

10.0 GEOGRAPHY (312)

The year 2008 was the third time that the revised Geography syllabus was tested. Like in the previous two years, two papers were offered, each with ten questions. The two papers formed a sufficient sample of all the areas of the syllabus that candidates were expected to have covered over the four year period of their course. The papers were developed to test a wide range of abilities. Among the skills tested were map interpretation skills, comprehension, application, analysis, simple calculations and drawing among others.

Paper 1 (312/1) tested a number of topics and varied skills in *physical Geography* and *map reading skills* while *paper 2 (312/2)* tested concepts in *human* and *economic Geography*, *photograph interpretation skills* and *simple arithmetic calculations*. In both papers, candidates were expected to answer all the questions in section A. In section B, question 6 was compulsory, then a choice of two other questions out of the remaining four essay questions.

10.1 GENERAL CANDIDATES' PERFORMANCE

The *table 15* below shows the overall performance in Geography over the period 2005 to 2008

Table 15: Candidates Overall Performance in Geography for the Last Four Years.

Year	Paper	Candidature	Maximum Mark	Mean Score	Standard Deviation
2005	1		100	36.68	16.31
	2		100	45.90	15.83
	Overall	106,865	200	82.56	30.00
2006	1		100	46.12	19.23
	2		100	37.34	15.74
	Overall	97,991	200	83.44	33.00
2007	1		100	45.50	19.82
	2		100	48.14	16.37
	Overall	103,288	200	93.62	34.00
2008	1		100	35.91	17.10
	2		100	38.08	16.35
	Overall	109,745	200	74.01	31.92

The following observations can be made from the table above:-

- 10.1.1 The candidature increased by **6,457** candidates from **103,288** in the year 2007 to **109,745** in the year 2008. This was the highest candidature in the four year period.
- 10.1.2 There was a drop in the performance of candidates in both papers as indicated by the means. In the year 2007 the mean for *paper 1 (312/1)* was **45.50** while in the year 2008 it declined to **35.91**. Similarly, the mean for *paper 2 (312/2)* declined from **48.14** in the year 2007 to **38.08** in the year 2008.
- 10.1.3 The overall mean also declined from **93.62** in the year 2007 to **74.01** in the year 2008.
- 10.1.4 The best performance over the four year period was recorded in the year 2007 when a mean score of **93.62** was recorded.
- 10.1.5 The standard deviation in both papers shows a reasonable spread of candidates' scores.

Although the performance of candidates dropped, not all the questions recorded poor performance. This report will discuss the questions in which candidates scored poorly. These are *questions 4 (a), 6, 7 (c), 8(c), 9* and *10* in *paper 1 (312/1)* while in *paper 2 (312/2)* the poorly performed questions were *7 (a) (ii), 9 (c)* and *10 (c)*. The report will highlight the possible reasons why performance in these questions was not as good as expected and also give suggestions on possible strategies that teachers could adopt to improve performance in the future.

10.2 PAPER 1 (312/1)

Question 4 (a)

Apart from water vapour, name two other substances that are suspended in the atmosphere.

The question required candidates to have knowledge of the composition of the atmosphere so that they would be able to list the substances that are suspended in the atmosphere.

Weaknesses

Many candidates were not able to name the substances that exist in the atmosphere. Many responded through guessing but got it wrong while some left the question unanswered. This is an indication that this area had not been covered adequately during teaching.

Expected Responses

- Dust particles.
- Pollen grain.
- Gases/ Carbon dioxide/ oxygen.
- Salt particles/ sodium chloride.
- Smoke.

Advice to Teachers

This was one of the simplest questions in the paper where candidates should have scored full marks. Teachers should ensure they cover all the areas of the syllabus thoroughly. When teaching a given topic, all aspects should be discussed so that students are not left to guess answers to questions.

Question 6

Study the map of Kericho 1:50,000 provided and answer the following questions.

- (a) (i) Give the longitudinal extent of the area covered by the map.
(ii) Convert the scale of the map into a statement scale.
(iii) What is the approximate height of the hill in the grid square 6770?
(iv) Calculate the area of Kericho Municipality. Give your answer in square kilometres.
- (b) (i) Give **three** types of natural vegetation found to the west of Easting 53.
(ii) What is the bearing of the trigonometrical station at grid reference 554668 from the factory at grid reference 610626?
(iii) Identify three forms of land transport found to the north of Northing 68 and west of Easting 53.
- (c) Describe the distribution of settlements in the area covered by the map.
- (d) Citing evidence from the map, explain **three** factors that favour the establishment of tea estates in the area covered by the map.

Candidates were given a topographical map of Kericho which they were expected to study and interpret. The question tested the following skills:

- Interpretation of longitudes.
- Conversion of scale.
- Use of grid lines.

- Use of contours to determine heights.
- Calculating area and bearing
- Application of knowledge on conditions ideal for tea farming.

This question required candidates to have mastered most skills in map reading. Specifically, they had to apply knowledge on grid references, marginal information, and interpretation of physical and human features using symbols provided in the key.

Weaknesses

Performance in this question was very poor. It is worrying that candidates have continued to do poorly in map work yet all the answers to the questions are derived from the map. The responses given by most of the candidates were an indication that they had little map reading skills. They were not able to apply the symbols in the key to come up with the correct interpretation of features in the map.

In part (a) (iii) of the question, most candidates failed to get the approximate height of the hill. This is an indication that they do not know how to apply the contour interval to the heights on the map. On the distribution of settlements, many candidates were not able to isolate the areas with sparse and dense settlements. Worse still, was the application and explanation of factors favouring tea farming in the area represented.

Expected Responses

(a) (i) $35^{\circ} 15' E$ to $35^{\circ} 25' E$

(ii)
 Map scale 1: 50, 000
 i.e. 1 cm represents 50,000 cm
 $50,000\text{cm} = \frac{50,000}{100,000} \text{ Km}$
 $= 0.5 \text{ km}$

Statement scale is 1cm represents 0.5 km/½ km

(iii) 2120m/just over 2120m/below 2140m

(iv) $10.5 - 11.0 \text{ km}^2$

- (b) (i)
- Scrubs.
 - Woodland.
 - Scattered trees.
 - Thicket.
 - Papyrus/papyrus swamp vegetation.

(ii)
 305°

- (iii)
- All weather/road loose surface.
 - Dry weather road.
 - Motorable tracks.
 - Foot paths/other tracks.

- (c)
- There are few settlements/labour lines within the tea estates and no settlements in the forested areas.
 - To the north and west of Kericho-Lumbwa road, the settlements form a dispersed pattern.
 - To the north of Tugenon river, there are few or no settlements.
 - There are nucleated settlements in the market/shopping centres/labour lines/villages.

- Some areas such as the steep slopes and river valleys have few or no settlements.
- Kericho town is the main settlement area/forms a large cluster of settlement/ dense settlement.

(d)

- The high relief as evidenced by the contours that rise between 1900 and 2400 metres above sea level, modifies temperatures making the area suitable for the growing of tea bushes.
- The relatively undulating slopes as evidenced by widely spaced contours allow proper drainage of soils making it ideal for tea farming/ allows mechanization.
- Presence of forests / many permanent rivers and high relief show that the area receives high rainfall which is suitable for tea growing.
- The area has fairly dense settlements which indicates availability of labour needed in tea farming.
- The area is well served by all weather roads which are needed for the transportation of tea from the farms to the factory/transportation of labour.

Advice to Teachers

Over the years, many candidates have been scoring low marks in map reading questions. This is worrying and teachers ought to re examine the way they teach this area with a view to enabling candidates to understand the concepts and perform better in the examinations. They must make a deliberate effort to help students learn how to interpret all aspects of a map. This includes the application of symbols used in the map. Students must understand the meaning of all the symbols in the key and look for the same in the map. They should also use the knowledge of physical and human geography and apply as they answer questions that require application of the same.

Question 7 (c)

Describe how the following features are formed and for each give an example from Kenya:

- a crater;
- a geyser;
- a lava plateau.

This question required knowledge on formation and distribution of volcanic features.

Weaknesses

Some candidates had rough ideas of the formation. However, many were not able to give the sequence of events that leads to the formation of the features. Formation of a feature follows a sequence which must come out in the candidates' responses. If one starts with the last event in the sequence, it shows that he/she does not know what happens earlier or later in the process.

Expected Responses

(i) *A crater*

- Eruption of lava through a central vent causes building up of a cone.
- The lava in the vent cools and contracts.
- The cool lava withdraws into the vent leaving a shallow depression at the top of the cone.
- Gas explosions may blow away surface rocks causing a crater on the surface.

Examples: Mt Longonot, Menengai, Mt Suswa.

(ii) *A geyser*

- Rainwater percolates down through cracks in the rocks.

- The water gets into contact with hot igneous rocks.
- The water is super heated and gases/steam forms.
- Pressure builds up in the cracks.
- The pressure causes steam and water to be ejected explosively or as it jets to the surface.
- The water and steam are emitted intermittently as pressure level changes.

Example: Lake Bogoria.

(iii) ***A lava plateau***

- It is formed when magma reaches the surface of the earth through a single vent or series of vents/fissures.
- The lava is extremely fluid/ultra-basic.
- The lava spreads evenly over a large area.
- The lava cools slowly and solidifies.
- Successive eruptions lead to more and more layers building up the landscape into a plateau.

Examples: Yatta Plateau, Uasin Gishu plateau, Laikipia plateau.

Advice to Teachers

For every feature that is taught in paper 1 (312/1), teachers must take time to explain the processes and ensure that they use appropriate diagrams for students to have a visual impression of what they are learning about.

Question 8 (c)

Describe each of the following drainage patterns:

- dendritic pattern;
- trellis pattern.

Candidates needed to have learned the factors that influence development of drainage patterns and more so the influence of rocks in the process.

Weaknesses

Many candidates were not sure of the lay out of the two patterns. Some described patterns that had not been asked for while others confused the two patterns. Another weakness was that candidates failed to bring out the influence of the type of rocks to the type of drainage pattern. Where this was mentioned, candidates confused between the influence that the **homogenous** and **heterogeneous** rocks have on drainage patterns.

Expected Responses

(i) ***Dendritic pattern***

- It develops in areas where rocks have uniform structure.
- The direction of flow is influenced by the slope of the land.
- The tributaries join the main river at acute angles.
- The tributaries converge on the main river forming a shape like that of a tree and its branches.

(ii) ***Trellis pattern***

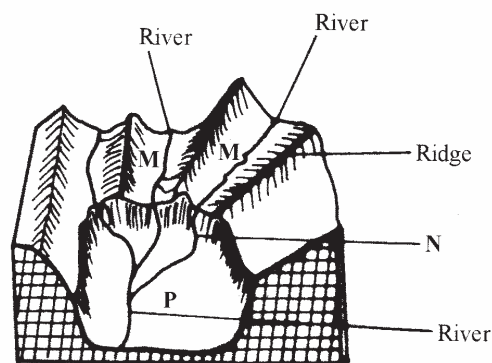
- The pattern develops where soft and hard rocks alternate vertically.
- The tributaries join the main river at right angles.
- The consequent streams are parallel to the main river.
- Some obsequent streams flow to the opposite direction of the main river.
- The main river and its tributaries form a rectilinear pattern.

Advice to Teachers

As they teach about drainage patterns, teachers should ensure that students understand the influence of all the factors at play. In this case, rocks are a major factor. They should also ensure that candidates are able to distinguish between different types of drainage patterns.

Question 9

- (a) (i) Describe how ice is formed on a high mountain.
(ii) Apart from a valley glacier, name **two** types of ice masses found on Mountains in East Africa.
- (b) Explain how the movement of a valley glacier is influenced by the following factors:
(i) temperature;
(ii) width of a glacier channel.
- (c) Describe the distinctive characteristics of the following features resulting from glacial erosion:
(i) a corrie;
(ii) a pyramidal peak;
(iii) a fiord (fjord).
- (d) (i) The diagram below shows a glaciated upland area.



Name the features marked **M**, **N** and **P**.

- (ii) Describe the process through which a crag and tail is formed.

This question required candidates to have knowledge on the process of glaciation and the processes involved in the formation of the resultant features.

Weaknesses

Candidates displayed total lack of knowledge on the topic on glaciation. It is not a surprise that this was the most unpopular question out of the five essay questions. It shows that candidates were

ill prepared on this topic. The few who attempted the question performed poorly.

Expected Responses

- (a) (i)
- Due to low temperatures, water vapour freezes and forms snow.
 - Snow falls and accumulates on the mountain top/higher slopes.
 - Snow continues piling and new layers exert pressure on the lower layers
 - Lower layers become compressed as air is expelled from the spaces between snow particles
 - The compacted layers are ice.
- (ii)
- Ice caps.
 - Cirque glaciers.
- (b) (i) **Temperature**
- Glaciers move faster in summer/when the temperatures are higher because the ice melts due to the warm conditions, whereas in winter/when temperatures are low, ice movement is slow due to cold conditions.
 - The weight of the valley glacier exerts pressure to the bottom of the valley thereby raising the temperature and causing ice to thaw and move downslope.
- (ii) **Width of a glacier channel**
- When the channel is wide, ice spreads out forming a thin layer, so there is less pressure to cause thawing that would facilitate ice movement.
- (c) (i) **A corrie**
- Is a deep rock basin.
 - Has steep sides.
 - Is arm-chair in shape/semi circular.
 - Has a high back wall.
 - Has a reverse slope on the lower side.
- (ii) **A pyramidal peak**
- Has steep sides.
 - Is surrounded by cirques.
 - Is a sharp rock pinnacle/horn.
 - Has a radiating system of arêtes.
- (iii) **Fiord**
- Has steep walls.
 - Is narrow sea inlet.
 - Is U-shaped.
 - Has hanging valleys.
 - Has deep waters.
 - It is shallow seawards and/ deep landwards.
- (d) (i)
- M** : Hanging valley.
N : Water fall.
P : U Shaped valley/glacial trough.
- (ii)
- A large block of rock stands on the path of an coming glacier.

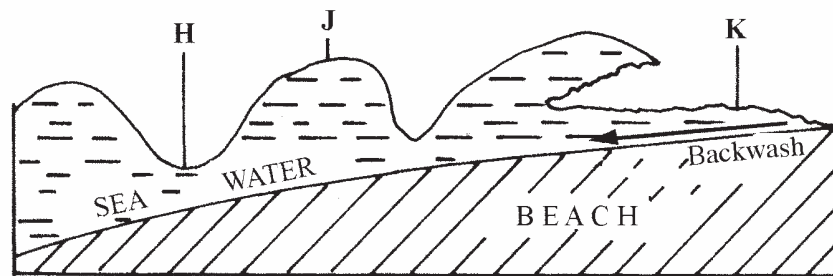
- The moving ice plucks off/erodes weak rock fragments from the upper side of the rock.
- As the ice moves round and over the resistant rock it carries the eroded materials to the lee side.
- The lee side does not experience erosion.
- Eroded materials are deposited on the lee side of the rock.
- With time the moving ice smoothens the side of the on coming ice while deposited materials increase on the lee side.
- The resistant rock is the crag while the materials deposited on the lee side form the tail.

Advice to Teachers

Teachers must cover all the topics in the syllabus. If students are left on their own, they may not be able to read and understand such topics as glaciation. They need guidance and thorough teaching for these concepts to be clear. It is recommended that teachers employ all possible methods including use of photos, models and even mud to demonstrate the work of ice on the earth's surface.

Question 10

(a) The diagram below shows a breaking sea wave.



- Name the parts labelled **H**, **J** and **K**.
 - What is a backwash?
- (b) Describe **three** processes of wave erosion along the coast.
- (c) Explain how the following factors influence wave deposition:
- gradient of the shore;
 - depth of the sea.
- (d) Using well labelled diagrams, describe how a bay bar is formed.

To be able to answer this question adequately, candidates were expected to have sufficient knowledge of the processes involved in the formation of some coastal features and the appearance of some of them.

Weaknesses

Performance on this question was fairly poor. Candidates displayed limited knowledge on coastal features and the processes involved in their formation. As a result, all parts of the question were poorly answered. However, the part that recorded the worst performance was part (d) of the question where candidates were expected to draw diagrams. Many were not aware of what to draw, meaning that they did not know what a **bay bar** is and the processes involved in its formation.

Expected Responses

(a) (i)

H: Trough.

J: Crest.

K: Swash.

(ii) It is the return flow of water down the beach to the sea after a wave has broken.

(b)

- **Abrasion/ corrasion:** Rock fragments carried by waves are used as a tool to grind against the cliff face as the waves break. Rock fragments carried by the backwash erode the sea floor.
- **Solution/Corrosion:** The solvent and chemical action of the sea water weakens and removes the soluble minerals that are found in the cliff/sea floor especially where there are limestone rocks.
- **Hydraulic action:** The swash/breaking waves hit against the cliffs shattering the rocks. The force of breaking waves compress air into the cracks/joints in the cliff face. This enlarges the cracks and parts of the rocks may break off.
- **Attrition:** Particles that are carried by waves are constantly colliding against each other. This wears them into smaller sizes.

(c) (i)

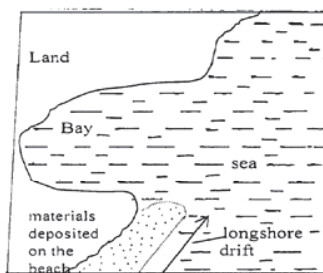
Gradient of the shore

- A shore with a gentle gradient reduces the velocity/speed of the flow of the backwash causing the waves to deposit the load on the shore.
- Where the shore is steep, the velocity/speed of flow of the backwash will be moved from the shore back into the sea. There will be little or no deposition at the shore.

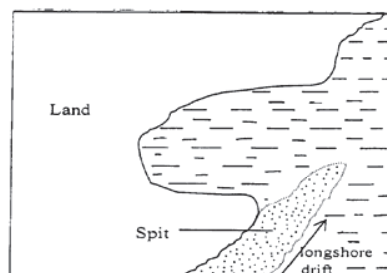
(ii) **Depth of the sea**

- Shallow water causes waves to break thus encouraging deposition.
- Where the sea is deep, there is less deposition because the sea bed is not in contact with the waves carrying deposits.

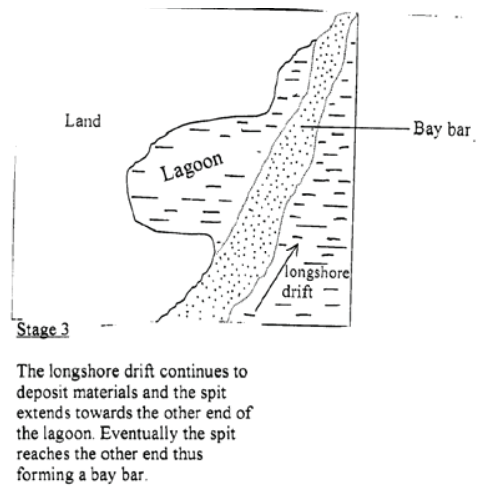
(d)



Stage 1
Longshore drift deposits
Materials at the entrance
Of the bay



Stage 2
A spit forms at the entrance of the bay

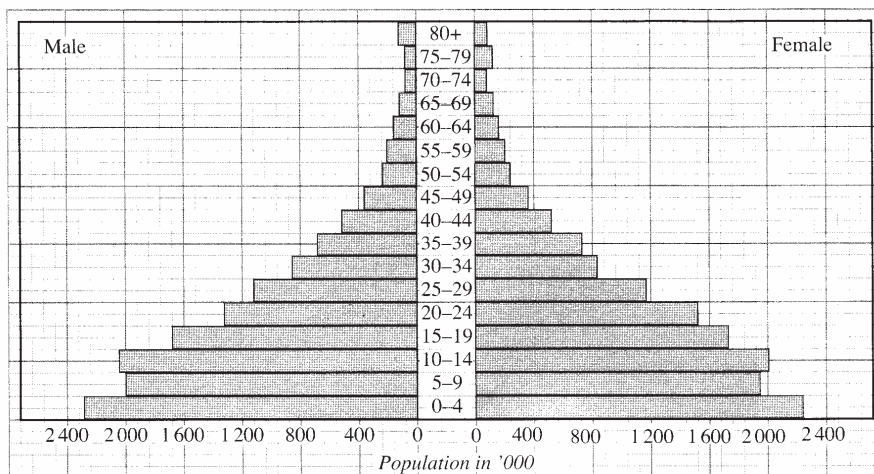


10.3 PAPER 2 (312/2)

Performance in this *paper (312/2)* was slightly better than in paper *1 (312/1)*. The questions in which candidates had difficulties were fewer. These were *questions 7 (a) (ii), 9 (c) and 10 (c)*.

Question 7(a) (ii)

The pyramid below represents population structure of Kenya.



Population by age and sex, 1999 (absolute values)

Describe the characteristics of the population as represented by the pyramid.

The question required that candidates to study the pyramid and derive the required features of the population from it. They could describe each bar on its own or group them where appropriate.

Weaknesses

Candidates were not able to interpret the graph appropriately. Some of the responses given were not corresponding to the graph. Some candidates wrote very little, while others avoided the question because they did not know how to answer it.

Expected Responses

- The number of males and females is almost equal at all ages.
- The aging population is low/from age 65 and above.
- The dependency ratio is high.
- The number of infants from age 0-4 is high/the population has a high birth rate.
- The middle age/working population is low.

Advice to Teachers

Teachers must use appropriate illustrations during teaching to make concepts clear. This would have helped candidates to interpret the graph correctly.

Question 9 (c)

Explain **five** problems facing sugarcane farming in Kenya.

This question required knowledge on sugarcane farming and the challenges that the farmers in Kenya face as they carry out the activity.

Weaknesses

The expectations were that candidates will score well since challenges related to sugarcane farming are unique. Candidates wrote about problems of farming in general and failed to dwell on just those in sugarcane farming. They also failed to explain but just listed the problems.

Expected Responses

- Pests such as *termites* and *white grub* and diseases such as *ratoon stunting* and *smut* attack the plants and lower the yields leading to low income for the farmers.
- Accidental fires/fires set by arsonists destroy the cane resulting in heavy losses to the farmers.
- Flooding of market by cheap imported sugar results in lowering the prices for the locally produced sugar thus low profit margins for the farmers.
- Delays in harvesting reduces the quality and tonnage of the cane reducing the farmer's earnings.
- Closure of some factories such as *Ramisi* and *Miwani* has deprived farmers of their source of income/annual closures of factories for servicing of machines disrupts the farmers' calendar of activities.
- Poor feeder roads in some areas leads to delayed delivery of the cane to the factory lowering the quality and subsequently the profit to the farmers.
- Prolonged droughts in some areas destroy the crop leading to heavy losses.
- High cost of farm inputs reduce the farmers' profit margins.
- Mismanagement of factories and cooperatives leads to delayed payments thus discouraging the farmers.

Advice to Teachers

Crops that are listed for study in the syllabus should be learned in details. What is unique about

each crop should be noted. There is need to train the candidates on how to answer questions that require explaining.

Question 10 (c)

Explain why in East Africa, fresh water fishing is more developed than marine fishing.

Candidates needed to have learnt about factors that influence fishing and the distribution of fresh water and marine fisheries in East Africa to be able to respond to this question. The candidates' responses were also expected to have been supported by specific examples.

Weaknesses

Candidates had little knowledge of the distribution of fresh water and marine fisheries. They were not able to explain their answers.

Expected Responses

- There are numerous inland fishing grounds such as lakes and rivers which are accessible to many people.
- There is low demand for sea fish compared to fresh water fish making fresh water fishing more preferable.
- The narrow continental shelf along the coast of East Africa limits the growth of plankton thus limiting the breeding of fish/limiting the variety of edible fish.
- The stiff competition in the open sea from the industrialized countries whose fishermen use modern fishing equipment discourages local fisherman.
- The limited technology and inadequate capital make it difficult to develop marine fishing.

Advice to Teachers

Teachers must ensure that students are familiar with terms used in Geography and are able to distinguish between marine and fresh water fisheries. Distribution of fisheries should be taught using map illustrations.

10.4 GENERAL COMMENTS

- 10.4.1 Revision work on areas where performance is always poor should be taken very seriously to give students sufficient practice. For map work, this should be a must.
- 10.4.2 Teachers must read widely bearing in mind that Human and economic Geography is a dynamic subject that requires them to be well informed especially on emerging issues. They should read newspapers regularly and where possible check for information from sources like the internet and magazines. They should avoid sticking to old text books that are likely to have outdated information.
- 10.4.3 Teachers should train the students to avoid using a generalized approach to answer questions that are based on case studies. They should also train them on how to write complete answers on questions that demand explanations.

11.0 CHRISTIAN RELIGIOUS EDUCATION (313)

The year 2008 KCSE Christian Religious Education syllabus was examined in two papers. *Paper 1 (313/1)* examined the *Old Testament* and *Traditional African Religious Heritage* while *paper 2 (313/2)* tested aspects of the syllabus in the *New Testament* and *Contemporary Christian Living*. Each of the papers had a total of six essay structured type