THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
NATIONAL EXAMINATIONS COUNCIL OF TANZANIA

CANDIDATES' ITEM RESPONSE ANALYSIS REPORT ON THE CERTIFICATE OF SECONDARY SCHOOL EXAMINATION (CSEE) 2021

GEOGRAPHY

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013 GEOGRAPHY

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FOREWORD

The Candidates' Item Responses Analysis (CIRA) report for Geography subject on the Certificate of Secondary Education Examination (CSEE) 2021 aimed at providing feedback to secondary school candidates, teachers, educational policy makers, parents and other educational stakeholders on the candidates' performance. It also shows how well the instructional goals and objectives were met.

The Certificate of Secondary Education Examination (CSEE) marks the end of four years of Ordinary secondary education. It is a summative evaluation which, among other things, assesses the effectiveness of general system of education and the mode of education delivery in Tanzania's secondary schools.

In this report, reasons for poor, average and good performances are identified. The analysis shows that the candidates with good performance provided appropriate responses. This suggests that they were able to identify the demand of each question, had enough knowledge on the subject matter, had adequate drawing and mathematical skills, as well as proficiency in English Language. Candidates who scored low marks lacked those attributes. The analysis of each question shows the strengths and weaknesses of the candidates in responding to the questions. In this report, the analysis of each question is supported by statistical figures and graphs.

The National Examinations Council of Tanzania believes that, this report shall serve as a basis for enabling all educational stakeholders to take proper measures in order to improve candidates' performance in this subject in future examinations. The Council would like to thank all Examination Officers and other individuals who provided valuable assistance in the preparation of this report.

Dr. Charles E. Msonde
EXECUTIVE SECRETARY

1.0 INTRODUCTION

This report is based on the analysis of the performance of candidates in the Certificate of Secondary Education Examination (CSEE) 2021.

The CSEE Geography paper consisted of ten (10) questions which were categorized into three sections namely; A, B and C. Sections A and B had seven (7) compulsory questions, while section C consisted of three (3) questions in which the candidates were required to choose two questions. The candidates were required to attempt a total of nine (9) questions.

The analysis of performance in individual items is presented by the percentages of those who attempted the question and those who scored various marks. The focus is on the percentage of candidates with high, average and low marks. Extracts of responses from the candidates scripts are presented to show how they responded in view of the demands of the questions.

In this report, three categories of performances are expressed. The performance is good if the candidates scored from 65 to 100 per cent, average if they scored from 30 to 64 per cent and weak if they scored from 0 to 29 per cent. The colours that indicate these categories are green for good performance, yellow for an average performance and red for weak performance. Tables, graphs and charts have been used to summarize the candidates' performance in percentage for specific questions. Appendix I shows comparison of the candidates' performance in percentage for the CSEE 2021 in terms of topics and questions.

A total of 483,641 candidates sat for Geography Examination (CSEE) in 2021 of which 292,830 (60.55%) passed and 190,811 (39.45%) failed. In 2020, the candidates who sat for Geography Examination (CSEE 2020) were 434,516, of which 234,217 (53.90%) candidates passed. This shows that, the rate of the candidates' performance in this year has increased by 6.65 percent as compared to the 2020 results.

Finally, the report provides a conclusion, recommendations and the appendix which shows the percentages of the candidates who scored 30 marks and above in each topic as well as the figure which shows percentage of performance in each topic. It is expected that the report will be useful to education stakeholders and it will enable teachers and future candidates to improve the teaching and learning processes in Geography subject.

2.0 ANALYSIS OF CANDIDATES' PERFORMANCE IN EACH QUESTION

2.1 SECTION A: OBJECTIVE QUESTIONS

There were two compulsory questions in this section. Question 1 consisted of 10 multiple choice items with a total of 10 marks and question 2 consisted of 5 matching items with a total of 05 marks.

2.1.1 Question 1: Multiple Choice Items

The question consisted of 10 multiple choice items from the following topics: *The Solar System, Soil, Human Population, Environmental Issues and Management, Sustainable use of Forest Resources, Sustainable Tourism, Weather, Sustainable Mining and Sustainable use of Power and Energy Resources.* The candidates were required to choose one correct answer from the four alternatives given, A to D.

The question was attempted by 486,362 (100%) candidates. About 135,060 (27.77%) candidates scored from 0 to 02 marks, 306,255 (62.94 %) scored from 03 to 06 marks and 45,047 (9.26%) scored from 07 to 10 marks. Figure 1 illustrates the percentage of candidates' performance for question 1.

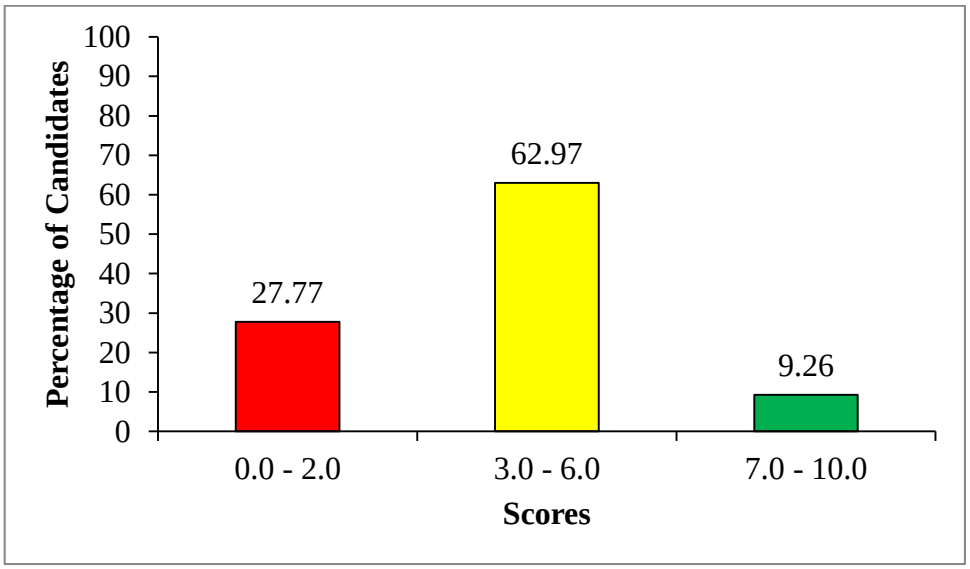


Figure 1: *The Percentages of Candidates' Performance for Question 1*

Generally, the performance for this question was good since 351,302 (72.2%) of the candidates scored from 03 to 10 marks. This performance indicates that, most candidates had adequate knowledge and skills on the concepts tested.

Item (i) required the candidates to identify the planet with the shortest orbit in the solar system. The candidates who chose the correct answer 'B' *Mercury* had the knowledge about the arrangement of planets in the solar system in relation to the distance to the Sun. Those who opted for other alternatives 'A' *Pluto*, 'C' *Mars*, 'D' *Earth* and 'E' *Venus* had inadequate knowledge of solar system, particularly the orderly arrangement of the planets.

Item (ii) required the candidates to identify the type of soil erosion, which cause the uniform removal of top thin layer of the soil by running water. The candidates who chose the correct answer 'C' *sheet erosion* were knowledgeable on the subtopic of erosion and deposition caused by the running water. The candidates who opted for the distractors 'A' *splash erosion*, 'B' *gully erosion*, 'D' *rill erosion* and 'E' *wind erosion* had limited knowledge of the main ways of soil erosion that are caused by running water.

Item (iii) required the candidates to justify the implication of concave population structure in Tanzania. The candidates who opted for alternative 'A' *birth rate is high, low life expectance and high death rate* had good knowledge of the characteristics and structure of population for the developing countries. Those who opted for the distractor 'B' *low birth rate, high life expectance and stable growth rate* had insufficient knowledge or understanding of the term concave in relation to the population structure. Those who opted for alternative 'C' *birth rate is high, high infant mortality rate and high death rate*, failed to understand that the shape of such population characteristics does not implicate concave shape of the population. The candidates who opted for distractor 'D' *birth rate is low, low infant mortality rate and high death rate*, failed to understand that for the population structure to be concave there must be high birth rate and low life expectancy. Those candidates who chose distractor 'E' *birth rate is high, high life expectance and stable growth rate* had limited knowledge on the concept of the shape of the population

structure. Normally population with high birth rate, high life expectancy and stable growth does not illustrate the concave shape of population structure of Tanzania.

Item (iv) demanded the candidates to identify human activities which do not cause environmental destruction in Maisha village. The candidates who chose the correct answer 'A' *afforestation* had adequate knowledge of environmental conservation, particularly on the ways of conserving environment. Those who chose alternatives 'B' *charcoal burning,* 'C' *lumbering,* 'D' *firewood cutting* and 'E' *construction activities* had inadequate knowledge of environmental problems particularly on the ways of conserving the environment.

Item (v) required the candidates to identify the type of forest, which is dense and develops in areas with rainfall throughout the year. The candidates who chose the correct answer 'C' *Tropical forest* revealed to have a good knowledge of the types of forest in the world with their descriptions. The candidates who opted for distractor 'A' *Mangrove* forest were not knowledgeable of the characteristics of Tropical forests as Mangrove forest develop in saline soil with moderate rainfall and shrubs. Those candidates who chose alternative 'B' *Coniferous forest* had poor understanding of the characteristics of this type of forest as it grows in areas with light rainfall and sparse trees. Those who opted for the distractor 'D' *Temperate forest* had poor knowledge of the types of forests. This type of forest grows well in areas with little rainfall and scattered trees. The candidates who chose response 'E' *Semi-arid forest* failed to understand that this type of forest grows well in areas with little rainfall.

Item (vi) demanded the candidates to identify the cause of time variation between Lamu 40^0 E and Tunis 10^0 E. The candidates who chose the correct answer 'A' *rotation of the Earth* had adequate knowledge on the concept of the solar system especially on types of Earth's movement particularly the effects of the rotation of the Earth. The candidates who opted for distractor 'B' *difference in longitudes* probably were attracted by the word *longitudes,* as differences in longitudes are used in calculating local time under the influence of Earth's rotation. Candidates who chose alternative 'C' *revolution of the Earth,* had limited knowledge

on the effects of Earth's rotation as *revolution causes seasons of the year, aphelion and perihelion, eclipses and changes in the latitude of the overhead Sun* and *varying lengths of day and night at different times of the year*. Moreover, candidates who opted for alternative 'D' *rotation and revolution* failed to distinguish the effects of the Earth's rotation and revolution. The candidates who chose option 'E' *difference in latitudes* failed to differentiate between latitudes and longitudes, as latitudes are not used to calculate time. On the other hand, some candidates might have been attracted by the numerals 40^0 E and 10^0 E because lines of latitudes are drawn West to East or East to West direction.

In item (vii), the candidates were required to identify the factors for promotion of ecotourism. The candidates who chose the correct answer 'C' *coastal attraction* had good knowledge of the ways of promoting eco-tourism. The candidates who opted for other alternatives 'A' *afforestation*, 'B' *protecting endangered species*, 'D' *environmental conservation* and 'E' *discouraging forest fire* had poor knowledge of the ways of promoting eco-tourism. Other candidates probably ignored the word *not* in the question, hence failed to get the correct option.

Item (viii) required the candidates to identify the factors that affect temperature between Tanzania and Netherlands. The candidates who chose the correct answer 'A' *altitude* had knowledge of the concept of elements of weather, particularly the factors affecting temperature of places. Those candidates who opted for other distractors 'B' *Solar System*, 'C' *the Sun*, 'D' *solar energy* and 'E' *heavenly bodies* had poor knowledge of factors affecting temperature. Tanzania and Netherlands are in different Geographical locations and temperature decrease with increasing altitude at the rate of 0.6^0C for every 10 metres.

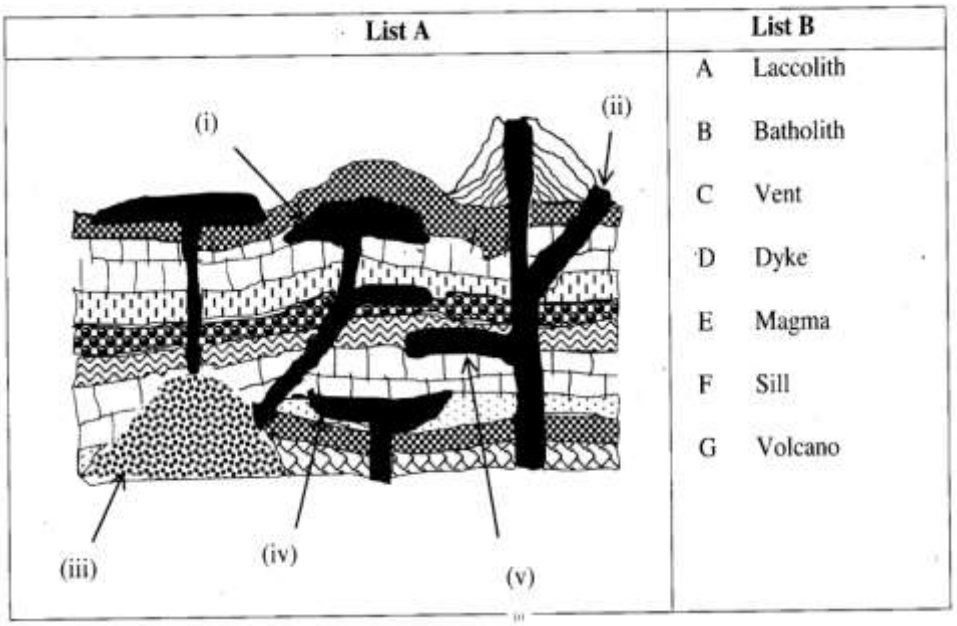
Item (ix) demanded the candidates to suggest the best alternative economic activities that can be opted by the Kahama people so as to improve their living standards after severe exhaustion of minerals. The candidates who chose the correct answer 'C' *reclaiming the affected areas for agriculture* had sufficient knowledge of the best ways of changing the mineral exhausted land. This is done by adopting other economic activities such as tourism, fishing, agriculture and others. The candidates who opted for alternative 'A' *improving methods of extraction*

did not understand the demands of the question. They were probably confused with the word '*mineral exhaustion',* while the question required alternative economic activities to be adopted by the people so as to improve their life standards. Those who chose 'B' *reducing population* probably they thought that reducing the number of people in the area could help them extract more minerals since there will be no scrambling and competition for mining. Those candidates, who chose option 'D' *developing other sources of energy,* possibly thought that adopting other sources of energy such as natural gas, coal and petroleum could help to improve their living standards. Other candidates chose 'E' *establishing industries*. These probably thought that establishing industries like processing and manufacturing could make other people join in industrial production so that only few could remain in the mining areas which could help people raise their living standards.

In item (x), the candidates were required to identify energy source which is environmental friendly in the plastic production industry. The candidates who chose the correct answer 'E' *solar* had sufficient knowledge of the sources of energy which are friendly to the environment. Some candidates opted for the distractor 'A' *Petroleum.* This could be because it is a common sources of energy used to generate electricity to drive engines. The candidates who chose alternative 'B' *nuclear* probably knew that it is one of the user friendly source of energy and releases much heat that is used to generate electricity. Some candidate opted for distractor 'C' *fuel wood* because it is one of the source of energy which is easily available and commonly used by most of people for different domestic purposes and to generate energy. Some candidates chose the distractor 'D' *coal* because it is used in various ways for example, *domestic heating, smelting of iron and steel, boiling of water and produce steam which is used to generate electricity.*

2.1.2 Question 2: Matching Items

This question was derived from the *Structure of the Earth* topic. The question consisted of 5 items in which the candidates were required to match the intrusive volcanic features observed in **List A** with their corresponding name in **List B** by writing a letter of the correct response beside the item number in the answer booklet provided.



The question was attempted by 486,356 (100%) candidates out of which 314,717 (67.40%) candidates scored from 0 to 01 marks, 128,435 (26.45%) scored from 02 to 03 marks and 43,204 (8.9%) scored from 04 to 05 marks. The general performance for this question was average because 171,639 (35.30%) candidates scored from 2 to 5 marks. Figure 2 shows the candidates' performance for question 2.

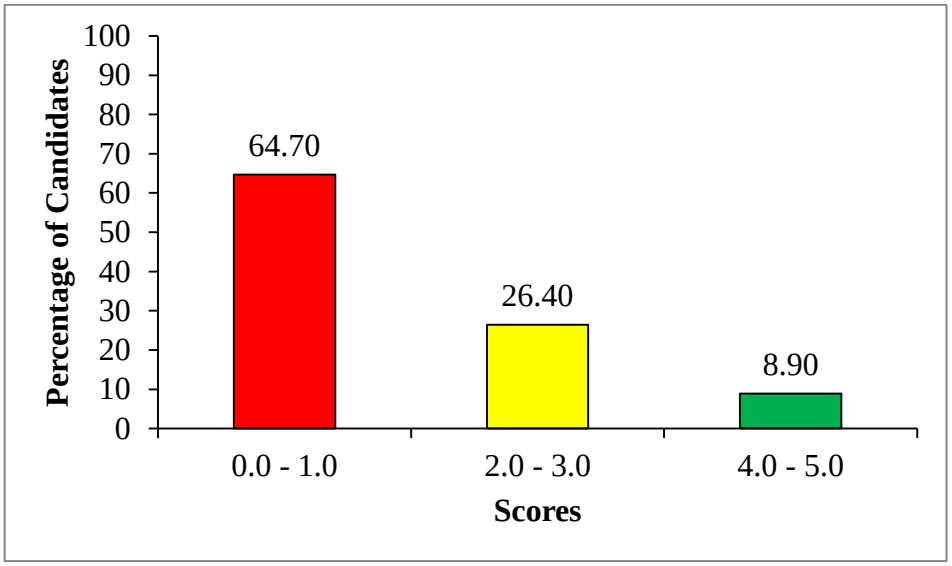


Figure 2: *The percentage of candidates' performance for Question 2*

In item (i), the candidates who chose correct answer 'A' *Laccolith* were aware of the shape of the feature and how it is formed. *Laccolith is a volcanic intrusive feature with a mushroom or umbrella like shape of solidified magma formed when a rock stratum is pushed up forming a dome shape.* Those candidates who chose the distractor 'B' *Batholith* failed to distinguish it with *Laccolith. Batholith is a very large mass of magma found deep into the interior of the crust, it forms the root or core of the other intrusive volcanic features or volcanic mountain.* Those who opted for alternatives 'C' *vent*, 'D' *dyke*, 'E' *magma*, 'F' *sill* and 'G' *volcano* revealed a weak understanding of the intrusive volcanic features.

In item (ii), the candidates who chose the correct answer 'D' *Dyke* had sufficient knowledge of the shape or structure of dyke. Dyke *is a mass of magma which cuts across the bedding plane or stand vertically forming a wall or block like feature*. The candidates who chose the distractor 'F' *Sill* failed to distinguish between *sill* and *dyke. Sill is formed when volcanoes erupts, cools and solidifies along, or lie horizontally along the bedding plane even though they are both formed nearly the surface (Hypabyssal intrusive features).* Those who opted for other distractors 'A' *laccolith*, 'B' *batholith*, 'C' *vent*, 'E' *Magma* and 'G' *Volcano* failed to identify the shape/structure of the Dyke.

In item (iii), the candidates who chose the correct answer 'B' *batholith* were aware of the intrusive volcanic features formed deep into the Earth's crust. This feature is formed as result of a very large mass of magma which cools and solidifies deep into the crust. It sometimes forms a root of the mountain (Plutonic volcanic features). Those candidates who chose the distractor *Laccolith* probably were confused with *batholith* as both have the same dome shape, but differ in places of occurrence. The candidates who chose distractors 'C' *vent*, 'D' *dyke*, and 'F' *sill* had limited knowledge of the formation of *batholith.* Those who chose other alternatives 'E' *magma* and 'G' *volcano* had inadequate knowledge and skills on the concept of intrusive volcanic features.

In item (v), the candidates who chose the correct answer 'F' *Sill* had adequate knowledge of the concept of intrusive volcanic features. Those candidates were able to distinguish between *sill* and *dyke. Sill is a horizontal mass of magma which lies horizontally along the bedding*

plane, while *Dyke is a vertical mass of magma that cuts across the bedding plane.* The candidates who chose distractors 'A' *laccolith* and 'B' *batholith* had poor knowledge on the concept of intrusive volcanic features as well as those who chose alternatives 'C' *vent*, 'E' *Magma* and 'G' *volcano*. In reality, *vent is an outlet where magma passes through it*. *magma is the molten rock that reaches into the earth's crust* and a *volcano occurs if lava emerges via a vent is build up.*

2.2 SECTION B: SHORT ANSWERS QUESTIONS

This section consisted of five compulsory questions set from the following topics: *Map reading and Interpretation, Forces that Affect the Earth's Surface, Introduction to Research, Elementary Survey and Map Making* and *Photograph Reading and Interpretation.* Each question carried 11 marks, making a total of 55 marks.

2.2.1 Question 3: Map Reading and Map Interpretation

This question required the candidates to study carefully the map extract of Mbeya (sheet 244/4) provided and answer the questions given in part (a) to (e). The questions were: *(a) With supporting evidence from the map, describe two methods used to represent relief on the mapped area, (b) By giving evidence from the map, name four social economic activities carried out in the area, (c) Calculate the area covered by the forest using the square method in* Km^2 *and (d) By giving evidence from the map, describe three main types of transport found in the mapped area.*

The question was attempted by 486,361 (100 %) candidates of which 168,942 (34.7%) scored from 0 to 03 marks, 218,232 (44.9%) scored from 3.5 to 07 marks and 99,187 (20.4%) scored from 7.5 to 11 marks. The general performance of the candidates in this question was good as 317,419 (65.3%) candidates scored from 3.5 to 11 marks. Figure 4 illustrates the candidates' performance for this question.

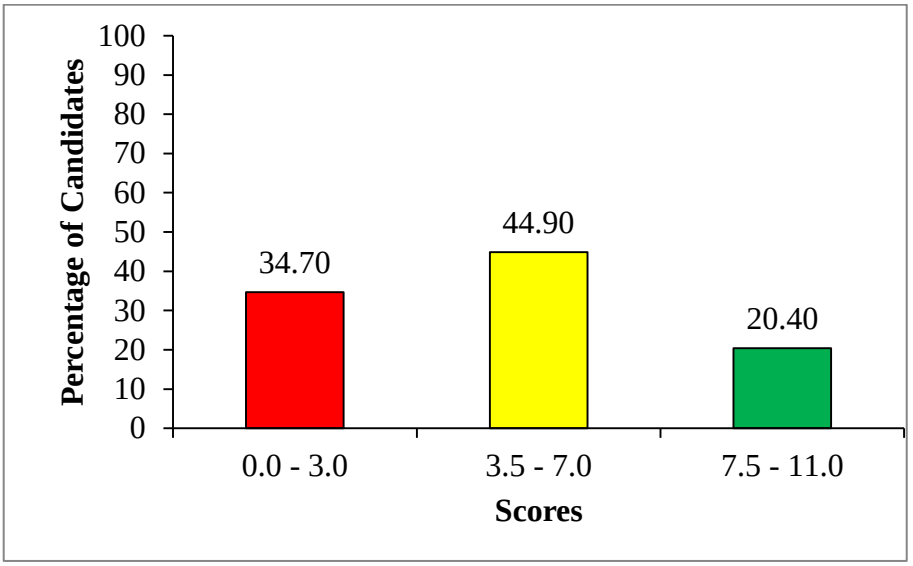


Figure 3: *The percentage of candidates' performance for Question 3*

The candidates who scored from 7.5 to 11 marks had adequate knowledge and skills on the concepts of *Map Reading and Interpretation*. In part (a), they wrote the correct answers which are; *contour method, spot height (at grid 427184, 525087)* and *hachures around grid reference 417148*. They correctly wrote the methods of representing relief on the map.

In part (b), the candidates provided correct answers; *tourism activities, sport activities, education activities, health services, religious activities, trading activities* and *agriculture activities.* Those candidates had adequate knowledge of social -economic activities that were done on the mapped areas.

In part (c), the candidates showed clearly procedures of calculating the area of forest using square methods in Km^2. In addition, they had adequate mathematical skills on map measurements because they were able to;

(i) Identify the full squares covered by forest = 01
(ii) Identify the incomplete squares 08 /2 = 04
(iii) Find the total of full and half squares 01+04=05
By using RF scale given
1cm = ½ km

Then 2cm = 1km
Area of one square = 1km x 1km = 1km^2
Total area = 1km^2 x 05 = 05 km^2
Hence, the total area of the Mbeya forest is 05 km^2

In part (d), the candidates described the three main types of transport found in the mapped area; *air transport at grid 502142* and *515139, land transport (Railway transport at grid 410153 to 540128* and *Road transport at grid 410125 to 540151)* and *pipeline transport from grid 410106 to 540138*. The candidates had good knowledge and skills of observing and identifying the types of transport systems on a given topographical map. Extract 3.1 represents a sample of such good responses.

3 (a) (i) Contouring methods or contours : these are the imaginary lines drawn on the map to show the places with the same height. In Mbeya map contours are evidenced all over the map.

(ii) Hachures : these are imaginary lines showing the direction which slope faces. In the map hachures are evidenced at TAZARA railway in the western side.

(b) Social economic services evidenced from the map are

(i) Education thus is evidenced by the presence of Mlabatini school, Ibuli school found in the southern of the map and Nyaventwa school found in the northern part of the map

(ii) Health services thus is evidenced by the presence of Mlabatini hospital and Mbeya hospital found in the north-east part of the map

(iii) Religious services thus is evidenced by the presence of Jisimba church and Ibuli church found in southwest part of the map.

(iv) Transport and communication thus is evidenced by the presence of TAZARA railway and all weather road found in the map.

(v) Tourism thus is evidenced by the presence of MBEYA FOREST RESERVE found in the central part of the map

c)

$$\text{Area} = \text{Complete squares} + \frac{\text{Incomplete squares}}{2}$$

$$= 1 + \frac{8}{2} \quad \frac{10}{2}$$

$$= 1 + 4 \quad 5$$

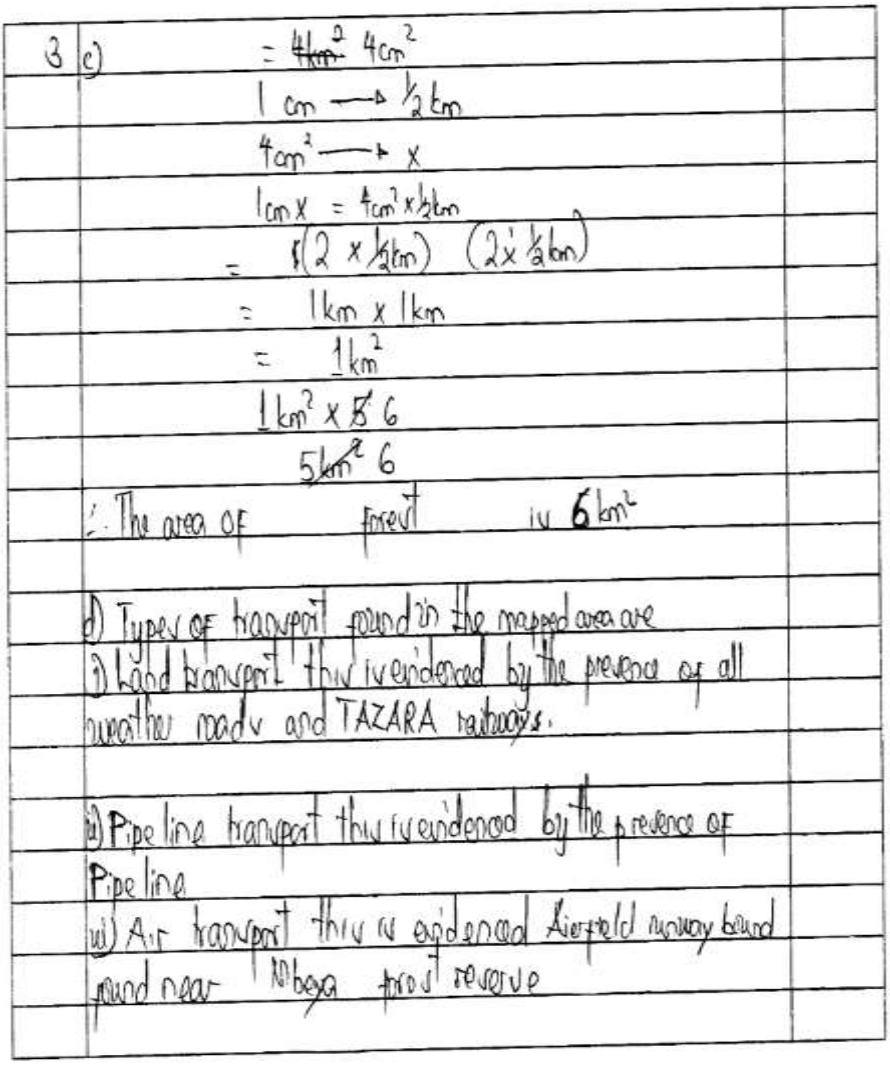
$$= 5 + 1 = 6$$

From the scale 1:50000

1cm represent ½km

Area of the square = side x side

= 2cm x 2cm



Extract 3.1: A sample of the correct response for question 3

The candidates who scored from 3.5 to 07 marks had moderate knowledge and skills on the concepts of *Map Reading and Map Interpretation*. In part (a), some candidates mixed up correct and incorrect responses while, others provided only one method that is used to represent relief instead of two. For example, one candidate wrote *contour method* and *form lines method,* while another candidate mentioned *spot height* and *trigonometric method.* It seems that these candidates had good knowledge of the methods of showing relief on the map, but failed to identify the methods used to show relief on the given map as *form lines* and *trigonometric methods*.

In part (b), some of candidates mentioned the correct social economic activities that were carried out in the area without giving evidences from the map. Furthermore, other candidates mixed up correct and incorrect responses, while others were able to mention few social-economic activities taking place in the area. instead of four. For example, one candidate wrote *education services, trading activities* and *mining activities,* while another candidate mentioned *tourism activities, health services and quarrying activities.* These responses indicate that, the candidates had knowledge of the activities taking place on the mapped area, but failed to respond according to the given map as *mining activities and quarrying activities* were not included.

In part (c), some candidates who failed to get full marks in this part were not able to provide correct steps of calculating areas in km^2. For example, one candidate was able to show steps of calculating the area, but failed to compute in km^2. Most candidates were not able to follow the correct steps of calculating the area on the mapped area. For example, one candidate identified:

(i) full squares covered by forest = *01*
(ii) incomplete squares as *08 /2 = 04*
(iii) total of full and half squares as *01+04=05*

Moreover, the candidate failed to convert the data obtained by using RF scale given.

In part (d), some candidates provided the types of transport without giving evidence, from the map, while others mixed correct and incorrect responses. For example, one candidate wrote *land transport, air transport* and *water transport,* while others mentioned means of land transport. The other candidate for example wrote means of land transport such as *roads* and *railways,* instead of the types of transport. This revealed that the candidates failed to differentiate the types from means of land transport.

The candidates who scored from 0 to 03 marks failed to give correct responses due to insufficient knowledge and skills on the subject matter, and failure to identify the demands of the question.

In part (a), some candidates mentioned the ways of locating places, while others mentioned relief features observed on a given map. Their responses showed that they misconceived the question demands. For example, one candidate wrote methods of showing position of a place as *grid reference, latitudes and longitudes, bearing* and *direction.* Another candidate mentioned relief features such as *mountains, plateaus, plains, hills,* and *rivers,* instead of *contour method, spot height* and *hachures.*

In part (b), some candidates provided either economic or social activities only taking place on the map. For example, one candidate wrote economic activities such as *transport and communication, mining industry, lumbering, trading* and *fishing.* Another candidate mentioned social activities such as *education activities, health services, health services* and *religious activities.* This indicated that they failed to distinguish between social and economic activities.

In part (c), some candidates failed completely to calculate the area due to limited knowledge of the procedures and mathematical skills. Others identified full and incomplete squares but failed to complete the procedures in calculating the area covered by forest in km^2. For example, one candidate wrote;

(i) Full squares = 01
(ii) Incomplete squares = 08

Another candidate managed to follow all the steps, but ended up with incorrect area. He/she wrote;

(i) Full squares covered by forest = 0
(ii) Incomplete squares 09 /2 = 4.5
(iii) Total of full and half squares 0+4.5=4.5
By using RF scale given
1cm = ½ km
Then 2cm = 1km
Area of one square = 1km x 1km = 1km^2
Total area = 1km^2 x 4.5 = 4.5 km^2
Hence, the total area of the Mbeya forest is 4.5 km^2

In part (d), some candidates were not able to describe the main types of transport on a mapped area. This was due to limited knowledge of identification of transport system found on the mapped area. For example, one candidate mentioned *lake, oceans, dams, seas* and *animal transport.* Another candidate wrote; *rivers, oceans* and *lakes*. Extract 3.2 shows incorrect responses for question 3.

3 a) Method used to describe the relief on the map area are.

i) Low land

The low land evidenced by natural vegetation which are plantation (coffee C, Palm sisal, sugar Sea, wattle

ii) high land evidenced by contours example Kaiuwe mountain,

c) Calculate the area covered by the forest using squre method.

Full squre + half squre / 2

from 2' + 7/2

8/2 = 4

Sm² = 4

1cm² = 0.5 Km²

4 =

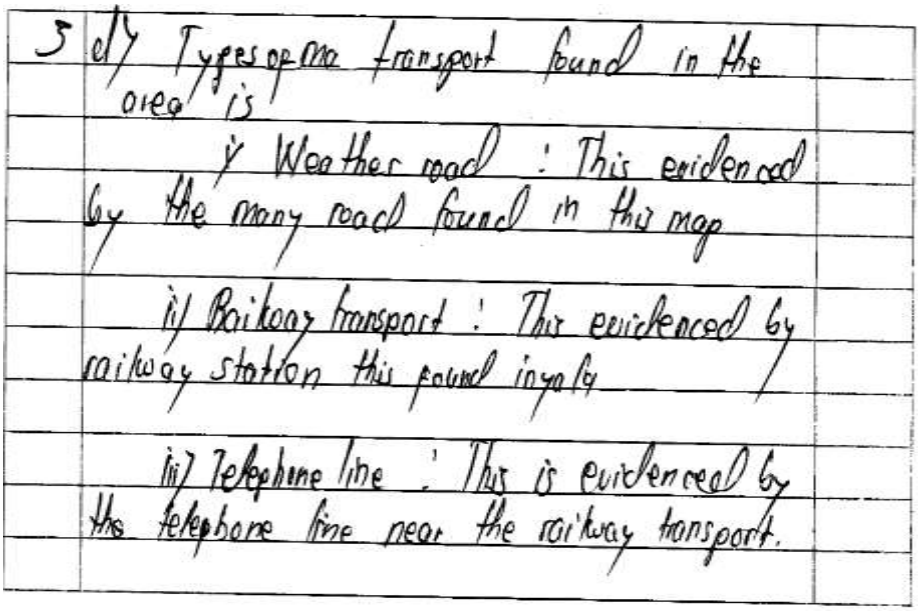
4cm × 0.5 Km / 1cm

0.5

× 4

20 Km²

The answer is 20 Km²



Extract 3.2: A sample of incorrect response for question 3

In Extract 3.2, (a) the candidates explained relief of the area instead of describing two methods that are used to represent relief on the mapped area, (c) he/she provided wrong complete and incomplete squares and ended up with wrong area of the forest. In part (d) the candidate described weather road, railway transoprt and telephone line as three main types of transport found in the given map, instead of types of transoprt found in the area which are air and land transport systems.

2.2.2 Question 4: Forces that Affect the Earth's Surface

The question given was: *The form One candidates carried a study tour to Hale Hydroelectric Power Station where they observed falling water in a river course disturbed by a wheel flow of water which cause the water wheel to rotate. (a) Name the feature with steep gradient the candidates observed, (b) describe the feature named in (a), (c) with the aid of a diagram, describe how the feature named in (a) can be formed where a layer of resistant rock lies horizontally across a river channel.*

The question was attempted by 486,333 (100 %) candidates of which, 474, 190 (97.50%) scored from 0 to 03 marks, 10,604 (2.2%) scored from 3.5 to 07 marks and 1,539 (0.3%) scored from 7.5 to 11 marks.

The performance of the candidates in this question was weak because only 12,143 (2.5%) scored from 3.5 to 11 marks. Figure 4 illustrates the candidates' performance for this question.

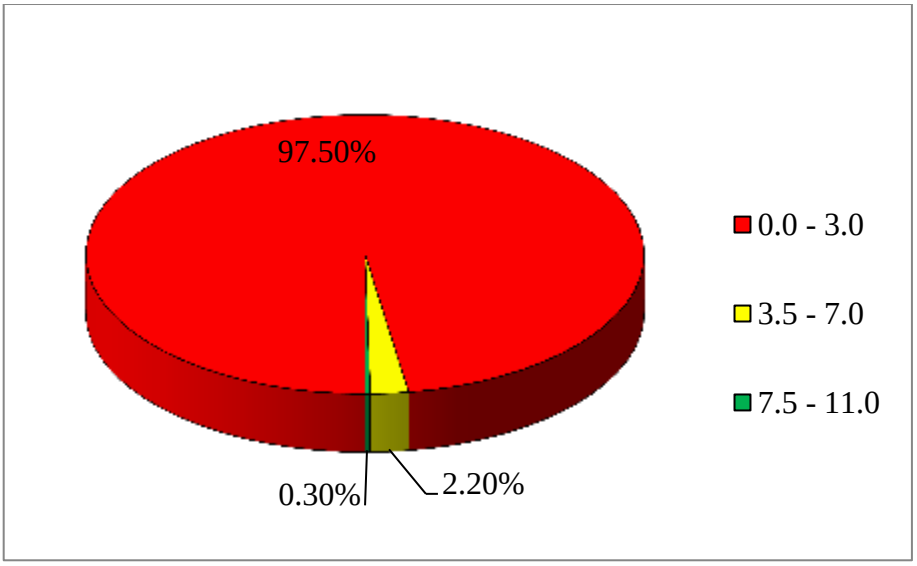


Figure 4: *The Percentage of Candidates' Performance for Question 4*

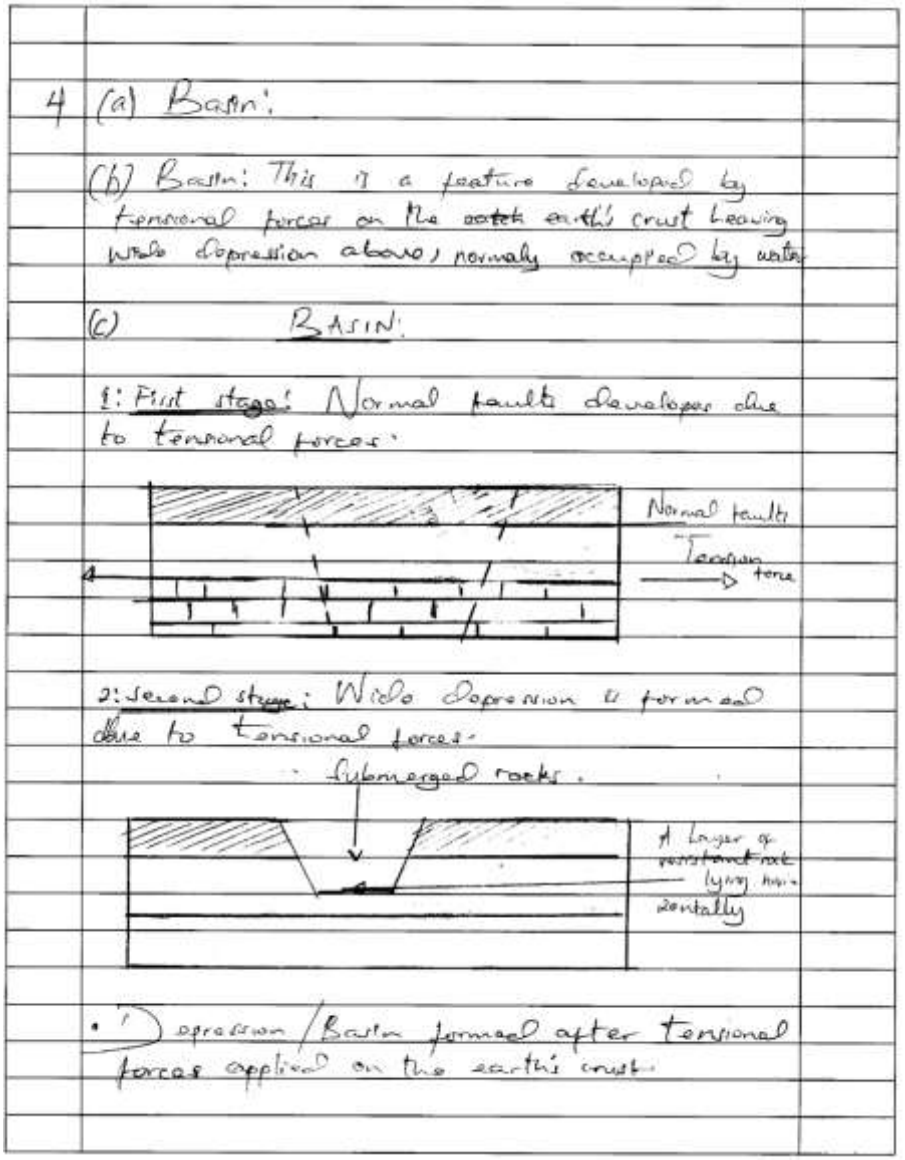
The candidates who scored 0 to 03 marks had inadequate knowledge of the subject matter, while others failed to understand the question demands of some parts of the question.

In part (a), the analysis showed that, the majority of candidates misconceived the question demands hence they provided incorrect responses. Some of the incorrect answers provided by the candidates were; *valley, basin*, *depressio*n, *youth stage*, *rapids*, *ox bow lake* and *river flow*. Some candidates had insufficient knowledge of the features which develop on a steep gradient of a river course which cause water to wheel, or rotate hence they skipped this part of the question. Furthermore, some candidates showed poor English Language proficiency. For example, one of the candidates wrote *water folls,* and the other one wrote *maporomoko ya maji ya Hale* .

In part (b), some candidates failed to describe the features with steep gradient observed because they had insufficient knowledge on the topic. Incorrect responses provided by the candidates were; *a river* and *rapid, lake* and *pond.* In part (b), they described a river as*; a large volume of water which flow from the source to the mouth* and

rapids *is a fast descent or downpour of water on a steep slope without waterfall.* This candidate failed to differentiate between river and *waterfall*.

In part (c), the majority of candidates had inadequate knowledge of the formation of waterfall over horizontal hard rock lying across a river channel. As a result they provided incorrect descriptions and diagrams. Those candidates explained and drew diagrams of other features such as *rift valley, block mountain*, and *fold mountains* contrary to the demand of the question. Extract 4.1 shows incorrect responses for question 4.



Extract 4.1: A sample of incorrect response for question 4

In Extract 4.1, the candidate failed to meet the demands of the question. In part (a), he/she named the feature as *Basin*, in part (b) he/she described basin, while in part (c) he/she described the formation of *Basin* with an aid of diagrams, instead of explaining the formation of Water fall where a layer of resistant rock lies horizontally across a river channel.

The candidates who scored from 3.5 to 07 marks provided correct answers in some parts of the question because they had moderate knowledge of *Forces that Affect the Earth's Surface* topic. However, there were variations in the quality of their responses, which resulted into disparity of the individual scores.

In part (a), some candidates mixed correct and incorrect responses and scored average marks. For example, some of them wrote *Waterfall* and others failed. Others misconceived the question and described a waterfall instead of naming the feature.

In part (b), some candidates provided inadequate explanations of the *water fall,* while others gave the name of a feature as a waterfall, instead of describing it. Example of inadequate descriptions provided by those candidates were: *Water fall is a sharp water in river; water fall is a sharp break of water; water fall is a place where a river has a very sharp flow.*

In part (c), some candidates mixed correct and incorrect responses. Some provided responses with insufficient explanations while others failed to provide correct responses. For example, one candidate wrote correct and incorrect procedures of the formation of water fall as: *the river velocity increases as it flows over resistant rock layer, the less resistant rock is eroded factor than resistant rock* and *fast flow of water breaks the valley.*

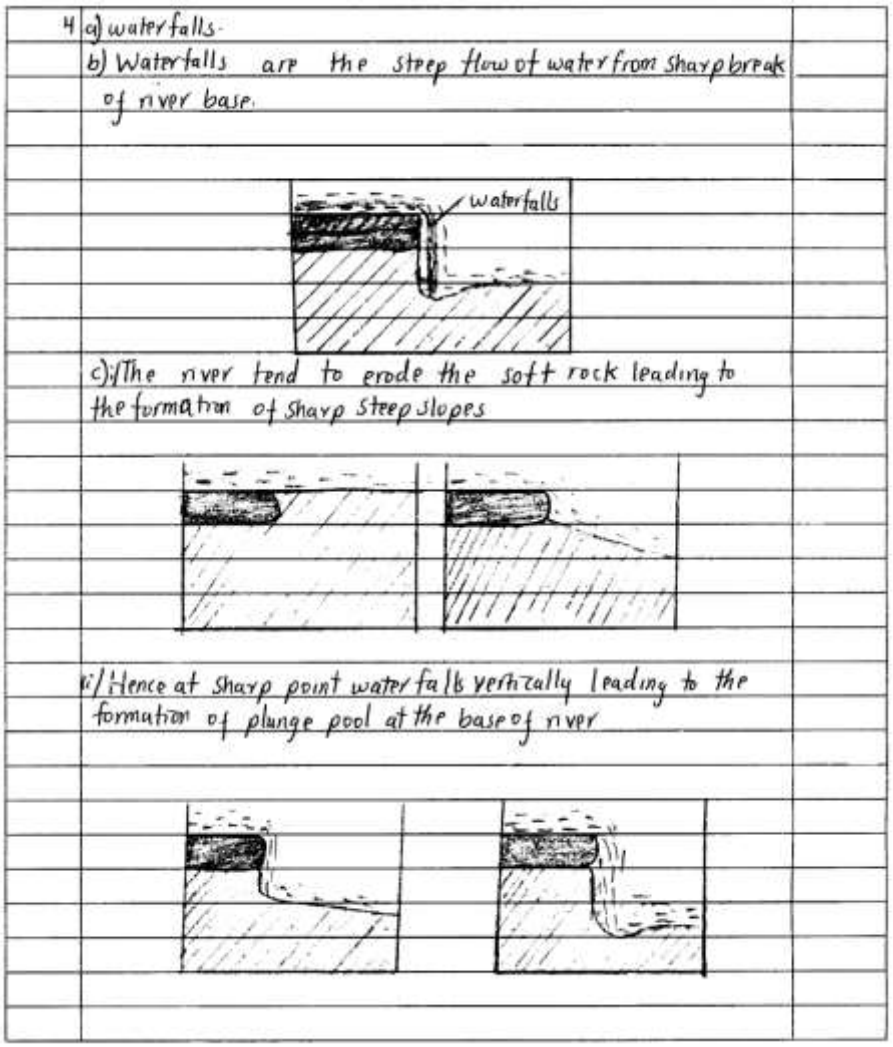
The candidates who scored from 7.5 to 11 marks had adequate knowledge of the topic of the *Forces that Affect the Earth*'s *Surface*. Their marks varied because of the strengths and weaknesses of their responses. In part (a), the candidates named the feature observed as *Waterfall.* Those candidates were aware of the feature produced by river erosion where there is a steep flow of water in a river channel.

In part (b), the candidates described the feature named in (a), as; *Waterfall is a place in the river course where the river bed has a sharp edge breaking in its gradient, making it vertical or nearly vertical*

In part (c), the candidates described the formation of waterfalls where a layer of resistant rock lies horizontally across the river channel with the aid of a diagram. For example, one candidate explained the formation of water fall as follows;

(i) The river velocity increases as it flows over resistant rock layer.
(ii) The less resistant rock on the downstream side is eroded faster than the resistant rocks resulting in steepening of the river bed.
(iii) The valley is deepened and a water falls is formed.

Extract 4.2 illustrates correct responses for question 4.



Extract 4.2: A sample of correct response for question 4.

2.2.3 Question 5: Introduction to Research

The question given was: *Juma decided to carry out a research on the performance of candidates in his school using few candidates who represented others.* (*a) How is the process used by Juma to select the representatives called? (b) Briefly describe the process named in (a), (c) explain two main types of the process named in (a) and (d) mention four categories of one type of the process explained in (c).*

The question was attempted by 486,357 (10 %) candidates of which 378,108 (77.7%) scored from 0 to 03 marks, 73722 (15.20%) scored from 3.5 to 07 marks and 34,527 (7.10%) scored from 7.5 to 11 marks. The performance of the candidates for this question was weak as only 22.30 percent of them scored 3.5 to 11 marks. Figure 6 illustrates the candidates' performance for this question.

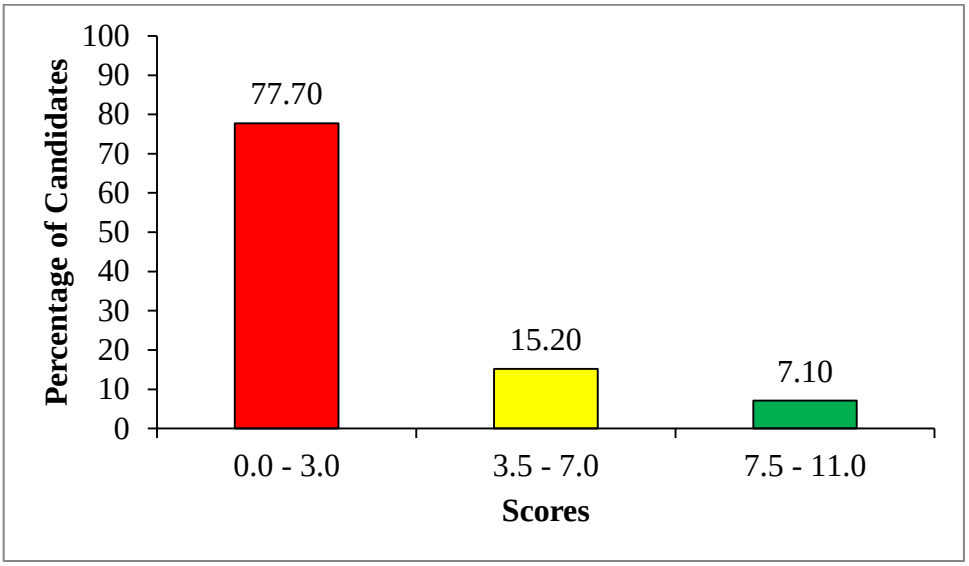


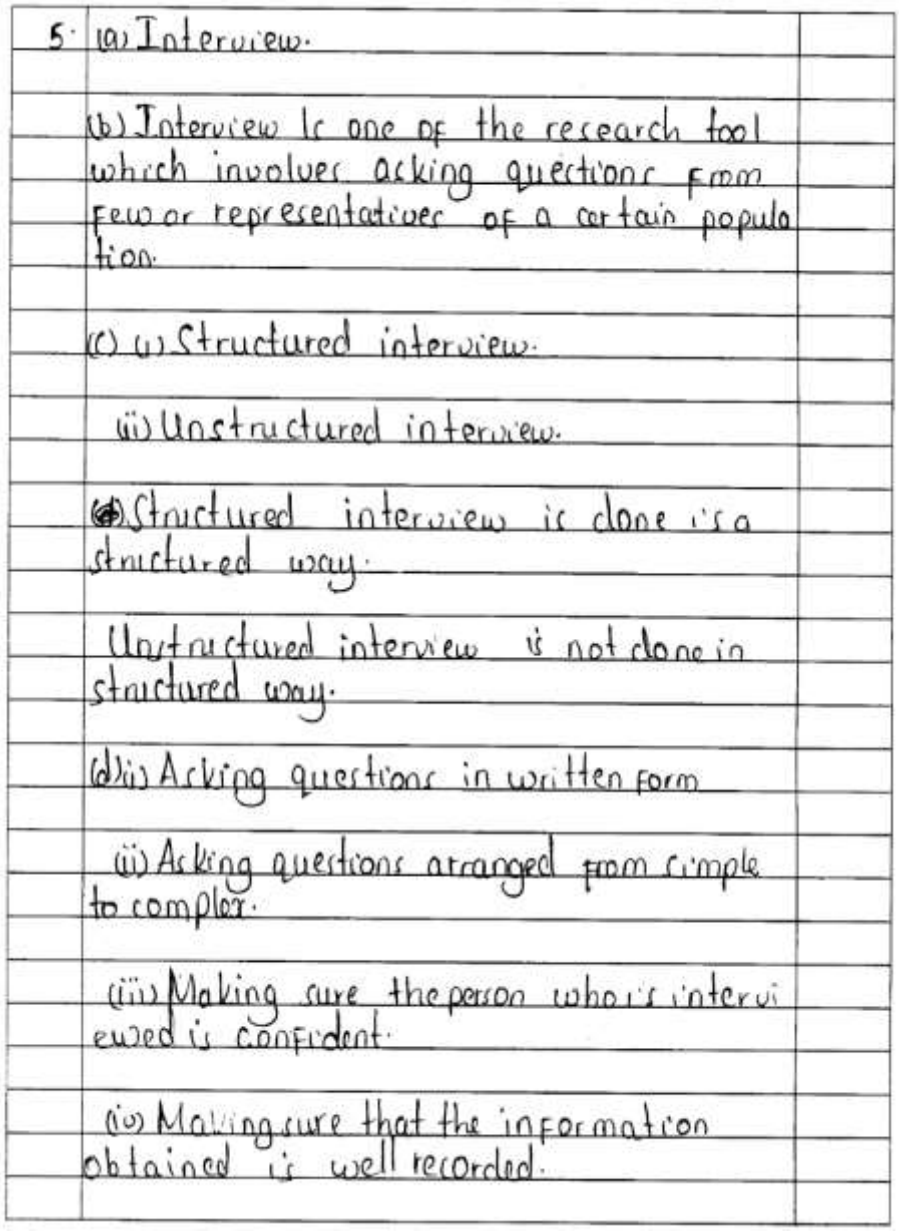
Figure 5: *The Percentage of Candidates' Performance for Question 5*

The candidate who scored 0 to 03 marks had inadequate knowledge of the topic of *Introduction to Research*, especially on the types sampling techniques. In part (a) few candidates provided the correct process as *sampling*, while others failed to name the process used by Juma to select the representatives. For example, one candidate wrote *systematic sampling* while another one mentioned *purposive sampling*. Another candidate wrote *field research* instead of sampling.

In part (b), majority of candidates described inadequately the process named in (a), while others provided incorrect responses. For example, one candidate provided incorrect description of sampling as *sampling is the systematic and scientific study of various phenomena for different purposes*. Another candidate described sampling as *systematic, study of research.*

In part (c), some candidates failed to explain the two main types of sampling process, while others explained the forms of sampling process. For example, one candidate wrote *systematic sampling* and *accidental sampling*. This candidate was aware of the sampling techniques, but failed to identify the two main types of sampling. Another candidate mentioned the methods of collecting data such as *observation, interview, questionnaire* and *focus group discussion*, instead of explaining the two main types of sampling process.

In part (d), some candidates were not able to mention the four categories of either probability or non-probability sampling. For example, one candidate mentioned the types of research such as *basic research, qualitative research and quantitative research.* The other candidate mentioned *empirical research.* while another one mentioned the types of questionnaires such as open-ended question, contrary to the demands of the question. Extract 5.1 is a sample of incorrect responses for question 5.



Extract 5.1: A sample of incorrect responses for question 5

In Extract 5.1, the candidate named the process as *an interview in part (a)*, described an interview in part (b), explained two main types of questions in an interview such as *structured* and *unstructured questions* in part (c) while in part (d) he/she mentioned conditions necessary for an interview instead of explaining about sampling process in all parts of the question.

In addition to that, the candidates who managed to score 3.5 to 07 marks had moderate knowledge of the topic of *Introduction to Research,* particularly on the types of sampling techniques. Those candidates differed in their scores due to the strengths and weaknesses of their responses. For example, in part (a) some of them named the process used by Juma to select the representative as *Sampling,* while others provided incorrect responses. For example, one candidate named *Samples* instead of sampling. This candidate failed to distinguish *sampling* from *sample*s; as *sampling is a process of selecting the participants or representatives informant from a given population to represent a large group* while *samples are the selected populations to be used in the study.*

In part (b), some candidates described correctly the sampling process, while others explained it inadequately. For example, one candidate described *sampling as a process of selecting representatives from a given population to represent a large group* and the other described sampling as *process of choosing representative.*

In part (c), some candidates mixed correct and incorrect responses. For example, one candidate mixed up correct and incorrect types of sampling such as *probability sampling and accidental sampling*. This indicated that the candidate had insufficient knowledge of the two main types of sampling because accidental sampling is the form of non-probability sampling. Moreover, some candidates provided insufficient explanations of the two main types of sampling. Other candidates mentioned the two types of sampling without any explanations.

In part (d), some candidates mixed up correct and incorrect categories of the types of sampling mentioned in (c). Those candidates explained the types of sampling inadequately, while others mentioned the two types of sampling without explanation. For example, one candidate mixed up correct and incorrect responses as he/she wrote *Non – Probability sampling* and mentioned its forms as *purposive sampling*, *accidental sampling*, *simple random sampling* and *systematic sampling*. This candidate showed inadequate knowledge of the forms

of non-probability sampling because simple random and systematic sampling are the forms of probability sampling.

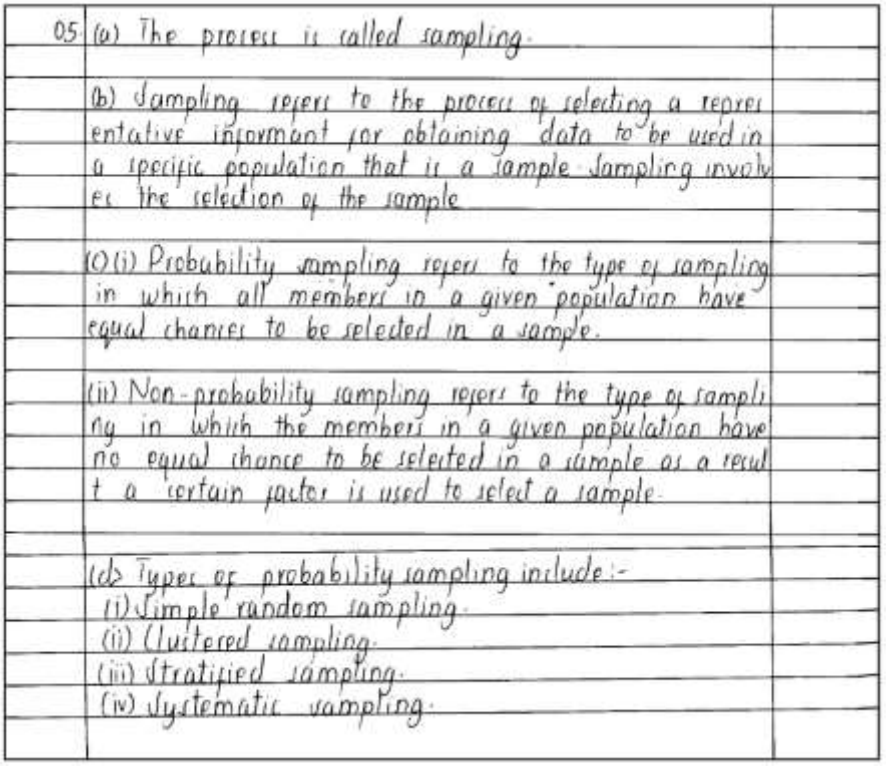
The candidates who scored from 7.5 to 11 marks had adequate knowledge and skills on the topic of *Introduction to Research* particularly on the types of sampling techniques. Their responses showed that some candidates were able to meet the demands of the question. For example, in part (a) some candidates were able to mention the process as *sampling*.

In part (b), the majority of candidates were able to describe *sampling* correctly. Some of the descriptions provided were*:*

(i) *a process of selecting the participants or representative informants from a given population to represent a large group.*
(ii) *the selection of a subset of the population of interest in a research study and a process of selecting.*
(iii) *a process used in statistical analysis in selecting representatives from large population.*
(iv) *process of selecting units in a population to be representative of the whole.*

In part (c), the candidates explained the two main types of *sampling* as *probability sampling is the types of sampling where by every individual in a population has an equal chance to be included in the sample* and *Non – Probability sampling is a sampling technique whereby not every member in a population has an equal chance to be included in the sample*.

In part (d), the candidates mentioned the four categories of one type of the process explained in (c) such as *probability sampling* (*simple random sampling, stratified sampling, clustered sampling, systematic sampling* and *multi stage sampling*) and *Non – Probability sampling* (*purposive sampling, quata sampling, snowball sampling, convenience sampling* and *accidental sampling*). Extract 5.2 shows a sample of correct responses for question 5.


05 (a) The process is called sampling.

(b) Sampling refers to the process of selecting a representative informant for obtaining data to be used in a specific population that is a sample Sampling involves the selection of the sample

(c)(i) Probability sampling refers to the type of sampling in which all members in a given population have equal chances to be selected in a sample.

(ii) Non-probability sampling refers to the type of sampling in which the members in a given population have no equal chance to be selected in a sample as a result a certain factor is used to select a sample.

(d) Types of probability sampling include:-
(i) Simple random sampling.
(ii) Clustered sampling.
(iii) Stratified sampling.
(iv) Systematic sampling.

Extract 5.2: A sample of correct response for question 5

2.2.4 Question 6: Elementary Survey and Map Making

The question given was: *Assume you are a chain surveyor expert in one of the villages and you have been assigned a task of measuring a distance of river from point A to point B. (a) Which seven steps will you follow to carry out such a task? and (b) How would you ensure the correctness of measurement as you carry out a task?*

The question was attempted by 486,356 (10 %) candidates, of which 442,857 (91.1%) scored from 0 to 03 marks, 38,985 (8.0%) scored from 3.5 to 07 marks, and 4,514 (0.90%) scored from 7.5 to 11 marks. The performance of the candidates in this question was generally weak as 43,499 (8.90%) scored from 3.5 to 11 marks. Figure 6 illustrates the candidates' performance for this question.

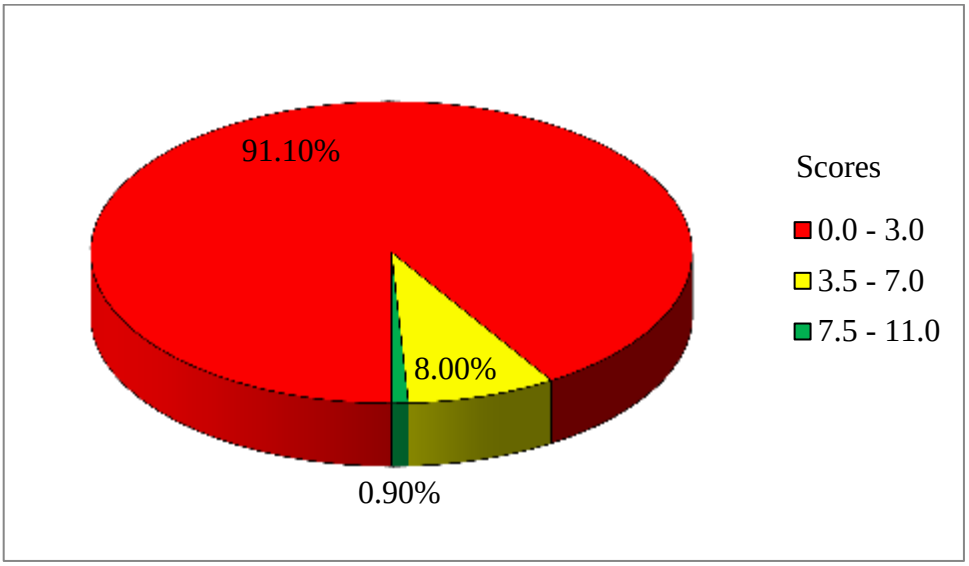
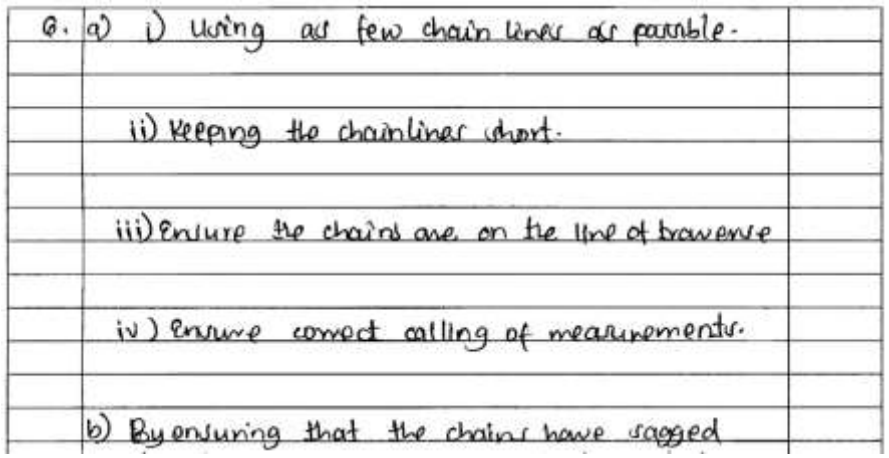


Figure 6: *The Percentage of Candidates' Performance for Question 6*

The candidates who scored from 0 to 03 marks had little knowledge and skills on the topic of *Elementary Survey and Map Making*. The quality of their responses influenced their scores.

In part (a), the majority of candidates failed to explain the ways mention steps during chain survey work, while others mentioned few points without explanations. Analysis showed that those candidates had inadequate knowledge of the chain survey procedures. For example, one of the candidates provided significance of levelling as *gridding method, radiation method* and *direct contouring*, instead of the steps to follow during chain survey work. Another candidate highlighted procedures of drawing cross section, while another one mentioned the tools used in chain survey such as *pegs*, *arrows*, *ranging rods* and *tapes* instead of the procedures of conducting chain survey.

In part (b), the majority of candidates failed to explain the ways to ensure correctness of the measurements in chain survey while, others provided only few measurements. For example, one candidate provided methods of avoiding obstacles in chain surveying such as *triangulation* and *rectangular methods*, instead of the ways of ensuring correctness of the measurements in chain survey. Extract 6.1 is a sample of incorrect responses for question 6.



Extract 6.2: A sample of incorrect responses for question 6.

In extract 6.2, the candidate mentioned the ways of ensuring correctness of the measurements in chain survey, instead of steps to be followed in measuring a river from point A to B in part (a). In part (b) the candidate wrote *by ensuring that the chains have sagged*, instead of *avoiding sagging.*

The candidates who scored from 3.5 to 07 marks showed moderate knowledge of the subject matter as they answered the question inadequately. Variations in their scores was affected by their strength and weakness of their responses.

In part (a), some candidates explained inadequately the steps for measuring a distance from point A to B using a chain while. Others mixed up correct and incorrect responses. For example, one candidate wrote *to assess the area to be measured, to throw chain from the starting point, to makes sure that the leader takes ten arrows and one ranging rod, to assist the follower to erect a ranging rod at first and place brass handle of chain against ranging rod.*

In part (b), some candidates explained inadequately the ways in which the measurements of a river from point A to point B can be done without errors, while others provided relevant and irrelevant responses. For example, one candidate wrote; *assess the area to be surveyed so that to know whether it contains some obstacles and how to overcome them and to site the starting point, to throw chain from*

the starting points to extend it and the knots are disentangled, to assist the follower to erects a ranging rod at first base/ straight point and place brass handle of chain against ranging rod, while incorrect responses were; *using as few chain lines as possible, avoiding steep slopes and major obstacle, selecting one major line on which to find all triangles.* Furthermore, some candidates provided few points contrary to the requirement of the question.

The candidates who scored from 7.5 to 11 revealed to have adequate knowledge and skills on the concept of *Elementary Survey and Map Making*. Their responses revealed that they were able to meet the demand of the question.

In part (a), the candidates provided the correct steps for measuring the distance from point A to B using a chain such as; *to assess the area to be surveyed so that to know whether it contains some obstacles and how to overcome them and to site the starting point, to throw chain from the starting points to extend it and the knots are disentangled, to assist the follower to erects a ranging rod at first base/ straight point and place brass handle of chain against ranging rod, to make sure that the leader extends chain and surveyor sight in leader's ranging rod, to make sure that the leader extends chain and surveyor sight in leader's ranging rod by signals from behind follower's rod, a leader straightens chain and insert arrow at end of brass handle* and *the leader read measurement from the chain or tape*.

In part (b), the candidates mentioned the ways in which the measurement of a river from point A to point B can be done without error. The correct responses provided by the candidates were; *using as few chain lines as possible, avoiding steep slopes and major obstacle, selecting one major line on which to find all triangles, maintaining all triangle between 30 and 120 degrees, keeping chain line short and measuring them accurately* and *calling measurement to a booker as loud as possible.* Variation in their scores were caused by the strengths and weaknesses of the points they provided. Extract 6.1 is a sample of correct responses for question 6 (b).

6) bi	Keep chain lines short and measure them accurately.	
ii	Ensure correct positioning of arrows.	
iii	Ensure good calling of the measurements.	
iv	Do not allow the chain to sag.	

Extract 6.2: A sample of correct responses for question 6 (b)

2.2.5 Question 7: Photograph Reading and Interpretation

The candidates were required to study the given photograph and answer the questions (a) to (e) that followed. The question required the candidates to; *(a) state the position of a photographer when taking the photograph, (b) describe the settlement pattern in the middle ground of the photograph, (c) with evidence, give three functions of the area in the foreground, (d) giving four points, describe the functions of vegetation shown in the area and (e) suggest two types of economic activities taking place in the area*.

The question was attempted by 486,321 (100%) candidates of which 219,897 (45.20%) scored from 0 to 03 marks, 20,640 (41.30%) scored from 3.5 to 07 marks and 65,784 (13.50%) scored from 7.5 to 11 marks. The general performance of the candidates for this question was average as 54.80 percent scored 3.5 to 11 marks. Figure 7 illustrates the candidates' performance for this question.

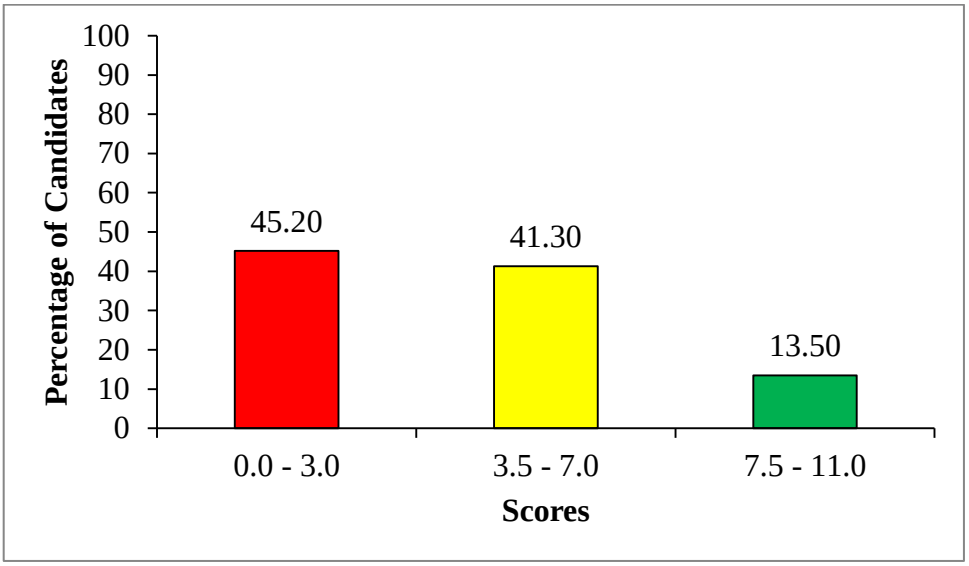


Figure 7: *The Percentage of Candidates' Performance for Question 7*

The candidates who scored from 0 to 03 marks failed to respond correctly to some parts of the question due to insufficient knowledge and skills on the *Photograph Reading and Interpretation* topic.

In part (a), most candidates failed to state the position of a photographer when taking the photograph, hence provided irrelevant responses. For example, some of the incorrect responses provided by the candidates were; *at the top of the mountain or hill*, *at the aircraft*, *Iringa/ Mbeya.* Furthermore, failure to understand the question demand affected some candidates to score any mark in this part. For example, one candidate mentioned the type of photograph such as; *oblique photograph*/*ground photograph* and the other wrote *Vertical photograph* instead of identifying the position of a photographer which was *fore ground/fore view/ front view*.

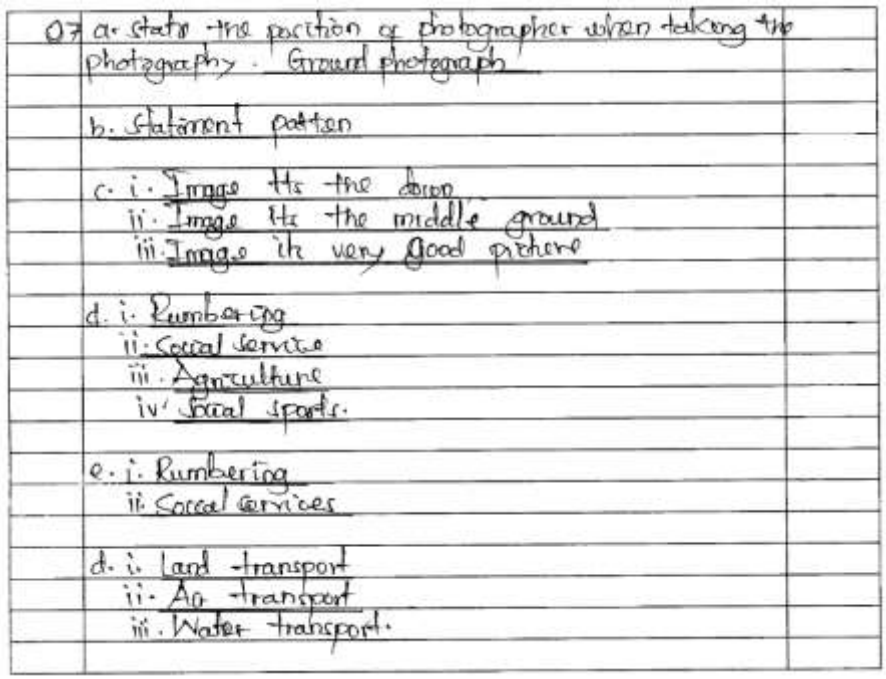
In part (b), some candidates provided both relevant and irrelevant responses. For example, some candidates wrote; *scattered settlement*, *linear* settlement, *rural settlement* and *urban settlement,* instead of *nucleated/clustered settlement*. These responses revealed inadequate knowledge of the characteristics of settlement patterns.

In part (c), most candidates failed to mention the functions of the area in the foreground due to limited knowledge on the topic of *Photograph Reading and Interpretation*. Other candidates were able

to mention at least one function of the area in the foreground without giving evidences. For example, one candidate provided incorrect response as *settlement*. This candidate probably was attracted with the presence of houses. On the other hand, irrelevant responses provided by the candidates were like; mentioning types of photographs, naming parts of photographs and describing functions of photographs.

In part (d), some candidates were able to mention few functions of vegetation, while others provided irrelevant responses. For example, one candidate provided correct and incorrect responses such as *control soil erosion* and *prevent soil pollution.* Furthermore, some candidates failed to understand the question demands hence provided incorrect responses. For example, one candidate mentioned the types of vegetation such as *Tropical vegetation* and *Equatorial vegetation* instead of describing the functions of vegetation shown on the photograph. This candidate failed to distinguish the functions of vegetation and types of vegetation due to poor English Language proficiency.

In part (e), some candidates failed to suggest two types of economic activities taking place on the photograph. Other candidates mixed up correct and incorrect responses, while others mentioned only one economic activity. Those candidates had inadequate knowledge of identifying economic activities on photographs. For example, one candidate wrote; *transport activities* and *health services,* while another one mentioned *trading* and *tourism*. Those candidates had limited knowledge of photograph interpretation, as there was no evidence of *health services* and *tourism activity* on the photograph. Extract 7.1 represents incorrect responses for question 7.



Extract 7.1: A sample of incorrect responses for question 7

In Extract 7.1, the candidate provided the type of photograph, the instead of stating position of the photographer when taking the photograph in part (a). In part, (b) the candidate wrote unrelated word (*statiment pattern*), instead of the correct settlement pattern. Furthermore, in part (c) the candidates wrote *lumbering, social services, agriculture and social sports,* instead of giving the functions of the area in the foreground. In part (d), he/she mentioned the types of transport which are land, air and water transport, instead of describing the functions of vegetation shown on the photograph, and in (e), he/she mentioned *lumbering* and *social services,* instead of suggesting two economic activities taking place in the area.

The candidates who scored from 04 to 07 marks had moderate knowledge of the topic of *Photograph Reading and Interpretation*, although they differed in their scores. This was affected by the strengths and weaknesses of their responses.

In part (a), some candidates were able to state the position of a photographer when taking photograph as *foreground.* Other candidates misconceived the questions demands and others provided

unrelated words to the question. For example, one candidate mentioned *ground photograph,* while the other one wrote *forefront.*

In part (b), some candidates provided correct settlement pattern as *clustered / nucleated settlement,* while other candidates gave incorrect responses. For example, one candidate wrote *linear settlement,* instead of *clustered /nucleated settlement.* This revealed that, the candidate had knowledge of the settlement patterns, but was not aware of the characteristics of each pattern.

In part (c), the majority of candidates were able to give three functions of the area in the foreground. Other candidates mentioned functions without giving evidence from the map. For example, one candidate mixed correct and incorrect functions of the foreground *as settlements due to the presence of houses, transportation due to the presence of trucks* and *agricultural activities due to the presence of farms.* This showed that the candidates had insufficient knowledge on interpreting the photograph, as there was no farms in the given photograph.

In part (d), majority of the candidates mentioned few functions of vegetation shown in the area, instead of four functions. Furthermore, other candidates mixed up correct and incorrect responses. Others gave four functions of vegetation without giving evidence from the photograph. For example, one candidate wrote correct and incorrect functions of vegetation such as *habitat for living organisms, source of oxygen, source of fuel* and *source of rivers.* Probably, the candidates associated the flow of rivers and growth of vegetation; that rivers flow from highland to lowland areas and most of vegetation grow in the high altitude.

In part (e), some candidates suggested two types of economic activities taking place in the area. Others mixed up correct and incorrect responses. For example, one candidate wrote *trading activities* and *education services.* This showed that, the candidate was familiar with human activities, but was not able to differentiate economic and social activities, as *education services* is a social activity.

The candidate who scored from 7.5 to 11 marks had adequate knowledge and skills on the topic of *Photograph Reading and Interpretation*. Analysis shows that, those candidates managed to read and interpret the given photograph. For example, in part (a), the candidates were able to state the position of a photographer when taking the photograph such as *fore view/front view right/foreground.*

In part (b), candidates who wrote correct answers *nucleated /clustered settlement* had adequate knowledge on the settlement patterns. In addition, those candidates had knowledge on different parts of photograph hence they were able to identify the middle ground and the settlement pattern observed in that area.

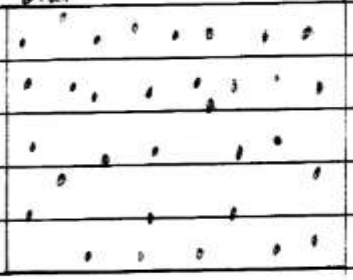
In part (c), some candidates were able to give three functions of the area in the foreground such as *garage workshop for truck service, dry port due to the presence of container and truck, transportation due to presence of truck and containers yards, settlements due to the presence of house in the right front view* and *industrial activities due to presence of storage yard*. In addition, those candidates identified the location of the foreground.

In part (d), some candidates were able to describe the functions of vegetation such as *habitat for birds and other organisms, wind breakers, control or modify climate of the area, used to control soil erosion, source of fuel* and *supply oxygen*. These candidates showed that, they had adequate knowledge on the types of vegetation and its functions as seen on the photograph.

In part (e), the candidates with sufficient knowledge of *Reading and Interpretation of the photograph* topic identified economic activities taking place on the photograph. In addition, they suggested two types of economic activities with evidence. The responses provided were; *transportation activities, industrial activities, agricultural activities* and *business activities.* Other candidates suggested two types of economic activities taking place without giving evidences. Extract 7.2 shows a sample of correct response for question 7.

7. a) The position of a photographer when taking the photograph was at phase ground at higher altitude either on a tall building or aircraft

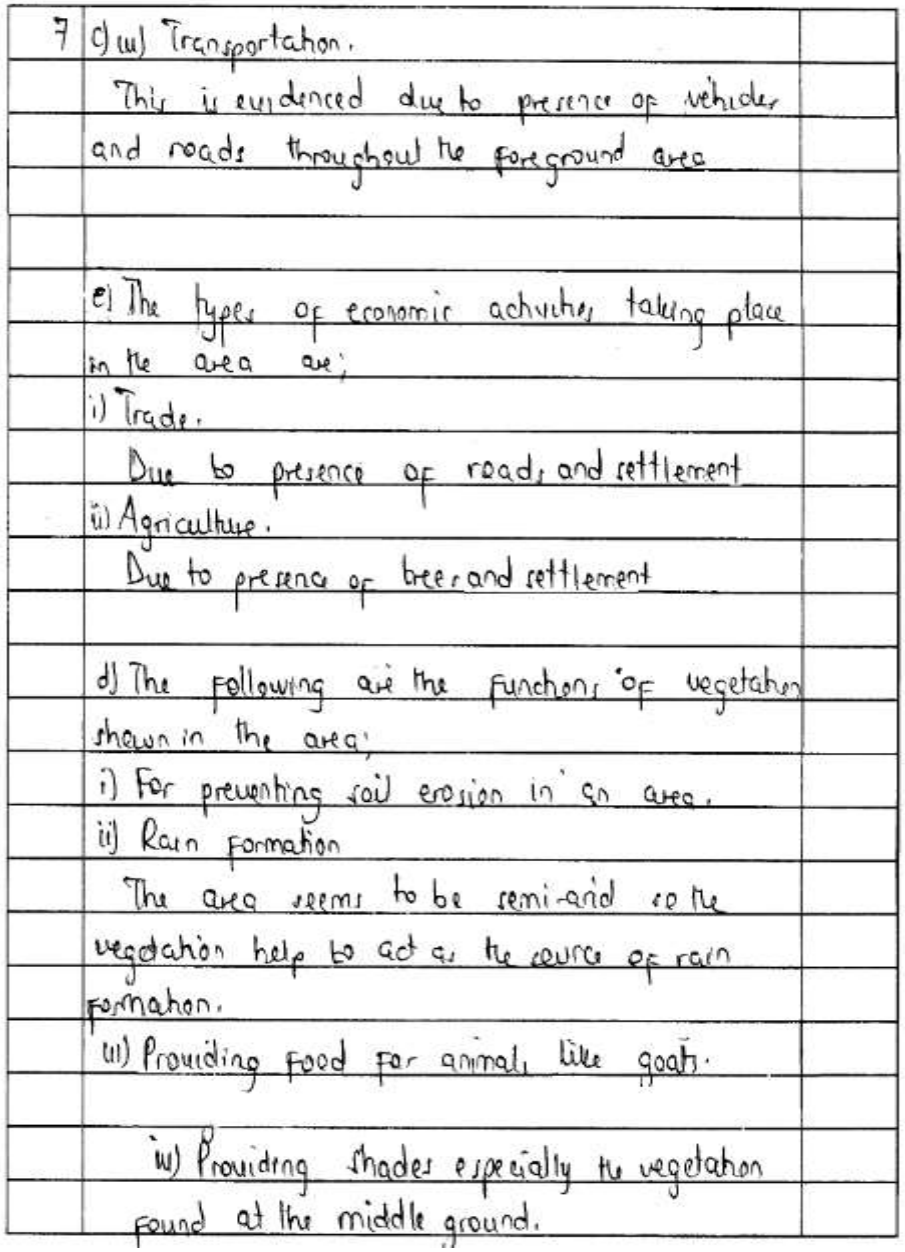
b) The settlement pattern in the middle ground of the photograph is Nucleated settlement pattern.
Nucleated settlement pattern is the one in which the buildings are found nearly distributed to each other.



c) The following are the functions of the area in the foreground:

i) Trading,
This can be evidenced due to the presence of roads which help in transportation of goods from one area to another

ii) Industrialization.
This can also be evidenced due to the presence of Industry roads and vehicles which aid in transporting raw materials and manufactured goods.


7 c) (iii) Transportation.
This is evidenced due to presence of vehicles and roads throughout the foreground area
e) The types of economic activities taking place in the area are;
i) Trade.
Due to presence of roads and settlement
ii) Agriculture.
Due to presence of trees and settlement
d) The following are the functions of vegetation shown in the area;
i) For preventing soil erosion in an area.
ii) Rain formation
The area seems to be semi-arid so the vegetation help to act as the source of rain formation.
iii) Providing food for animals like goats.
iv) Providing shades especially the vegetation found at the middle ground.

Extract 7.2: A sample of correct response for question 7

2.3 SECTION C: ESSAY QUESTIONS

This section consisted of three optional questions set from the following topics: *Application of Statistics, Structure of the Earth* and *Transport*. The candidates were required to answer any two questions. Each question carried 15 marks.

2.3.1 Question 8: Application of Statistics

The question given was: *The Form Four candidates had a field study to the National Bureau of Statistics. In the site, the statistician explained to them about different concepts of statistics and their benefits to users. Describe five benefits of statistics that might have been explained by the statistician.*

The question was attempted by 323,196 (100%) candidates, of which, 206,327 (63.84%) scored from 0 to 4.5 marks, 92,139 (28.51%) scored from 5 to 9.5 marks and 24,730 (7.65%) scored from 10 to 15 marks. The performance of candidates in this question was generally poor because 116,869 (36.16%) scored from 4.5 to 15 marks. Figure 8 illustrates the candidates' performance in question 8.

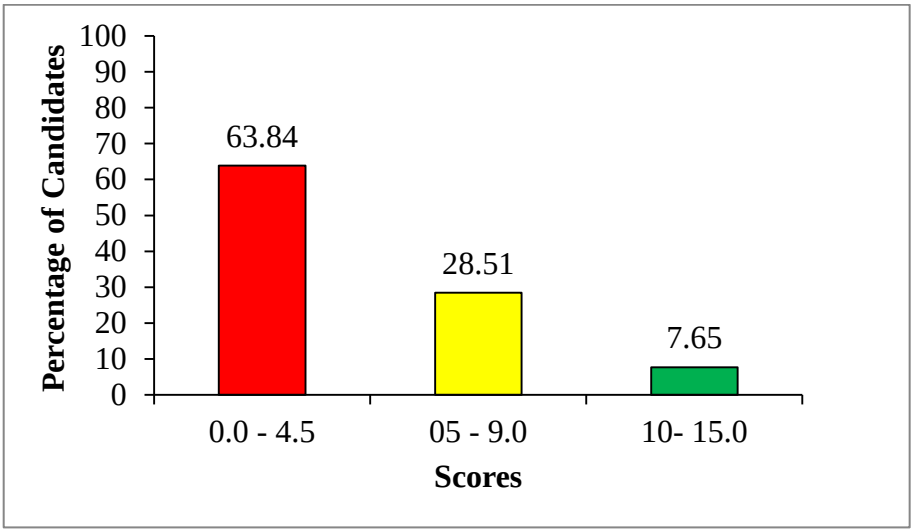
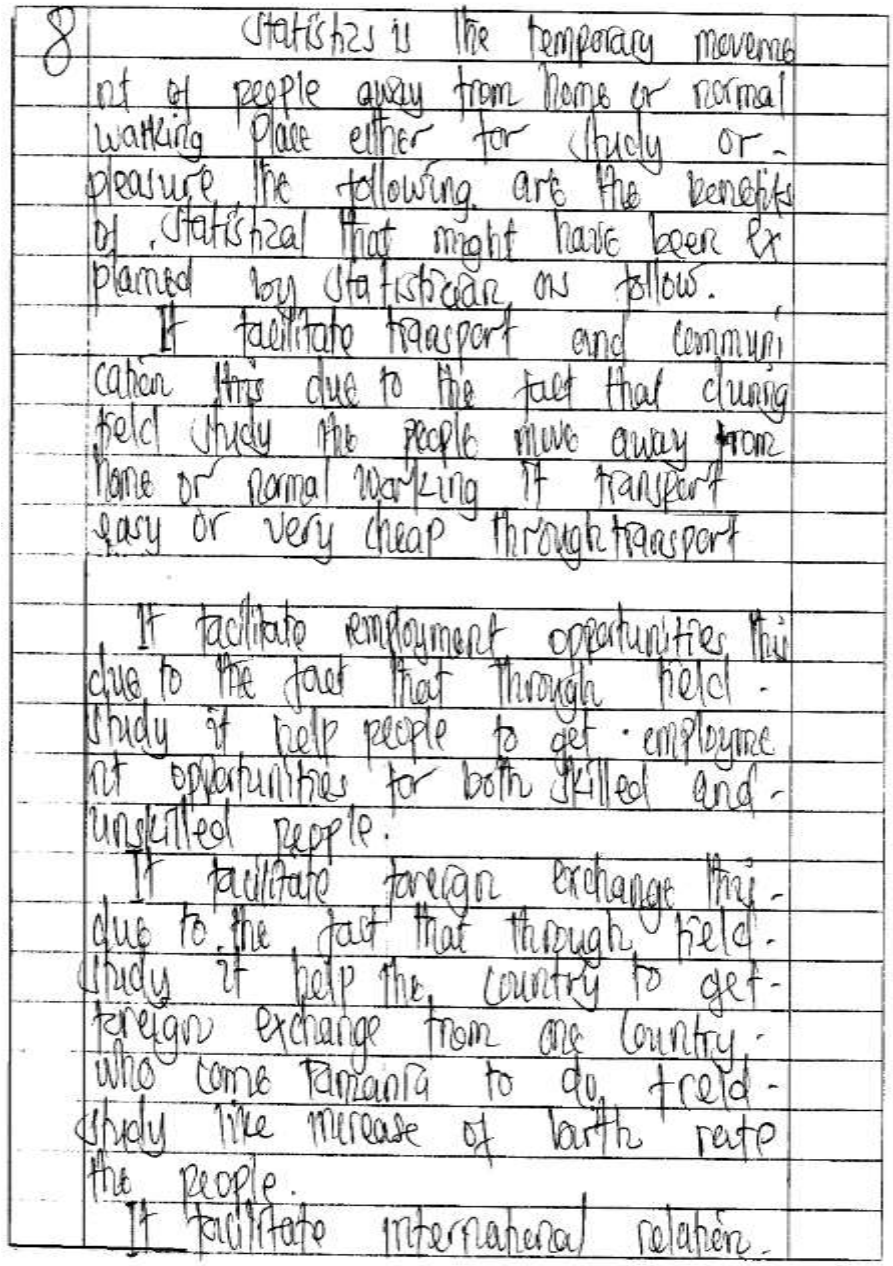


Figure 8: *Percentage of the Candidates' Performance for Question 8*

The candidates who scored from 0 to 4.5 marks had inadequate knowledge and skills on the topic of *Application of Statistics*, specifically on its benefits to users. Most candidates were not able to provide correct responses. The analysis showed that some candidates failed to provide relevant introduction and mixed correct and incorrect points without conclusions. Other candidates provided inadequate introductions and failed to provide correct explanations on the benefits of statistics to users. Others candidates provide relevant

introductions but failed to describe the benefits of statistics. Furthermore, some candidates failed to understand the questions demands. Examples of points that were incorrect are: *to determine various feature, for locating resources* and *to make various graphs and charts.* Extract 8.1 is a sample of an incorrect response for question 8.

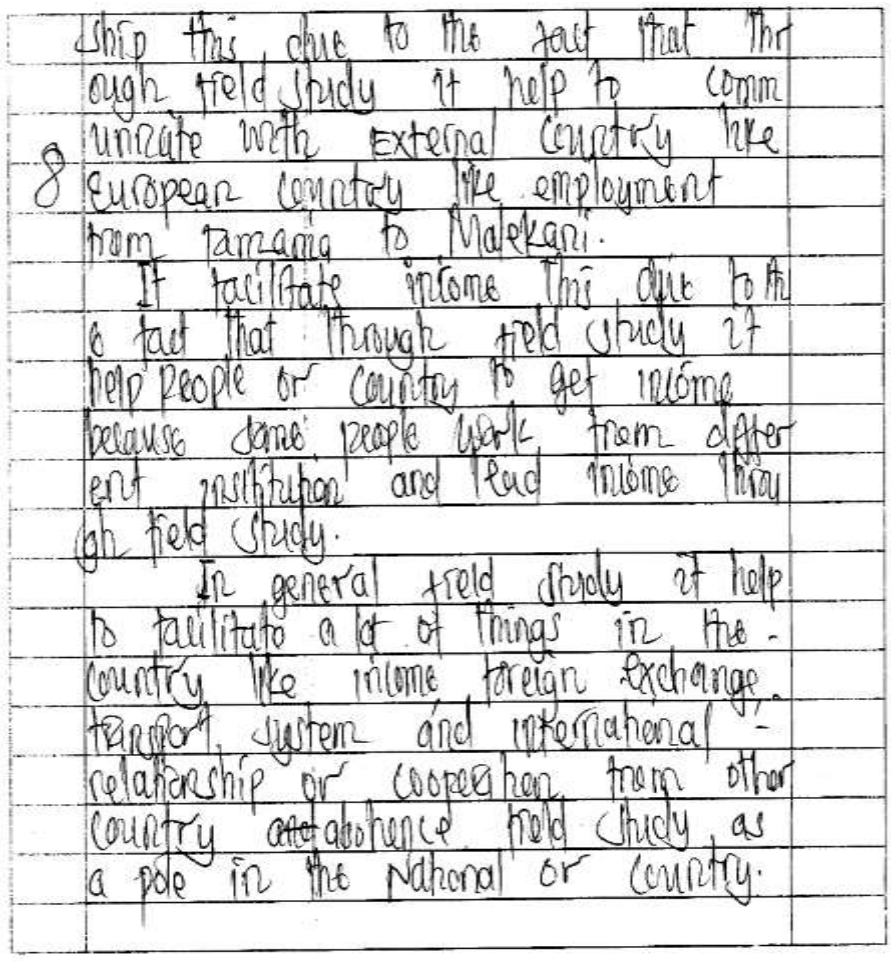

8 Statistics is the temporary movement of people away from home or normal working place either for study or pleasure the following are the benefits of statistical that might have been explained by statistician as follow.

It facilitate transport and communication this due to the fact that during field study the people move away from home or normal working it transport easy or very cheap through transport

It facilitate employment opportunities this due to the fact that through field study it help people to get employment opportunities for both skilled and unskilled people.

It facilitate foreign exchange this due to the fact that through field study it help the country to get foreign exchange from one country who come Tanzania to do field study like increase of birth rate the people.

It facilitate international relation.


ship this due to the fact that Thr
ough field study it help to comm
unicate with external country like
8 European country like employment
from Tanzania to Malekani.
If facilitate income This due to th
e fact that through field study it
help people or country to get income
because some people work from differ
ent institution and find income throu
gh field study.
In general field study it help
to facilitate a lot of things in the
country like income foreign exchange,
transport system and international
relationship or cooperation from other
country attachment field study as
a pole in the National or country.

Extract 8.1: A sample of an incorrect response for question 8

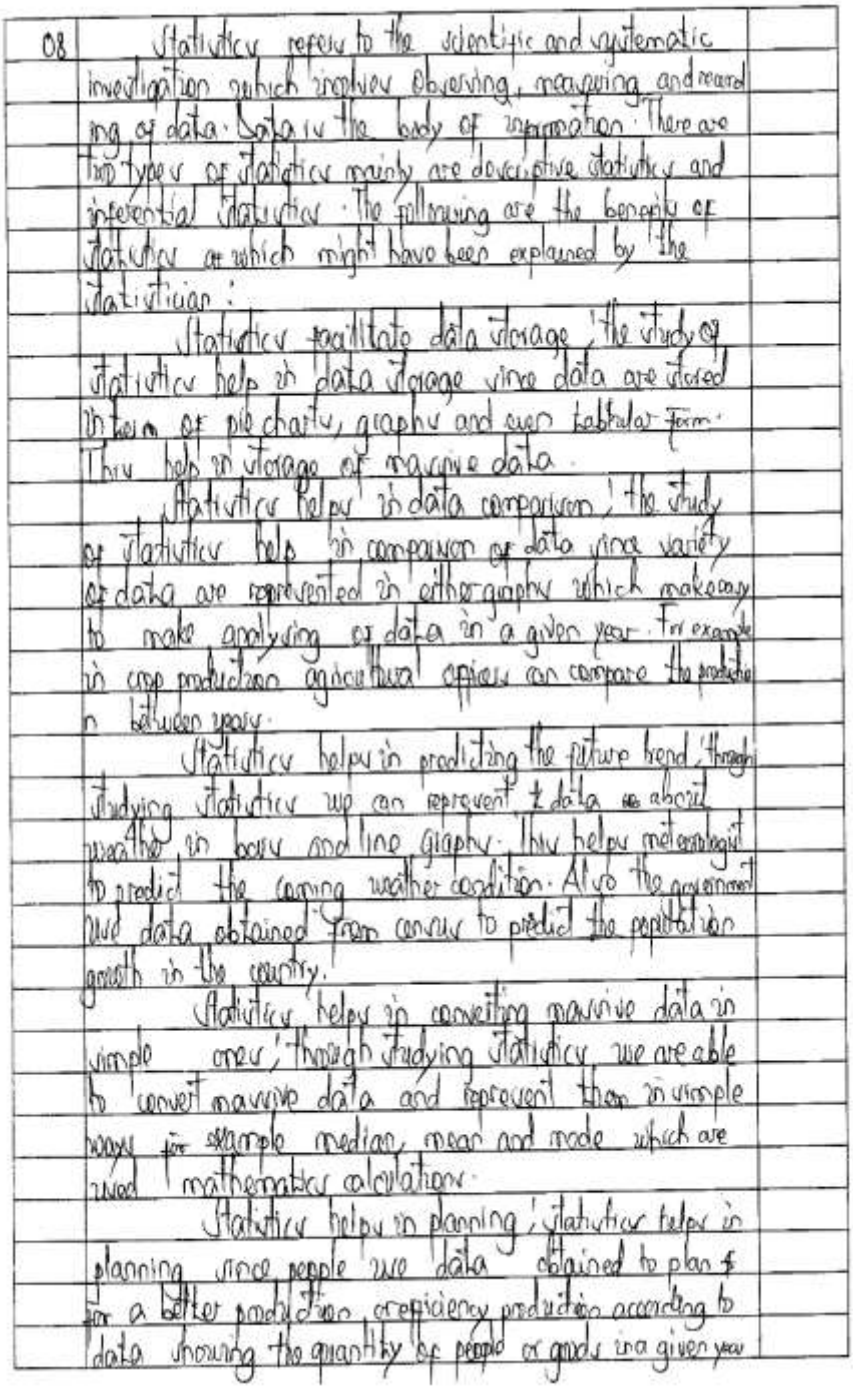
In extract 8.1, the candidate described tourism instead of giving relevant introductions on statistics. In the main body, the candidate explained the importance of field study, instead of the benefits of statistics.

Furthermore, the candidates who scored average marks from (4.5 to 9.5) had moderate knowledge and skills on the topic of *Application of Statistics* and its benefits to users. Variation of their marks were influenced by the strengths and weaknesses of their responses. Some candidates were able to provide good introductions but explained points inadequately with relevant conclusion. Other candidate provided relevant introductions but mixed correct and incorrect points with relevant conclusions. For example, one candidate wrote correct

introduction, and mixed correct and incorrect points as; *it helps in summarization of data, planning various activities, predict the future, helps in providing loans* and *it helps to determine the number of migrants.* In addition, the candidate provided a relevant introduction with conclusion. The responses provided by the candidate showed that he/she associated *statistics* with *census* as both involves numbers. Another candidate provided a good introduction but explained all points partially and she/he ended up with relevant conclusion.

The candidates who scored from 11 to 15 marks had sufficient knowledge and skills on the topic of *Application of Statistics* particularly its importance to users. Those candidates were able to meet the demands of the question and had good essay writing skills. They provided good introductions such as *Statistics is the science of collecting, classifying and analyzing information by using numbers or numerical.* In addition, those candidates explained the benefits of statistics as *it helps in summarization of data, establishing relationship between variables, explain various geographical phenomenon like vegetation and climate, it helps to predict future trend of different events e.g census, helps in making decision and helps in planning activities e.g education, health and other development plans.* Also, those candidates ended with relevant conclusions.

On the other hand, some candidates mentioned five benefits of statistics correctly, while others described the benefits of statistics unsatisfactorily. The quality of their responses led them to differ in their scores. Extract 8.2 is a sample of a correct response.



08 Statistics refers to the scientific and systematic investigation which involves observing, measuring and recording of data. Data is the body of information. There are two types of statistics mainly are descriptive statistics and inferential statistics. The following are the benefits of statistics or which might have been explained by the statistician:

Statistics facilitate data storage; the study of statistics help in data storage since data are stored in form of pie charts, graphs and even tabular form. This help in storage of massive data.

Statistics helps in data comparison; the study of statistics help in comparison of data since variety of data are represented in either graphs which makes easy to make analysing of data in a given year. For example in crop production agriculture officers can compare the production between years.

Statistics helps in predicting the future trend; through studying statistics we can represent the data about weather in bars and line graphs. This helps meteorologist to predict the coming weather condition. Also the government use data obtained from census to predict the population growth in the country.

Statistics helps in converting massive data in simple ones; through studying statistics we are able to convert massive data and represent them in simple ways for example median, mean and mode which are used mathematics calculations.

Statistics helps in planning; statistics helps in planning since people use data obtained to plan for a better production, or efficiency production according to data showing the quantity of people or goods in a given year

Extract 8.2: A sample of a correct response for question 8

2.3.2 Question 9: Structure of the Earth

The question given was: *Mdariani is a village surrounded by different types of rocks. Suppose you have been invited by the villagers to educate them about the sedimentary rocks and their characteristics, what six features would you give them as a guide?*

The question was attempted by 109,792 (100%) candidates of which 92,754 (84.48%) scored from 0 to 4.5 marks, 12,709 (11.58%) scored from 5 to 9.5 marks and 4,329 (3.94%) scored from 10 to 15 marks. The general performance of the candidates for this question was weak because only 17,038 (15.52%) candidates scored from 5 to 15 marks. Figure 9 illustrates the candidates' performance for question 9.

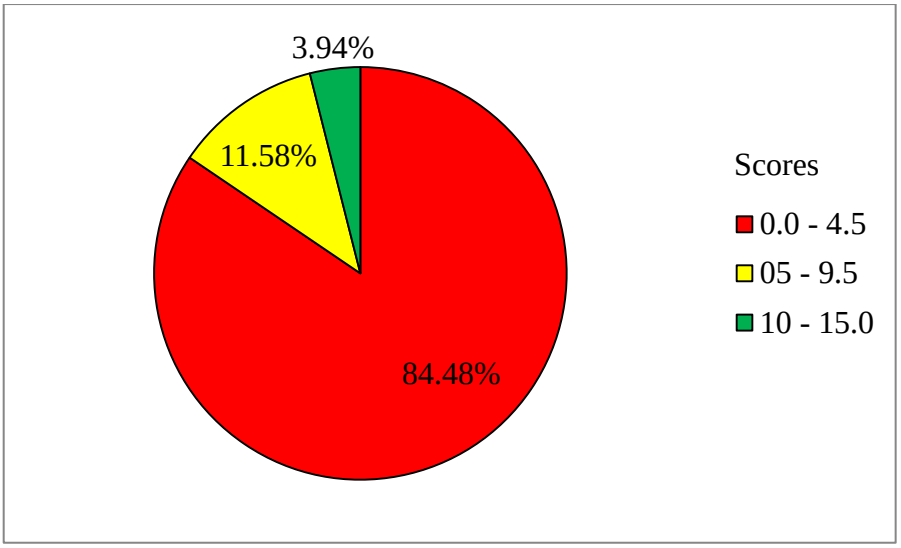


Figure 9: *The Percent of Candidates' Performance in Question 9*

The candidates who scored from 0 to 4.5 marks had insufficient knowledge off sedimentary rocks. Some candidates were able to provide relevant introductions but explained irrelevant points about features of sedimentary rocks. Some candidates provided relevant introductions but mixed up correct and incorrect responses to the main body and ended up with irrelevant conclusions. The majority of candidates in this group provided introductions but failed to provide correct points. Furthermore, some of the responses showed misinterpretation of the question demands. For example, some of the

incorrect points on the features of sedimentary rocks provided were; *they are hard, they are formed by solidification of molten magma, they are not in stratas*. Those responses showed that the candidates were aware of the types of rocks, but had limited knowledge of the features of each type of rock because the mentioned features were for the *igneous rocks*. Extract 9.1 represents a sample of incorrect responses for question 9.

9 Sedimentary rock are the types of rock which are the rocks solidifies on the rock. Sedimentary rock found on the mineral and other particul on the earth crust, the following are the features of sedimentary rock as follows:-

It has no layer; This is the features of sediment ary rock and the distinctive features that metamorphic and Igneous rock has no. Sedimentary rock has no layer found on it.

It has volcanic happen; This is the feature of sedimenta ry rock because it is the cooler solidifies of the material and volcano happen because of that reason

It used to decorate house; This was the feature beca use it has the smooth rocks so as used to decorate house because of the beautiful scenery of sedimentary rock.

It used to tourist atraction; Sedimentary rock features used for tourist atraction because of the beautiful of that rock for the tourism.

It used for cement making; Sedimentary rock used for cementing making because of the particles which provi ding with the sedimentary rock

It produce limestone; Sedimentary rock features also produce limestone also for decorate and facilitate the hou se because of production of sedimentary rocks.

Generally, The following are the features characteristic of Sedimentary rocks but Metamorphic is the types of rocks which change appearance, shape and size according to the process. Importance of rock are some rock are used for decor ate house, cement making, Source of Tourist attraction, Produce minerals and others.

Extract 9.2: A sample of incorrect responses for question 9

In Extract 9.1, the candidate provided an introduction on igneous rocks and explained on the features of igneous rocks, instead of features of sedimentary rocks.

The candidates who scored average marks (from 4.5 to 9.5) had moderated knowledge of the subject matter. Others failed to understand the demands of the question. The analysis shows that some candidates were able to mention features of sedimentary rocks correctly, but failed to describe them clearly. Other candidates managed to give relevant introductions but explained few correct points with relevant conclusions. For example, one candidate provided relevant introduction but explained points inadequately such as *rocks are soft, they can undergo metamorphic process, they are not crystalline, they contain fossils and they have layers.* In addition, the candidate failed to provide a relevant conclusion.

The candidates who scored from 10 to 15 marks had adequate knowledge and skills on the topic of *Structure of the Earth* especially on types of rocks and their features. Strengths and weaknesses of their responses made them to differ in their scores. The analysis showed that, they were able to provide relevant introductions as like. *A rock is a natural occurring substance formed as a combination or aggregates of minerals in a solid state.*

Moreover, they explained features of sedimentary rocks such as *they have layers laid down horizontally (strata), they often contain fossils, they are not crystalline in nature, they are formed mechanically, organically or chemically, they can undergo metamorphism process and they are soft, when compared with other types of rocks like igneous and metamorphic rocks.* Those candidates also ended with relevant conclusions. In this group, some candidates provided relevant introductions but, explained insufficiently some points with relevant conclusions. In addition the majority of candidates in this group had good essay writing skills. Extract 9.2 illustrates correct responses for question 9.

9 FEATURES OF SEDIMENTARY ROCKS

Sedimentary rocks are the rocks formed when sediments are cemented and lithified. Sedimentary rocks include limestone, gypsum, rock salt, mudstone, bauxite, conglomerate, coral rocks, coal, anthracite and lignite. ~~The~~ The rocks can be formed by sediments from either igneous, metamorphic or sedimentary rocks. The following are the features of sedimentary rocks.

They are stratified; sedimentary rocks are ~~stratified~~ stratified meaning that they are in form of layers, this is due to the fact that sediments accumulate and arrange themselves in layers, then ~~lithi~~ lithification occurs to form sedimentary rocks. For instance; schist is a stratified sedimentary rock.

They contain fossils; sedimentary rocks are known to contain fossils since if any remains of plant or animals mix with sediments and get lithified together it makes the fossils to be within the rocks and thus make sedimentary rocks to contain fossils. For example; the skeleton of the largest lizard in ~~Tanzania~~ Tanganyika was found within sedimentary rocks.

They are formed by cementation and lithification of sediments; sedimentary rocks are formed when sediments which are obtained when igneous, metamorphic and other sedimentary rocks undergo weathering and when these sediments are compacted in layers and undergo cementation and lithification the sedimentary rocks are formed. For example; Bauxite is formed by lithification of sediments.

9 When they are subjected to great heat and pressure they form metamorphic rocks; when the sedimentary rocks are subjected to great heat and pressure, they form metamorphic rocks that are more resistant and strong than sedimentary rocks. For example, Limestone when subjected to great heat and pressure it forms marble.

They are non-crystalline; The sedimentary rocks are non-crystalline rocks because they are not in the form of crystals like igneous rocks but sediment particles. For example; conglomerate and coal rocks are non crystalline.

The way a sedimentary rock is formed determines its composition; There are sedimentary rocks which are formed organically others chemically and other mechanically. The organically formed rocks mainly contain plants and animal remains, while chemically formed mainly contain elements found on earth and mechanically mainly contains sediments in varying sizes. For example; conglomerate is a mechanically formed sedimentary rock, coral rock is an organically formed sedimentary rock and gypsusum is a chemically formed sedimentary rock.

Therefore, due to the features of sedimentary rock, it is greatly advantages since sedimentary rocks provide raw materials for construction activities also sedimentary rocks such as coral rocks greatly enhances tourism.

Extract 9.2:A sample of correct responses for question 9

2.3.3 Question 10: Water Management for Economic Development

The question given was: "*River basin development project is essential to economic development of various countries of the world*". *In six points, explain the importance of the project to the economy of Tanzania.*

The question was attempted by 446,196 (100%) candidates of which 154,402 (34.60%) scored from 0 to 4.5 marks, 182,189 (40.83%) scored from 5 to 9.5 marks and 109,605 (24.56%) scored from 10 to 15 marks. The general performance of the candidates for this question was good as 291,794 (65.40%) scored from 4.5 to 15 marks. Figure 10 illustrates the candidates' performance for question 10.

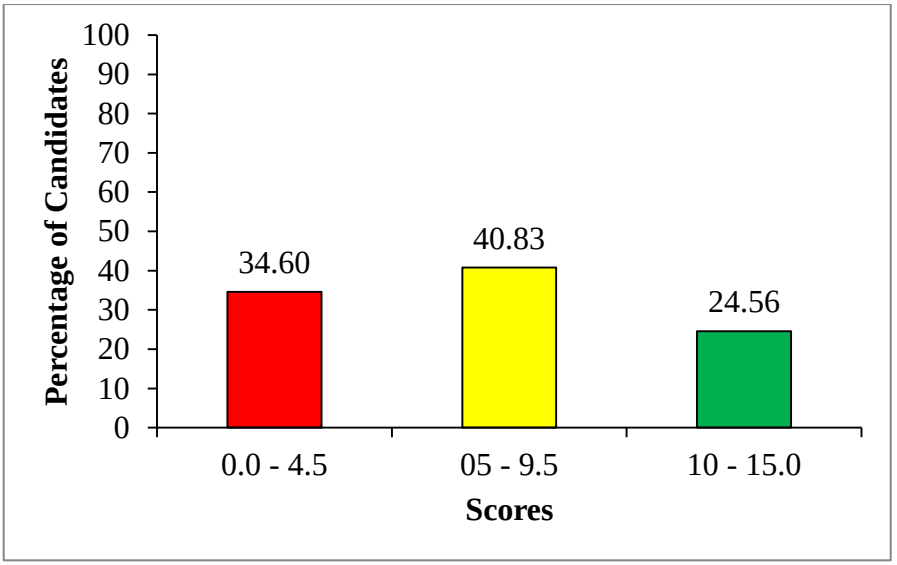


Figure 10: *The Percent of Candidates' Performance for Question 10*

The candidates who scored from 10 to 15 had sufficient knowledge of the topic of *Water Management for Economic Development* particularly, on *River Basin Development Schemes*. In this category, the majority of candidates provided relevant introductions, main body and conclusions in their responses. For example, relevant introductions provided were such as; *is the land that is drained by river and its tributaries, is an area along the river sides which can be used for different activities, is a portion of land drained by river and its tributaries through which a river* and *is the area of land over*

which surface run off flow through rivers. Those candidates managed to explain the importance of river basin such as *tourist attraction, transportation, fishing activities, improved water supply, creation of job, production of hydroelectric power, ensures environmental conservation* and *improved agriculture.* They also ended up with relevant conclusions. However, the variations of their scores was determined by the relevant explanations of the points required. Extract 10.1 represents a sample of a correct responses for question 10.

10 River basin development project is the project that is introduced for the purpose of controlling flood and preventing soil erosion. Through this project there is generation of water for different purposes. River basin development project is very essential to economic development of our country Tanzania and the following are its importance to the economy of Tanzania.

It has created employment opportunities to people. This is because there are people who are employed by authority of the basin as a result people are able to get money and use it for buying their basic needs hence there is reduction of poverty among people.

It has led to the development of industries; since in the river basin there is generation of power hence the industries continue to function properly and as a result there is high production of good and services since the machines in the industries does their functions properly hence development of industries is attained.

It has led to the control of flood. This is because water from different areas may be accumulated to the dam of river basin and hence used in preventing people from dying due to flood

10. It is the source of income to the Tanzanian government. This is because many people have to pay for the power obtained from the river basins. money obtained is used for the improvement of various sector such as health and education sector.

It has led to the growth of agricultural sector. This is because there is abandant water supply such that provide room for the people to practice irrigation and as a result high production in agriculture is facilitated by adequate water supply for the crops.

It has led to the improvement of the living standard of people due to the proper water and power supply to the residents of people where as due to this people will leave in a proper condition of avoiding poverty since they have water supply for conduting different activities and as a result there is the high birth rate and low death rate.

Therefore this project is very essential to us. But some of its impacts are that sometimes there is no proper or equal supply of power and water services among people in the country since the people in rural areas are likely to face their poor provision hence underdevelopment among them.

Extract 10.1: A sample of a correct response for question 10

The candidates who scored average marks (4.5 to 9.5) had moderate knowledge and skills on the topic of *Water Management for Economic Development*, particularly on river basin development. Some of them provided relevant introductions of the *river basin*, explained importance of it, but failed to provide relevant conclusions. Others provided correct points with inadequate explanations. Furthermore, some candidates were able to give relevant introduction but mixed correct and incorrect points. Other candidates provided inadequate introductions with few points and irrelevant conclusion. Other candidates provided good introductions few points and relevant conclusion. For example, one candidate provided relevant introduction but mixed correct and incorrect points with inadequate conclusion, Examples of incorrect points were *it is used for swimming, used for trading and Ranching.*

Further analysis shows that the candidates who scored from 0 to 04 marks had inadequate knowledge of the subject matter, poor English Language skills and inadequate essay writing skills. Some of these candidates provided incorrect responses according to the demands of the question. Some candidates managed to give relevant introductions, outlined few correct responses without conclusions. Other candidates were able to write relevant introductions, provided incorrect points with relevant conclusions.

Further analysis shows that, other candidates in this category provided irrelevant introductions, mixed correct and incorrect outlines of points, as well as irrelevant conclusions. For example, one candidate provided relevant introduction, explained correct and incorrect points such as; *it is used for recreational purposes* and *used for domestic purposes.* This candidate had general knowledge of the benefits of water, but failed to relate with the economic potential of the *Rufiji River Basin Development*. Extract 10.2 represents an incorrect response for question 10.

10 River basin refers to the party of land which is been formed when the land surface goes down in small area of land while others are high than the middle part and contain large volume of water. This is the very important project in economic development in our country. The following are the importance of river basin development project to the economy of Tanzania.

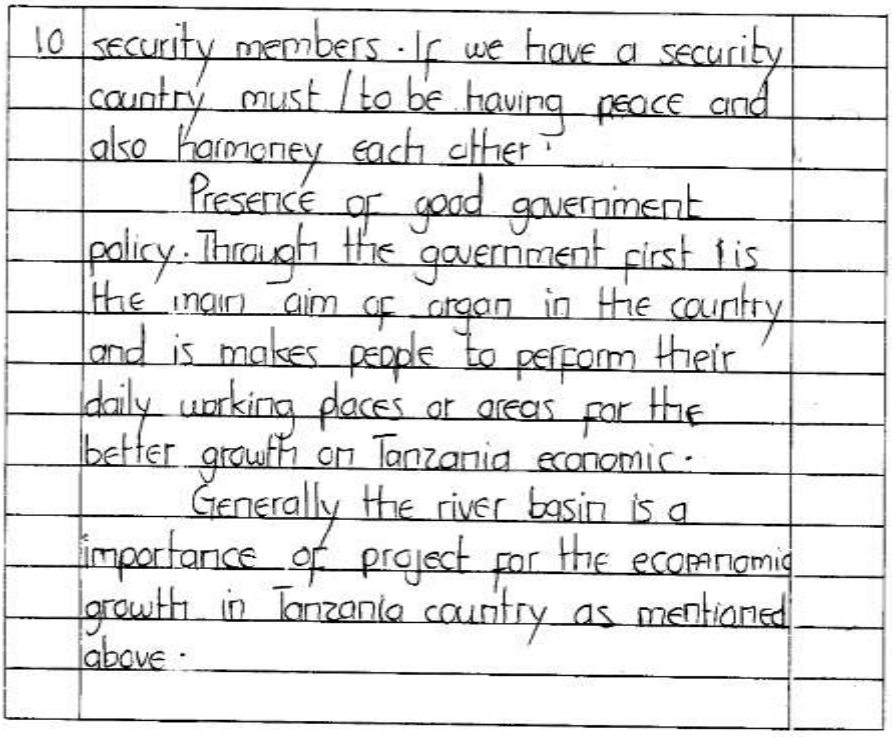
Availability of capital. Refers to the presence of mant capital. This is the party of the economic development, which this project make the Tanzania country to make the growth of economy of the country.

Presence of good technology and science. Through this makes/shows how the Tanzania country make the economic to increase day after day. This shows that the country government it works.

Presence of labour. Through labour the project shows that the Tanzania country had a good polices which can emphasize the labour so as to increase the development of our economy in the country.

Availability of transport and communication. Through the transport and communication can make the country to be known by the other country through different way or status for the country.

Presence of security. Through the security a country as a country show how the country it is protected by the


10 security members. If we have a security country must / to be having peace and also harmoney each other.

Presence of good government policy. Through the government first it is the main aim of organ in the country and is makes people to perform their daily working places or areas for the better growth on Tanzania economic.

Generally the river basin is a importance of project for the ecoparnomic growth in Tanzania country as mentioned above.

Extract 10.2: A sample of an incorrect response for question 10

In extract 10.2, the candidate explained factors for the river basin development project, instead of the importance of the project to the economy of Tanzania.

3.0 ANALYSIS OF THE CANDIDATES' PERFORMANCE IN EACH TOPIC

The CSEE 2021 Geography paper consisted of 10 questions that were set from 17 topics namely: *The Solar System, Soil, Human Population, Environmental Issues and Management, Sustainable use of Forest Resources, Sustainable Tourism, Weather, Sustainable Mining, Sustainable use of Power and Energy Resources, Structure of the Earth, Map Reading and Interpretation, Forces that Affect the Earth's Surface, Introduction to Research, Elementary Survey and Map Making, Photograph Reading and Interpretation, Application of Statistics* and *Transport*.

The analysis of the candidates' performance per topic in CSEE 2021 showed that candidates had good performance (72.23%) in *Solar System, Soil, Human population, Environmental issues and management, Sustainable use of Forest Resources, Solar System, Sustainable Tourism, Weather, Sustainable Mining and Sustainable use of Power and Energy Resources* tested in question 1 and *Water Management for Economic Development* (65.40%) topic tested in question 10.

The candidates performed averagely in the following topics: *Map Reading and Interpretation (*64.80%), *Photograph Reading and Interpretation (*54.80%) *and Introduction to Research* (36.16%). Those topics were tested in question 3, 7 and 8 respectively.

The performance of candidates was weak in the following topics: *Forces that affect the Earth's Surface* (18.90%) tested in question 2 and 4. Other topics are; *Introduction to Research* (22.30%), *Structure of the Earth* (15.90%) and *Elementary Survey and Map Making* (8.90%)which were tested in questions 5, 9 and 6 respectively (see appendix).

4.0 CONCLUSION

The analysis of individual questions shows that the general performance of the Geography subject (CSEE) in 2021 was average since 60.55 percent of the candidates passed. The level of performance has been improved by 6.65 percent in relation to that of 2020 where 53.90 percent of candidates passed. The candidates who passed the exam demonstrated awareness of the demands of the questions, and had adequate knowledge of the subject matters tested,

particularly in question 1 and 10. Moreover, they showed good proficiency in English Language and essay writing skills.

Average performance was observed in questions 3, 7 and 8. These candidates demonstrated moderate ability in identifying the demands of the questions. Moreover, they exhibited moderate knowledge of the subject matters. Similarly, their English language command and essay writing skills were relatively good.

The candidates' weakest performance was observed in the questions 2, 4, 5, 6 and 9. The weakest performance for those questions was attributed to the candidates' limited knowledge in the tested subject matters, as well as their failure to identify the demands of the questions. They also demonstrated inadequate mathematical skills, unsatisfactory mastery of English language, as well as lack of good essay writing skills. These seemed to be obstacles, which prevented them from scoring higher marks in some questions.

5.0 RECOMMENDATIONS

Generally, the performance of the candidates in this Examination was average, although there were some candidates whose performance was weak particularly in questions 4, 5, 6, 9 and 9. These questions were from the *Forces that Affect the Earth's Surface, Elementary Survey and Map Making* and *Structure of the Earth* topics. In order to improve the performance in those topics, the following are recommended:

(i) Teachers are encouraged to use participatory methods in their teaching and learning processes such as case study, site visits, use group discussions, role plays and guest speaker. Thus should be made so as to reinforce the candidates' understanding of the *Elementary Survey and Map Making* and *Introduction to Research* topics so as to improve the candidates' practical skills.

(ii) Depending on the environment, teachers should use pictures, modal, video and site visit on teaching and learning of *Forces that Affect the Earth's Surface* and *Structure of the Earth* topic so that the candidates can observe the targeted physical features.

(iii) Candidates should be emphasized to use English language in their communications within and outside the school compounds. This can be

achieved by establishing English speaking programs so as to improve the candidates' vocabularies, grammar, writing skills and logical arguments.

(iv) Teachers should encourage candidates to read various Geography related books to increase more knowledge and skills in different topics.

(v) Teachers should provide tests at the end of each topic so as to evaluate the candidates' understanding of topic before moving to the next topic. In so doing, the teachers will be aware of the challenges facing the candidates in a particular topic, and that in turn, will help in designing and developing the teaching methods to improve the candidates' understanding.

Appendix

Analysis of Candidate's Performance in Each Topic for Geography CSEE 2021

S/N	Topic	Question Number	Percentage of candidates who scored 30 per cent and above	Remark
1.	*Solar System, Soil, Population and Development, Environmental Issues and Management, Climate, Sustainable Tourism, Weather, Sustainable Mining, Power and Energy Resources.*	1	72.23	Good
2.	*Water Management for Economic Development*	10	65.40	Good
3.	*Map Reading and Interpretation*	3	64.80	Average
4.	*Photograph Reading and Interpretation*	7	54.80	Average
5.	*Introduction to Statistics*	8	36.16	Average
6.	*Introduction to Research*	5	22.30	Weak
7.	*Forces that Affect the Earth's Surface*	2 &4	18.90	Weak
8.	*Structure of the Earth*	9	15.90	Weak
9.	*Elementary Survey and Map Making*	6	8.90	Weak