KENYA NATIONAL EXAMINATION COUNCIL
K.C.S.E-2014

GEOGRAPHY ANALYSIS

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3.2 GEOGRAPHY (312)

The year **2014 KCSE Geography** examination was presented in two papers: **paper 1 (312/1)** covers the **"physical geography and Map Reading"** while **paper 2 (312/2)** examines **"Human and Economic Geography, Photographic Interpretation skills and Statistics"**. Each of the two papers had ten (10) questions.

This report analyses the performance of candidates in the year 2014 Geography examination papers, paying special attention to the poorly performed items. It looks at what the questions tested, the candidates' weaknesses and possible reasons for their poor performance. It also gives advice to Geography teachers with the aim of improving future performance in the subject.

3.2.1 GENERAL CANDIDATES' PERFORMANCE

The table below shows the overall performance in Geography over the period 2011 to 2014.

Table 10: candidates overall performance in Geography for the last four years

Year	Paper	Candidature	Maximum Score	Mean Score	Standard Deviation
2011	1		100	41.11	17.60
	2		100	42.23	16.65
	Overall	**121,142**	**200**	**83.30**	**32.83**
2012	1		100	40.10	16.71
	2		100	53.10	16.00
	Overall	**117,731**	**200**	**93.16**	**31.27**
2013	1		100	39.41	18.13
	2		100	45.43	16.56
	Overall	**110,307**	**200**	**84.82**	**33.01**
2014	1		100	34.25	17.05
	2		100	53.81	19.16
	Overall	**121,854**	**200**	**88.03**	**34.17**

The following observations can be made from the table above:

(i) The candidature slightly increased from **110,307** in 2013 to **121,854** in 2014.

(ii) There was a drop in performance in Geography paper one **(312/1)** from a mean of **39.41** in 2013 to **34.25** in 2014. Geography paper two **(312/2)** registered an improved performance from a mean of **45.43** in 2013 to a mean of **53.81** in 2014.

(iii) The improved performance in paper two led an improvement of the overall mean from 84.82 in 2013 to **88.03** in 2014. The standard deviation in both papers shows a reasonable spread of candidates' scores,**17.05** in 312/1 and **19.16** in 312/2.

(iv) The overall performance of the subject was fairly good.

The questions that were performed poorly will be discussed in the following section.

3.2.2 Geography Paper 1 (312/1)

The performance of candidates in this paper slightly dropped from a mean of **39.41** in 2013 to a mean of **34.25** in 2014. This report looks at question 5 a, 6a (ii), 7b and 10 b, which were performed poorly.

Question 5 (a)

Describe podzolization as a process of leaching. (2 marks)

Weaknesses

Most candidates described the general process of leaching, they were unable to identify specific minerals and the humic acid involved in podzolization which distinguishes it from other leaching processes. Majority of the candidates had no idea of the end product. This proved to be a difficult question.

Expected response

- It occurs in areas with high rainfall and low temperature / cool & wet conditions (cool temperature regions) / humid temperature regions/ conferous forest.
- Slow decomposition of vegetative matter results in formation of humic acid.
- Calcium / iron/ magnesium / alminium / pottassium / bases / salts/ carbonates minerals in the soil are dissolved and moved/ translocated from horizon A to horizon B.
- The soil is left extremely acidic/ humic / ash grey / brown-grey/ red-yellow / white/ light in colour.

Advice to teachers

Teachers should teach the topic on soil in totality and the relationship between the various soils forming processes should be emphasized. The characteristic differences in each process should be clearly spelt out for candidates to comprehend and differentiate the various processes.

Question 6 a (ii)

What is the magnetic variation of the map? (1 mark)

Weaknesses

Majority of the candidates were unable to calculate the longitudinal extent. They failed to identify the correct angle from the map and also were unable to use the scale given correctly. Candidates are used to identify an already stated longitudinal extent in the map. The task required the candidates to correctly estimate the longitudinal extent from the given longitudes through calculation.

Expected responses

Expected response

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Advice to teachers

Teachers should expose learners to various tasks in the topographical map with frequent practice in order to keep them abreast with map reading and interpretation.

Question 7 b (i), (ii)

(i) State **five** characteristics of the mantle in the interior structure of the earth. (5 marks)

(ii) Outline the evidence which support the theory of continental drift. (4 marks)

Weaknesses

Majority of the candidates gave irrelevant characteristics of the mantle; there was a mix up with those of the core and the crust. Some candidates described the theory of continental drift instead of outlining evidence. Most answers were wrongly written or spelt or used non existence terms

Expected responses

(i) **State five characteristics of the mantle in the interior structure of the earth.**

- The mantle is divided into two parts / the upper mantle and the lower mantle.
- It is about 2900 km thick.
- The average density is between 3.0 - 3.3 gm/cm^3
- The upper mantle has a lower temperature than the lower mantle / 1000^0 to 3000^0 C.
- The upper mantle is in semi-solid state.
- The lower mantle is composed of rocks in viscous fluid state.
- The dominant minerals are silica, iron and magnesium / ferro - magnesium silicate / olivine.

(ii) **Outline the evidence which support the theory of continental drift.**

- Palaeontological / palaeozological evidence - the fossils of plants/ animals found in Africa are also in other continents .
- Adjacent continents have jig saw fitting coastlines or continental margins.
- There exists similarity in animal/ plant species in the continents.
- Paleoclimatic evidence - Southern continents seem to have experienced large scale glaciation at the same period/presence of ancient glacial deposition in southern continents.
- Sea floor spreading - recent volcanic eruption in mid-Atlantic ridges fill the gaps left by drifting continents.
- The location of major world fold mountains/ trend of the folds / age of the fold mountains are similar.
- Paleamagnetism - the alignment of iron minerals in igneous rocks along the earths magnetic field indicate that the continents must have once been together.
- Geological evidence - existence of rocks which are similar in their formation/ structure/types/ age along margins of different continents (sharing of oceans).

Advice to teachers

Teachers should teach this area in-depth. They should train learners to be able to identify keywords in the question and specific /terms/ points should be well outlined.

Question 10 b (i), (ii)

Describe the formation of the following glacial features:

(i) Hanging valley; (6 marks)

(ii) Pyramidal peak. (6 marks)

Weaknesses

The description of the features was poorly done and incomplete. most of the candidates failed to present the correct sequence and processes involved in the formation of the features. Some candidates described two parallel valleys, while others started with the glacial valley. Most answers showed limited knowledge on this topic. Field work in glaciations appeared strange to most candidates.

Expected responses

(i) **Hanging valley**

- It is formed in glaciated highlands where there is a main valley and a tributary valley.
- The two valleys get filled with ice. The main valley has more ice than the tributary valley.
- As the ice gets heavy/ thick, it begins to flow down the slope eroding by plucking and ubrasion.
- The main river valley is deepened and widened more than the tributary valley.
- When ice melts the tributary valley is left hanging at a higher level.
- The tributary valley left hanging above the main river valley is known as hanging valley.

(ii) **Pyramidal peak**.

- Ice accumulates in several shallow pre-existing depressions on the mountain sides.
- As the ice moves, it plucks the rocks on the sides of the hollows/ depression.
- Continued erosion by abrasion deepens and widens the hollows forming cirques.
- Adjacent hollows (cirques) continue to be eroded causing back walls to receed until they are separated by narrow steep ridges called aretes.
- Where aretes converge at the top of the mountain, they form a sharp - steep sided peak known as a pyramidal peak.

Advice to teachers

Teachers should put a lot of effort in teaching this topic; they can integrate class discussion with use of models, videos to enhance comprehension of related concepts. Simplified notes can be provided coupled with frequent assessment.