THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATION COUNCIL OF TANZANIA

FORM TWO SECONDARY EDUCATION EXAMINATION, 2005

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 time recorded along the same meridian is called:
A. Local mean time
B. Greenwich Mean Time
C. Great Mean Time
D. Standard time
A
Reason: Local mean time is the time based on the sun's position at a specific meridian, varying with longitude. Greenwich Mean Time is at 0°, standard time is a uniform time for a region, and "Great Mean Time" is not a term.

(ii) The following planet has 8 satellites:
A. Mars
B. Jupiter
C. Neptune
D. Saturn
C
Reason: As of 2005, Neptune was known to have 8 satellites (now 14). Mars has 2, Jupiter has 79 (known then as ~63), and Saturn has 83 (known then as ~60).

(iii) Fold mountains are mainly produced by:
A. Tension force
B. Earthquakes
C. Compression force
D. Faulting
C
Reason: Fold mountains form due to compression forces in the Earth's crust, causing rock layers to buckle. Tension forms rift valleys, faulting forms block mountains, and earthquakes are a result, not a cause.

(iv) Part of the earth which forms continental blocks is:
A. Sima
B. Core
C. Sial
D. Hydrosphere
C
Reason: Sial (silica and aluminum) forms the continental crust. Sima (silica and magnesium) forms oceanic crust, the core is the Earth's center, and the hydrosphere is water bodies.

(v) What is the local mean time of Dar es Salaam at 45 E when it is noon at Greenwich?
A. 10.00 a.m.
B. 7:00 p.m.
C. 3.00 p.m.

D. 8:00 p.m.
C
Reason: 15° = 1 hour. Dar es Salaam at 45°E is 45/15 = 3 hours ahead of Greenwich (0°). Noon + 3 hours = 3:00 p.m.

(vi) The only type of climate that is different from the others is:
A. Mediterranean
B. Savanna
C. Hot desert
D. Equatorial
A
Reason: Mediterranean climate has distinct wet winters and dry summers, unlike Savanna (wet/dry seasons), Hot desert (arid), and Equatorial (consistently wet and hot), which are all tropical or arid.

(vii) Wind blows from:
A. Low altitude to high altitude
B. Low pressure to high pressure zone
C. High pressure to low pressure zone
D. Sea to land during nights
C
Reason: Wind flows from high pressure to low pressure due to pressure gradients. Option D describes land breeze but is not general.

(viii) Which is the largest among the following scales?
A. 1:25,000
B. 1:500,000
C. 1:50,000
D. 1:10,000
D
Reason: A larger scale means a smaller denominator (more detailed). 1:10,000 is the largest, showing 1 cm = 10,000 cm, compared to 1:500,000 (smallest scale).

(ix) Identify the incorrect association in the following pairs:
A. Isobar and sunshine
B. Isobar and pressure
C. Isotherm and temperature
D. Isohyets and rainfall
A
Reason: Isobars connect equal pressure points, isotherms equal temperature, and isohyets equal rainfall. Isobars are not related to sunshine.

(x) WSW compass direction is equivalent to the following compass bearing:
A. 225
B. 135

C. 245.5
D. 247.5
D
Reason: WSW (West-South-West) is 22.5° south of west (270°). Bearing = 270 − 22.5 = 247.5°.

2. Match the items in COLUMN A with the corresponding items in COLUMN B

COLUMN A	**COLUMN B**
(i) Branches of Geography	F. Physical, Human and Practical Geography
(ii) The furthest planet	D. Pluto
(iii) World solstice	H. When the sun appears to be overhead at latitudes 23L N and 23L S
(iv) Experience longer days or nights at some periods of the year	C. Causes seasons
(v) Core	L. It is made up of iron and manganese silicate
(vi) Layers of the atmosphere	B. Troposphere, stratosphere, mesosphere and thermosphere
(vii) Continental shelf, continental slope and trench	E. Ocean floor features
(viii) Weather	J. The condition of an atmosphere which occurs at a specific time
(ix) Convection rainfall	G. Precipitation caused by intensive solar radiation
(x) An instrument used to measure curved distance on maps	A. Pair of piders

3. Write TRUE or FALSE against the statement given:

(i) When contour lines are close to one another this means that there is a gentle slope over the landform.

FALSE (Close contour lines indicate a steep slope; widely spaced lines indicate a gentle slope.)

(ii) Lines of latitude are sometimes called parallels.

TRUE (Latitudes are parallel to the equator, hence called parallels.)

(iii) Asteroids are solid heavenly bodies revolving around the sun mostly between the orbit of Mars and Jupiter.

TRUE (Asteroids are primarily in the asteroid belt between Mars and Jupiter.)

(iv) See breeze occurs when wind blows from the land to the sea.

FALSE (Sea breeze blows from sea to land during the day; land breeze is from land to sea at night.)

(v) Lakes Victoria, Kioga and Chad are among the Rift Valley lakes.

FALSE (Victoria and Kyoga are in the East African Rift system, but Chad is not; it’s in the Sahel.)

(vi) If one crosses the International Date Line westwards one gains a day.

TRUE (Crossing westward adds a day, e.g., Monday becomes Tuesday.)

(vii) In order to read grid references start with Northings and finish with Eastings.

FALSE (Grid references start with Eastings, then Northings: "along the corridor, up the stairs.")

(viii) Penumbra is a small dark shadow.

FALSE (Penumbra is a partial shadow during an eclipse; umbra is the dark central shadow.)

(ix) Watershed is the collecting ground for a single river system.

TRUE (A watershed is the area where water collects into a single river system.)

(x) Europe is the continent which is crossed by both Tropics of Cancer and Capricorn.

FALSE (Europe is north of the Tropic of Cancer; the tropics cross Africa, South America, and Australia.)

4. (a) Study the map provided then answer the questions that follow:
Scale: 10m to 0.5km

(i) Calculate the area of the mine.
2 cm × 1 cm. Scale: 1 cm = 0.5 km (since 10 m to 0.5 km is likely a typo for 1 cm to 0.5 km, a common scale). Area on map = 2 × 1 = 2 cm². 1 cm² = 0.5 × 0.5 = 0.25 km². Area = 2 × 0.25 = 0.5 km².
Answer: 0.5 km²

(ii) Find the bearing of point B from A.
Answer: A (120150), B (140170). Eastings difference = 140 − 120 = 20 (east). Northings difference = 170 − 150 = 20 (north). Direction is northeast (45°). Bearing = 045°.
Answer: 045°

(iii) Give the direction of A from B.
Answer: If B to A is 045°, A to B is the opposite: 045° + 180° = 225° (southwest).
Answer: Southwest

(iv) State the grid reference of A and B.
Answer: Based on assumption: A = 120150, B = 140170.
Answer: A: 120150, B: 140170

(b) Carefully study the climatic graph given and then answer the questions that follow.

(i) Calculate the annual range of temperature.
Answer: Max = 27°C, Min = 23°C. Range = 27 − 23 = 4°C
Answer: 4°C

(ii) Calculate the annual rainfall for the station.
Answer: 200 + 180 + 150 + 100 + 50 + 20 + 10 + 15 + 30 + 80 + 120 + 170 = 1125 mm
Answer: 1125 mm

(iii) Calculate the mean annual rainfall for the station.
Answer: Total rainfall = 1125 mm. Mean = 1125 / 12 = 93.75 mm
Answer: 93.75 mm

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

(v) Give reasons for the suggestion you have given in (iv) above.

- High temperatures year-round (23–27°C), typical of tropical climates.
- Distinct wet and dry seasons (e.g., July: 10 mm, January: 200 mm), characteristic of savanna.
- Moderate annual rainfall (1125 mm), consistent with savanna, not equatorial or desert climates.
- (a) (i) Define deforestation.
  The clearing or removal of forests or trees from an area for other land uses.
  (ii) List down three causes of deforestation.
- Agricultural expansion
- Logging for timber
- Fuelwood collection

(b) Mention four forms of transport.

- Road transport
- Rail transport
- Water transport
- Air transport

(c) Outline four difficulties which face the improvement of agriculture sector in Tanzania.

- Limited access to modern technology
- Poor infrastructure (e.g., roads, irrigation)
- Unreliable rainfall and climate variability
- Lack of capital for investment

(d) Mention problems that hinder development of the tourism sector in Tanzania.

- Poor infrastructure (e.g., roads to tourist sites)
- Limited marketing and global awareness
- Environmental degradation (e.g., poaching, pollution)
- High costs of travel and accommodation

(e) Outline four measures which should be taken to improve trade in developing countries.

- Improve infrastructure (e.g., ports, roads)
- Reduce trade barriers (e.g., tariffs)
- Enhance regional cooperation (e.g., EAC)
- Provide training for small-scale traders

(f) Name any four types of irrigation systems.

- Drip irrigation
- Sprinkler irrigation
- Furrow irrigation
- Basin irrigation

(g) Write down the necessary conditions for the location of an industry.

- Availability of raw materials
- Access to transport and markets
- Availability of labor
- Reliable power and water supply

(h) Mention the benefits of establishing the Tennessee Valley Authority in USA.

- Flood control through dams
- Electricity generation (hydroelectric power)
- Improved navigation on rivers
- Economic development through job creation

(i) What is the importance of developing river basin schemes in Africa?

- Provides water for irrigation and agriculture
- Generates hydroelectric power
- Controls flooding in river basins
- Improves water supply for communities

(j) State four ways of empowering women in small scale agriculture.

- Providing access to land ownership
- Offering training in modern farming techniques
- Facilitating access to credit and financial services
- Encouraging women's participation in agricultural cooperatives

SECTION B.

6. Explain the Factors Which Prevent Development of the Fishing Industry in East Africa

One major factor is **poor fishing equipment**. Many local fishermen in East Africa still use traditional tools like small canoes, hooks, and nets, which limit their ability to catch fish in large quantities or explore deeper fishing grounds.

Secondly, **lack of storage and processing facilities** affects the fishing industry. In many fishing communities, there are few ice plants, cold storage centers, or modern fish processing industries, causing fish to spoil quickly before reaching the market.

Another issue is **poor transport infrastructure**. Many fishing areas are located in remote regions with poor roads and transport networks, making it difficult to transport fish products to markets and cities in good condition.

Overfishing and illegal fishing practices also hinder the industry. Some fishermen use harmful methods like explosives or small-mesh nets, which reduce fish stocks and damage aquatic environments, threatening the sustainability of fishing.

Lastly, **limited financial and technical support** affects the growth of fishing activities. Many fishermen lack access to loans, fishing education, or modern boats and technology, preventing them from expanding and modernizing their operations.

7. What Are the Ways of Minimizing Pollution Caused by Mining to the Environment?

One way is through **proper waste management systems**. Mining companies should safely dispose of waste materials like tailings and chemicals in lined and well-managed sites to prevent contamination of soil and water.

Secondly, **reforestation and land rehabilitation** after mining operations can help restore the environment. Planting trees and grass on mined land can prevent soil erosion and improve the area's ecological balance.

Another method is the **use of environmentally friendly mining technologies**. Modern methods that reduce the use of harmful chemicals like mercury or cyanide in gold mining should be encouraged to minimize environmental damage.

Strict government regulations and monitoring can help reduce mining pollution. Regular inspections and enforcement of environmental laws can ensure that mining companies follow safe environmental practices.

Lastly, **community awareness and participation** are important. Educating local communities about the effects of mining pollution and involving them in environmental protection projects can promote sustainable mining practices.

8. Outline the Aspects That Have Contributed to the Development of Dairy Farming in the Netherlands

One important aspect is the **availability of fertile and well-drained soils**. The Netherlands has large areas of flat, rich pastures that support the growth of quality grass, which is essential for feeding dairy cattle.

Secondly, the country benefits from a **mild and favorable climate**. The temperate climate with moderate rainfall allows for year-round grass growth, reducing the cost of feeding livestock and improving milk production.

Another factor is the **use of advanced farming technology**. Dutch farmers use modern equipment for milking, feeding, and managing livestock, which increases efficiency and productivity in dairy farming.

The **availability of reliable markets and processing industries** has also encouraged dairy farming. There are well-established milk processing factories and cooperative societies that buy milk from farmers, ensuring steady income.

Lastly, the **strong support from the government** through subsidies, research centers, and training programs has helped improve dairy farming methods, cattle breeds, and overall farm management in the country.

9. Describe the Consequences of Water Shortage to Communities

One major consequence is **poor health and hygiene**. Without enough clean water, people cannot maintain proper sanitation, leading to the spread of waterborne diseases like cholera, typhoid, and dysentery.

Secondly, **reduced agricultural productivity** occurs due to water scarcity. Farmers rely on water for irrigation and livestock, so shortages result in poor harvests, food insecurity, and increased poverty in affected areas.

Another impact is **increased workload for women and children**. In many rural communities, women and children are responsible for fetching water. When sources dry up, they must travel long distances to collect water, affecting their education and other responsibilities.

Conflict over water resources can also arise. As water becomes scarce, competition among communities, farmers, and industries increases, sometimes leading to disputes and tensions between different groups.

Lastly, **economic activities such as mining, manufacturing, and tourism** may decline when water is insufficient. Industries rely on water for processing, cooling, and cleaning, so shortages can lead to reduced production, job losses, and lower incomes.

10. Give an Illustration of the Advantages of Sedentary Farming

One advantage of sedentary farming is that it allows for **permanent settlement**. Farmers stay in one place and build permanent homes, schools, and health centers, which helps develop stable communities and encourages social services.

Secondly, **soil management becomes easier** in sedentary farming. Since farmers use the same piece of land continuously, they can apply soil conservation techniques like crop rotation, terracing, and the use of manure to maintain soil fertility.

Another advantage is that **infrastructure such as roads, markets, and storage facilities can be developed**. As farmers remain in one area, it becomes easier for governments and organizations to provide services like clean water, electricity, and transportation networks.

Additionally, sedentary farming **encourages investment in farming technology**. Farmers are more likely to invest in better tools, irrigation systems, and improved seeds when they know they will benefit from their land in the long term.

Lastly, sedentary farming **supports the development of permanent crops** such as coffee, tea, and fruit trees, which require several years to mature. This farming system makes it possible for farmers to plant and tend to these crops without the risk of moving away.