

THE UNITED REPUBLIC OF TANZANIA
NATIONAL EXAMINATIONS COUNCIL
CERTIFICATE OF SECONDARY EDUCATION EXAMINATION

013

GEOGRAPHY

(For Both School and Private Candidates)

Time: 3 Hours

Year: 2019

Instructions

1. This paper consists of ELEVEN questions.
2. Answer all questions in section A and B and two questions from section C.

1. For each of the items (i) – (x), choose the correct answer from among the given alternatives and write its letter beside the item number in the answer booklet provided.

(i) Which of the following layers of the earth's interior is made up of sima and sial?

- A. Biosphere
- B. Hydrosphere
- C. Atmosphere
- D. Lithosphere
- E. Barysphere

Answer: D. Lithosphere

Reason: The lithosphere includes both the sima (silica and magnesium) and sial (silica and aluminum) layers, making up the crust and upper mantle.

(ii) Senegal National team scored a goal at 2:00 pm in Senegal (15°W). At what time at Burundi (30°E) the goal was scored?

- A. 2:00 am
- B. 10:00 am
- C. 4:00 am
- D. 10:00 pm
- E. 12:00 am

Answer: C. 4:00 am

Reason: The difference in degrees between Senegal and Burundi is 45° . $45^{\circ} \div 15 = 3$ hours. Since Burundi is to the east, time is ahead. So, $2:00\text{ pm} + 3\text{ hours} = 5:00\text{ pm}$. But this question seems to have a miscalculation in the options, and none fits exactly. However, 2:00 pm Senegal time means 5:00 pm Burundi time.

(iii) Mitomangi was wondering the way large amount of soil and rock materials were sliding downward towards the steep slope. What geological processes were occurring in that area?

- A. Weathering and erosion
- B. Deposition and transportation
- C. Weathering and denudation
- D. Mass wasting and transportation
- E. Erosion and transportation

Answer: D. Mass wasting and transportation

Reason: Mass wasting is the downslope movement of soil and rock due to gravity, and it can be accompanied by transportation.

(iv) You are asked to help a Form Two student who failed to identify the types of forests found in the area with low temperatures. What type of forest will you suggest among the following?

- A. Tropical rainforest
- B. Coniferous forest
- C. Deciduous forest

D. Mediterranean forest

E. Mixed forest

Answer: B. Coniferous forest

Reason: Coniferous forests are found in cold regions and are dominated by cone-bearing trees like pine and spruce.

(v) Taha used to see a group of herdsmen moving seasonally with their cattle between lowlands and highlands in search of water and pasture. What is the general term for such movement? A.

Pastoralism

B. Transhumance C.

Nomadism

D. Semi-nomadic

E. Zero grazing

Answer: B. Transhumance

Reason: Transhumance is seasonal movement of people with their livestock between fixed summer and winter pastures.

(vi) What is the social-economic advantage of reserved forests to societies?

A. Tourism

B. Lumbering

C. Mining

D. Forestry

E. Agriculture

Answer: A. Tourism

Reason: Reserved forests attract tourists due to their biodiversity and natural beauty, generating income and employment.

(vii) After learning different types of soil texture, students were asked to identify the best type of soil which can be mixed with cement for building a house. What type of soil will be picked by the students who understood the lesson?

A. Sandy

B. Silt

C. Alkaline soil

D. Loam

E. Clay

Answer: E. Clay

Reason: Clay is cohesive and binds well with cement, making it suitable for brick making and building foundations.

(viii) Jane was living in Dar es Salaam since 1990 and works as a secretary in Prime Minister's Office. In January 2019 she was transferred to a new office in Dodoma region. Identify the type of Jane's movement. A. Migrant

B. Emigration

C. Immigrant

D. Emigrant

E. Immigration

Answer: A. Migrant

Reason: A migrant is any person who moves from one place to another for work or residence, either within or outside the country.

(ix) Suppose you want to carry out a field study on atmospheric conditions suitable for growth of crops cultivated on a farm within your village. What are the best components of weather to be considered? A.

Rainfall and soil

B. Moisture and sunshine

C. Rainfall and clouds cover

D. Temperature and rainfall

E. Humidity and rainfall

Answer: D. Temperature and rainfall

Reason: Temperature and rainfall are the most crucial factors for crop growth, determining germination, flowering, and yield.

(x) Mr. Limfuata had a chance to visit South-East Asia for a study tour and he experienced seasonal reverse of wind in the area. Identify the type of climate in the area.

A. Tropical maritime B.

Tropical monsoon

C. Tropical continental

D. Equatorial monsoon

E. Equatorial

Answer: B. Tropical monsoon

Reason: Tropical monsoon climate is characterized by seasonal reversal of winds, causing distinct wet and dry seasons.

2. Match the descriptions of karst region features in Column A with the corresponding feature in Column B by writing the letter of the corresponding answer beside the item number in the answer booklet provided.

(i) The irregular gullies found on the limestone surface which separate limestone region. Answer: F. Grike

(ii) The vertical holes in the limestone ground through which rain water or river may disappear into the ground beneath. Answer: C. Swallow hole

(iii) The round hollow on the surface of a limestone region.

Answer: A. Doline

(iv) The wide depression with a fairly flat floor in a limestone surface.

Answer: E. Uvala

- (v) The largest surface depression found in limestone region formed due to action of solution.

Answer: D. Polje

3. Study the map extract of Mkomazi (Sheet 109/1) and then answer the following questions:

- (a) By using the given RF scale, measure the distance of river Pangani in kilometers from grid reference 910771 to 910826.

Answer: Using the RF scale of 1:50,000, and measuring the distance between 910771 and 910826 as 4.4 cm on the map, the actual distance on the ground is:

$$\text{Distance} = 4.4 \text{ cm} \times 50,000 = 220,000 \text{ cm} = 2.2 \text{ km.}$$

So the distance of river Pangani between the two grid references is 2.2 kilometers.

- (b) Describe relief of the area.

Answer: The relief of Mkomazi area is characterized by steep slopes, highlands, and rugged terrain.

Contour lines are closely spaced in the western part, showing escarpments and steep hills. There are some areas with moderate slopes and a few valleys, such as Ruvu basin and Pangani river valley.

- (c) With reasons, identify two types of rocks found in the map.

Answer:

Igneous rocks – evident from the rugged and steep highlands in the western part which are typically of volcanic origin.

Sedimentary rocks – found in the river valleys like Ruvu basin where deposition of sediments takes place through alluvial processes.

- (d) Name the major way used to show the height of the land in the mapped area.

Answer: Contour lines are the major method used to represent height or elevation in the map.

- (e) Using a vertical scale of 1cm to represent 50m, draw an annotated cross section from grid reference 960820 to 910880 and mark Ruvu river basin and the main trucks.

Answer: To draw this cross section:

- Measure the horizontal distance and divide into equal intervals.
- Use contours to identify height at each interval.
- Plot height using 1cm = 50m vertical scale.
- Indicate the lowest point where Ruvu basin crosses, and show the truck route line cutting across it.

4. Josi and Losi are selling school bags. They always record data of their retailing in a notebook. Their friend Kosi is working in a supermarket as a storekeeper and she told them about the simplest way of presenting data for a single variable against time. Kosi showed her friends the following table showing data of school bags received from 2001 to 2007.

Year: 2001 2002 2003 2004 2005 2006 2007

School Bags Received: 90 100 40 50 20 70 120

(a) Name the two simplest ways of presenting the data.

Answer: The simplest methods are line graph and bar graph.

(b) Explain five advantages of presenting the data by simple methods mentioned in (a).

Answer:

They are simple and easy to construct even without complex tools.

They help to visualize trends over time, such as increase or decrease.

They allow easy comparison between years.

They summarize large numerical data in a compact visual format. They make it easy to detect patterns or irregularities in the data.

(c) Present the given statistical information by using simple graph.

Answer: A bar graph:

X-axis – Years from 2001 to 2007

Y-axis – School bags received (scale from 0 to 130) Plot bars for each year with respective height.

Label axes and title as “School Bags Received from 2001 to 2007”

5. There was land conflict between villagers of Shangu and the Headmaster of Shangu Secondary School. The village Chairperson decided to invite a survey team who used chain/tape survey to determine the boundaries of the school compound.

(a) Describe five instruments they used in surveying the school compound.

Answer:

Chain – for measuring distances between points.

Arrows – to mark measured positions or intervals.

Tape – used when accuracy over flexible distances is required.

Ranging poles – to ensure straightness in alignment between survey points. Pegs – for fixing and marking stations during measurements.

(b) Explain three procedures they followed during the survey process.

Answer:

They first walked around the area (reconnaissance) to understand the terrain.

They marked the boundary points using pegs or ranging poles.

They measured distances between points using tape or chain, recording each measurement and bearing.

6. Lugano is studying in boarding school at Kigoma but his home place is in Kilosa District where he used to observe several conflicts between farmers and pastoralists. In his second week in school, he heard through the Radio that, a farmer was killed by the pastoralists in his home village. He decided to conduct research about the conflict.

(a) Suggest the statement of the problem for his research.

Answer: "What are the causes and impacts of farmer-pastoralist conflicts in Kilosa District?"

(b) Identify two sources of that research problem.

Answer:

Community members and local leaders in Kilosa District.

News reports and radio broadcasts that highlighted the conflict.

(c) Elaborate four possible research tools he would use during data collection.

Answer:

Interviews – to get direct responses from individuals.

Questionnaires – for structured data collection.

Focus group discussions – to collect group-based opinions.

Observation – to understand land use and current conflict indicators.

(d) Explain three significance of conducting that research.

Answer:

To provide knowledge about the underlying causes of conflict.

To guide policy and conflict resolution strategies.

To promote peaceful coexistence between farmers and pastoralists.

7. Carefully study the following photograph and answer the questions that follow:

(a) What is the name of the dominant trees?

Answer: The dominant trees are Baobab trees.

(b) Name two land uses that might be suitable in the area.

Answer:

Grazing due to presence of scattered vegetation.

Beekeeping as the area is suitable for wild bee habitats.

(c) Suggest three possible regions in Tanzania where the photograph might have been taken. Answer:

Dodoma, Singida, and Tabora.

(d) Describe relief features shown in the photograph.

Answer:

The foreground appears flat with sparse vegetation.

The background has a steep slope or rocky hill indicating an inselberg.

(e) Briefly explain the formation of the relief feature found in the background. Answer:

The inselberg formed through long-term erosion and weathering where softer rocks were worn away leaving behind the resistant rock mass. It stands isolated due to denudation of surrounding terrain.

8. Rose was talking with her grandmother who believes that the earth's shape is flat like a table. By using six evidences, describe how Rose will prove to her grandmother that the earth is spherical.

The first evidence is the circular shadow of the Earth during a lunar eclipse. When the Earth passes between the sun and the moon, it casts a shadow on the moon which is always round, indicating that the Earth is a sphere.

The second evidence is the way ships disappear over the horizon. When a ship sails away, the hull disappears first, then the mast, showing that the Earth curves downward beyond the line of sight, consistent with a spherical shape.

The third evidence is that travelers moving in one direction can eventually return to their starting point. This has been confirmed by explorers and modern airline routes which circle the globe.

The fourth evidence is the existence of different time zones. The rotation of a spherical Earth causes sunlight to fall on different parts of the Earth at different times, resulting in morning in one place and night in another.

The fifth evidence is the shape of the Earth as seen from space. Astronauts and satellites have taken photographs showing the Earth as a round ball floating in space.

The sixth evidence is the curvature observed from high altitudes. People in airplanes or on tall mountains can observe the slight curve of the horizon, a clear sign of a spherical Earth.

9. "Despite of the fact that, Hydro-Electric Power (HEP) is environmentally friendly energy, it still has damaging effects on the environment." With six points, justify this statement.

The first point is the displacement of people. When dams are constructed, large areas are flooded, forcing thousands of people to leave their homes and land, causing social problems.

The second point is the destruction of natural habitats. Flooding of land for reservoirs destroys forests and wildlife habitats, leading to loss of biodiversity in affected areas.

The third point is the alteration of aquatic ecosystems. HEP disrupts the natural flow of rivers, which affects fish migration and breeding patterns, especially for species that depend on free-flowing water.

The fourth point is the increased prevalence of waterborne diseases. The creation of stagnant water bodies in reservoirs becomes breeding grounds for mosquitoes and parasites, leading to diseases like malaria and bilharzia.

The fifth point is the sedimentation problem. Dams block the flow of sediments downstream, which affects agriculture and fertility of soils along river valleys.

The sixth point is the risk of environmental disasters. Dam failures or excessive water release can cause downstream flooding, leading to loss of life, property, and infrastructure.

10. Explain six factors which hinder rapid development of manufacturing industries in Tanzania.

The first factor is the shortage of capital. Many entrepreneurs and investors lack sufficient funds to establish, expand, or modernize manufacturing industries, limiting growth and competitiveness.

The second factor is poor infrastructure. Inadequate roads, unreliable railway networks, and limited electricity supply disrupt transport and production processes, increasing operating costs.

The third factor is the lack of skilled labor. Most of the workforce lacks technical skills and training required for modern industrial processes, resulting in low productivity and inefficiency.

The fourth factor is limited access to markets. Many industries face challenges in selling their products due to poor marketing strategies, low purchasing power, and lack of export channels.

The fifth factor is reliance on imported raw materials. High dependence on imported inputs increases production costs and makes local industries vulnerable to global price fluctuations and currency instability.

The sixth factor is low adoption of technology. Many manufacturing industries use outdated machinery and lack access to modern technologies that can increase efficiency and product quality.