze
(vi) The feature resulting from the eruption of molten rocks	P. Volcanic mountains
(vii) The removal of the top fertile layer of the soil	N. Soil erosion
(viii) The streams at the river mouth	I. Distributaries
(ix) The process of cutting down trees without replacement	H. Deforestation
(x) Temperature decreases at the rate of 0.6 C for every 100m	A. Altitude

3. Write TRUE if the statement is correct or FALSE if the statement is not correct against each of the following statements.

(i) Agulhas is a good example of a warm current.

TRUE (Agulhas is a warm ocean current along South Africa's coast.)

(ii) Pests and diseases are not common problems facing the farmers in Tanzania.

FALSE (Pests and diseases are significant challenges for Tanzanian farmers.)

(iii) The Earth rotates from East to West.

FALSE (Earth rotates from West to East.)

(iv) Transportation involves the movement of goods, people and services from one place to another.

TRUE (Transportation includes moving goods, people, and services.)

(v) The energy produced due to the movement of water is biogas.

FALSE (Energy from water movement is hydroelectric; biogas is from organic decay.)

(vi) A key acts as a dictionary of a map.

TRUE (A map key explains symbols, like a dictionary.)

(vii) Salinity of the ocean water varies from place to place due to the different rates of evaporation.

TRUE (Evaporation, rainfall, and river input cause salinity variations.)

(viii) Seasons are the result of earth rotation.

FALSE (Seasons result from Earth's tilt and orbit, not daily rotation.)

(ix) All latitudes are great circles.

FALSE (Only the equator is a great circle; other latitudes are smaller.)

(x) The main crop produced in Gezira irrigation scheme in Sudan is cotton.

TRUE (Cotton is the primary crop in the Gezira scheme.)

4. (a) Study carefully the diagram below then answer the questions that follow:
(i) Name the types of rainfall labelled B and the area where it usually occurs.
Convectional rainfall, tropics
(ii) A stands for .....
Warm moist air
(iii) C stands for .....
Cloud formation
(iv) D stands for .....
Condensation
(v) E stands for .....
Heavy rainfall
(b) Mention two ways of locating positions on a map.

- Grid references
- Latitude and longitude

(c) Find the bearing or direction of the following:
(i) NNW
337.5°
(ii) 045
NE (North-East)
(iii) 000 and 360
North

5. (a) Study carefully the climatic data given for station K and answer the questions that follow:

MONTH	J	F	M	A	M	J	J	A	S	O	N	D
Temp.(C)	25.0	25.0	24.6	24.5	24.2	24.0	24.0	24.0	24.0	24.4	24.5	24.5
Rainfall (mm)	40.6	68.6	150.0	230.0	206.0	114.0	64.0	84.0	194.0	226.0	150.0	50.8

(i) Calculate the mean annual temperature.
Answer: (25.0 + 25.0 + 24.6 + 24.5 + 24.2 + 24.0 + 24.0 + 24.0 + 24.0 + 24.4 + 24.5 + 24.5) / 12 = 292.7 / 12 ≈ 24.39°C

(ii) Calculate the total annual rainfall for the station.
Answer: 40.6 + 68.6 + 150.0 + 230.0 + 206.0 + 114.0 + 64.0 + 84.0 + 194.0 + 226.0 + 150.0 + 50.8 = 1578 mm

(iii) Give the annual range of temperature for the station.
Answer: Max = 25.0°C, Min = 24.0°C. Range = 25.0 − 24.0 = 1.0°C

(iv) Suggest the type of climate for the station.
Tropical climate

(v) Indicate the month which receives:
Highest rainfall: October (226.0 mm)
Lowest rainfall: January (40.6 mm)

(b) Define the following terms as used in Geography:

(i) Agriculture
Cultivation of crops and rearing of animals for food and economic purposes.

(ii) Topographical map
Map showing physical and human features of an area, including relief and landmarks.

(c) List two conditions necessary for establishing Hydro-Electric Power.

- Steady water supply (e.g., rivers or dams)
- Suitable topography (e.g., steep gradient for water flow)

6. Problems Facing the Development of the Transport Sector in Tanzania

One major problem is **poor infrastructure**. Many roads in Tanzania, especially in rural areas, remain unpaved and become muddy and impassable during the rainy season. This makes it difficult for people to travel and transport goods, affecting economic activities like agriculture and trade.

Secondly, **insufficient financial resources** hinder the development of modern transport facilities. The government often lacks enough funds to invest in new roads, bridges, ports, and airports, or to maintain existing ones. As a result, the country relies on outdated infrastructure, which slows down economic growth.

Another issue is **traffic congestion in urban centers**. Cities like Dar es Salaam experience heavy traffic jams daily due to the increasing number of vehicles and poor road planning. This causes delays, increases fuel consumption, and reduces productivity for businesses and workers.

The sector also faces **limited integration of different modes of transport**. Road, railway, air, and water transport services are not well connected, making it difficult for people and goods to move smoothly between them. This reduces efficiency in trade and travel within the country.

Lastly, **corruption and mismanagement** in transport projects is a persistent problem. Funds meant for constructing or maintaining infrastructure are sometimes misused or poorly managed, leading to substandard work and unfinished projects, which waste national resources.

7. Achievements Brought by the Tennessee Valley Authority (TVA) in North America

One of the major achievements of the TVA was the **construction of dams and hydroelectric power stations**. These projects helped control floods, supply electricity to homes and industries, and create better conditions for farming and development in the Tennessee Valley.

The TVA also contributed to **flood control and water management**. By building a network of dams and reservoirs, it helped regulate river levels, preventing destructive floods that used to damage farms, homes, and infrastructure in the region.

Another significant success was in **boosting agricultural productivity**. The TVA introduced modern farming techniques, soil conservation measures, and fertilizer programs that improved soil fertility and increased crop yields, helping farmers earn better incomes.

The program played an important role in **industrial development**. With a steady supply of affordable electricity from hydroelectric power plants, industries were established, creating job opportunities and improving the standard of living for many people in the region.

Lastly, the TVA succeeded in **improving social welfare services**. It provided communities with electricity, better transport networks, healthcare, and educational opportunities, contributing to overall social and economic progress in the Tennessee Valley.

8. How Forests Are Endangered in Tanzania and Measures to Save Them

Forests in Tanzania are endangered by **deforestation for fuelwood and charcoal production**. Many people, especially in rural areas, depend on firewood and charcoal for cooking and heating, leading to the cutting down of large numbers of trees.

Another cause is **clearing land for agriculture and settlement**. As the population grows, more forests are cleared to make room for farms, homes, and roads. This reduces forest cover and threatens the habitats of many plant and animal species.

Illegal logging and timber harvesting also endanger Tanzanian forests. Some people cut trees without permission for commercial purposes, leading to the destruction of valuable trees like teak and mahogany, which affects biodiversity and the environment.

Wildfires and poor forest management practices further contribute to forest destruction. Fires started accidentally or deliberately for hunting and land clearing often spread uncontrollably, destroying large areas of forest.

To save forests, the government and communities should **promote tree planting programs** and encourage the use of alternative energy sources like biogas and solar power. Strict laws against illegal logging and forest burning should also be enforced to protect the environment.

9. Negative Results of Tourism in Tanzania

One negative result of tourism is **environmental degradation**. Popular tourist destinations like national parks and beaches sometimes suffer from pollution, littering, and damage to natural habitats due to increased human activity.

Secondly, tourism can lead to **cultural erosion**. As local communities try to please foreign visitors, traditional customs, values, and lifestyles may be abandoned in favor of modern or foreign behaviors, threatening Tanzania's rich cultural heritage.

Another issue is **unequal distribution of income** from tourism. While hotel owners, tour operators, and foreign investors often benefit, many local people remain poor and do not gain much from the profits generated by the tourism industry.

Tourism can also cause **inflation and increased cost of living** in areas with many tourists. The demand for services, goods, and land drives prices up, making it difficult for local residents to afford basic necessities.

Lastly, **wildlife disturbance and poaching risks** increase with tourism. Tourist activities like game drives can disturb animals in their natural habitats, and in some cases, poaching incidents rise as illegal traders target valuable wildlife species for souvenirs.

10. Problems Caused by the Mining Industry in Tanzania

One problem caused by mining is **environmental pollution**. Mining activities often release harmful chemicals into the soil, water, and air, affecting the health of nearby communities and wildlife.

Secondly, mining leads to **land degradation and deforestation**. Large areas of land are cleared to access minerals, destroying forests, wildlife habitats, and agricultural land, which affects local food production.

The mining industry can also cause **displacement of communities**. People living near mining sites are sometimes forced to relocate, losing their homes, farmland, and cultural sites without fair compensation.

Another problem is **health and safety risks to workers and nearby residents**. Miners are exposed to accidents, dust, and hazardous chemicals, leading to diseases and injuries, while surrounding communities suffer from water and air contamination.

Lastly, mining can lead to **social conflicts and exploitation**. Disputes often arise over land ownership, resource sharing, and working conditions. In some cases, local people are exploited with poor pay and harsh working conditions in both legal and illegal mining sites.