THE NATIONAL EXAMINATIONS COUNCIL OF TANZANIA

CANDIDATES' ITEM RESPONSE ANALYSIS REPORT FOR THE ADVANCED CERTIFICATE OF SECONDARY EDUCATION EXAMINATION (ACSEE) 2019

155 FOOD AND HUMAN NUTRITION

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155 FOOD AND HUMAN NUTRITION

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FOREWORD

The National Examinations Council of Tanzania is pleased to issue the report on Candidates' Item Response Analysis for the Advanced Certificate of Secondary Education Examination (ACSEE), 2019 in Food and Human Nutrition subject. This report was prepared to provide feedback to students, teachers, parents, education stakeholders, policy makers and the community as a whole on how the candidates responded to the questions.

This analysis of the candidates' responses was done in order to identify the areas in which the candidates faced problems, did well or averagely. Basically, the candidates' responses to the examination questions is a strong indicator on what the education system managed or was unable to offer to learners in their two years of advanced certificate of secondary education.

This report highlights some of the reasons that made the candidates score high or low marks in the questions. Some of the reasons that made few candidates fail to score high marks include inadequate knowledge of some basic concepts of Food and Human Nutrition, provision of incorrect or insufficient explanations, poor mastery of essay writing skills and misinterpretations of the questions. The Council believes that this report will enable the education officers, education administrators, school managers, school quality assurers, heads of schools, teachers and students to come up with proper measures in order to improve learners acquisition of knowledge and skills, hence good performance of the candidates in future examinations. Finally, the National Examinations Council of Tanzania would like to thank everyone who participated in the preparation of this report.

Dr. Charles E. Msonde
EXECUTIVE SECRETARY

1.0 INTRODUCTION

The analysis report presents the performance of candidates who sat for 155 Food and Human Nutrition Advanced Certificate of Secondary Education Examination (ACSEE), in May 2019. The report is based on the theory papers namely, Food and Human Nutrition paper 1 and Food and Human Nutrition paper 2. The examination questions assessed competences according to the 2009 Food and Human Nutrition syllabus.

The Food and Human Nutrition paper 1 and 2 were divided into two sections; A and B with a total of ten (10) questions each. Section A consisted of five (5) short answer questions while section B consisted of five (5) essay questions. Candidates were required to answer all questions in section A and only three questions from section B.

The analysis of examination results shows that 206 (98.56%) candidates sat for this examination of which 203 (98.54%) passed while 3 (1.46%) failed the examination. The rate of candidates' performance in this year has increased by 6.14 percent as compared to 2018 performance in which out of 250 candidates who sat for that examination, 231 (92.40%) candidates passed and 19 (7.60%) candidates failed.

In this report, the performance of candidates in each question is regarded as good if the score ranges from 60 to 100 percent and average if the score ranges from 35 to 59 percent. It is considered poor (weak) if the score ranges from 0 to 34 percent. Good, average and poor performances are indicated by using green, yellow and red colours, respectively presented in figures and appendix A and B.

This report provides the analysis of each question by giving an overview of what the candidates were required to do, the general performance and the possible reasons behind their performance. The sample extracts of candidates' responses and figures that indicate distribution of candidates' scores are presented to support the analysis.

2.0 ANALYSIS OF THE CANDIDATES' PERFORMANCE FOR EACH QUESTION IN PAPER 1

2.1 Section A: Short answer questions

The section had five compulsory questions constructed from the topics of *Food storage, Food composition, Nutrient requirement* and *Technology of specific products*. Each question carried 8 marks. The pass score for each question was 3 marks and above.

2.1.1 Question 1: Food storage

Part (a) of the question required the candidates to briefly describe three temporary grain storage methods commonly used by Tanzanian villagers. In part (b), they were required to give four disadvantages of an underground food grain storage method.

The question was attempted by all (206) candidates of which (18.9%) scored from 5 to 7.0 marks, 71 (34.5 %) scored from 3 to 4.5 marks and 39 96 (46.6%) scored from 0 to 2.5 marks. The general performance in this question was average since 110 (53.4%) candidates scored 3 marks and above. Figure 1 is an illustration of this performance.

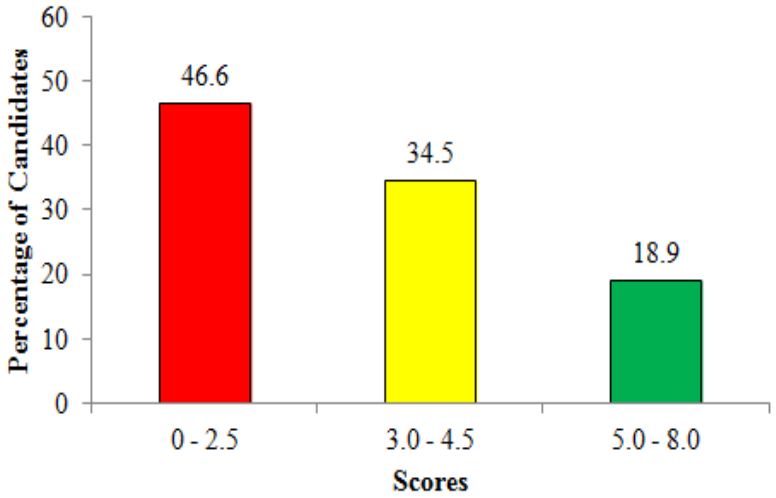


Figure 1: *The candidates' performance in question 1.*

The candidates' response analysis indicates that most of the candidates who scored average and above had adequate knowledge on food grain storage practices, particularly on food grain storage methods and the advantages and disadvantages of each method. The candidates correctly

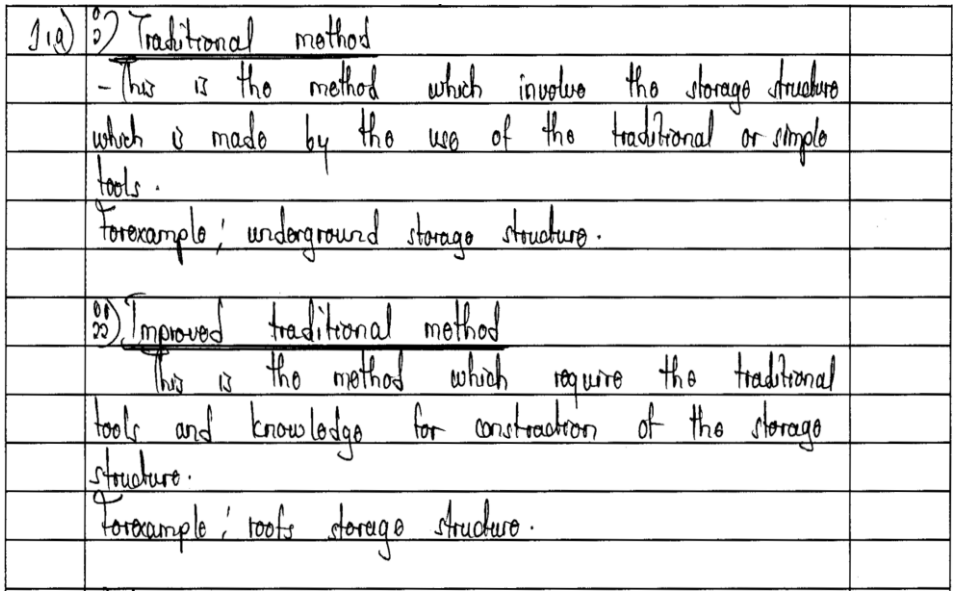
gave the temporary grain storage methods commonly used by Tanzanian villagers in part (a) which are *open timber platforms, aerial storage methods* and *storage on open places*. However, the candidates failed to score full (6) marks allocated to this part because some provided insufficient explanations to some of the mentioned methods while others provided examples of methods instead of the main methods. For example, some candidates *mentioned hanging on trees* and *storing on the ground* instead of aerial and open place storage methods, respectively.

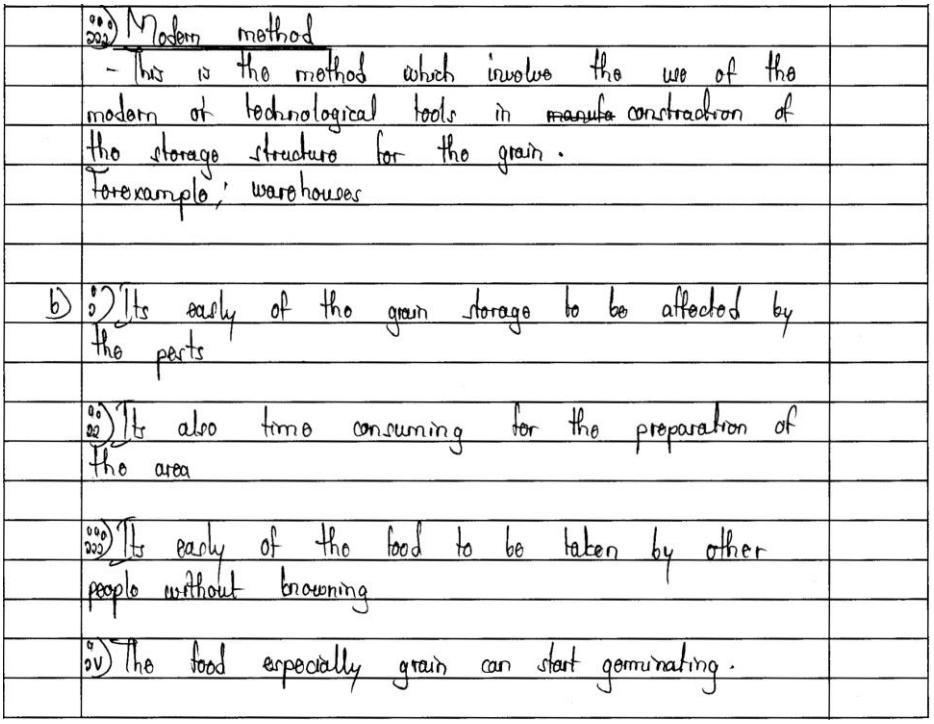
In part (b), majority of these candidates provided less than four correct disadvantages of underground food grain storage method. Some of the incorrect disadvantages provided by these candidates include: *have low durability of grains, increase microbial activities due to high temperature created, grains can easily be reached and taken by run-off water, cause self heating of the grain, the food can be covered by soil hence quantity and quality loss* and *is not air and rodent proof method*. Others mixed the disadvantages of underground method with those of traditional methods of storing food grains. For example, one candidate wrote, *the method is usually less durable* and *the grain is easily infested by pests during storage because the method is not pest proof*. These candidates failed to understand that in the underground food grain storage method, the grain can acquire a fermented smell after a long storage, the storage conditions affect the grain viability and there are risks of penetration by water. Also, the digging and construction of the structure are laborious and it is difficult to inspect and unload the grain.

On the other hand, the analysis shows that the majority of the candidates who scored low marks had inadequate knowledge on food grain storage, particularly on food grain storage methods and structures, as a result, they provided irrelevant responses. In part (a), most of candidates described the types of storage structures which are *traditional, improved traditional* and *modern storage structures*, instead of temporary food grain storage methods. Other candidates in this category provided the permanent grain storage methods commonly used in villages instead of temporary ones. The mentioned methods include *storage in metal drums/containers, plastic drums/containers, sacks, cribs* and *storage in underground pits*. Others provided the traditional methods of preserving foods. For example, one candidate wrote: *Smoking - this is used by Tanzanian villagers because the grain is*

smoked in order to prevent microbial and fungal growth, sun drying - this is used because the sun will dry any moisture content which can favour growth of microorganisms and *salting - this method is used by Tanzanian villagers because it is a cheap method to inactivate microorganisms*. A few candidates mentioned one correct temporary food grain storage method with incorrect explanation.

In part (b), some candidates provided disadvantages of modern storage structures instead of disadvantages of underground food grain storage method. For example, one candidate wrote, *it requires a lot of time, it is expensive to construct* and *it requires skilled person to construct*. Other candidates provided incorrect responses due to lack of knowledge on food storage methods and structures. For example, one candidate wrote the following: *the food grain may be eaten and contaminated by insects and rodents, grains germinate easily under the ground due to the presence of moisture, the grain loose nutritional quality* and *the grains change colour and texture*. This candidate failed to understand that in underground food storage method there is no enough air for pests to survive and the grain to germinate, likewise the risk of nutritional loss is minimum. Extract 1.1 is a sample of responses from a candidate with poor performance.


1 a)
i) Traditional method
- This is the method which involve the storage structure which is made by the use of the traditional or simple tools.
Forexample; underground storage structure.
ii) Improved traditional method
This is the method which require the traditional tools and knowledge for construction of the storage structure.
Forexample; roofs storage structure.



Extract 1.1: *A sample of incorrect responses in question 1.*

In Extract 1.1, the candidate provided incorrect temporary food grain storage methods and disadvantages of underground food grain storage method due to lack of knowledge on food grain storage methods and structures.

2.1.2 Question 2: Food composition

The question required the candidates to draw a diagram of a cross section of wheat grain and label its nutritive parts in part (a). In part (b), the candidates were required to state the location and nutrient composition of each part of wheat grain labeled in part (a).

The question was attempted by 191 (92.7%) candidates and 15 (7.3%) did not attempt it. Data analysis shows that the candidates' performance in this question was poor because 134 (70.2%) candidates scored from 0 to 2.5 marks of which 11 (5.8%) scored 0. In addition, 57 (29.8%) candidates scored 3 marks and above of which 43 (22.5%) scored from 3 to 4.5 marks and 14 (7.3%) scored from 5 to 7 out of the 8 marks allocated to this question. Figure 2 gives a summary of this performance.

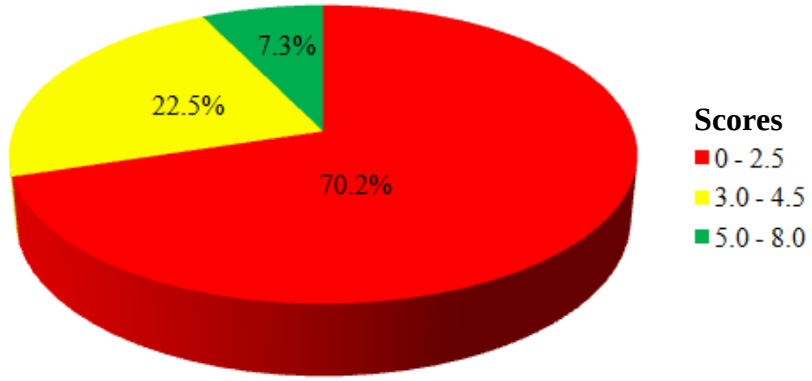


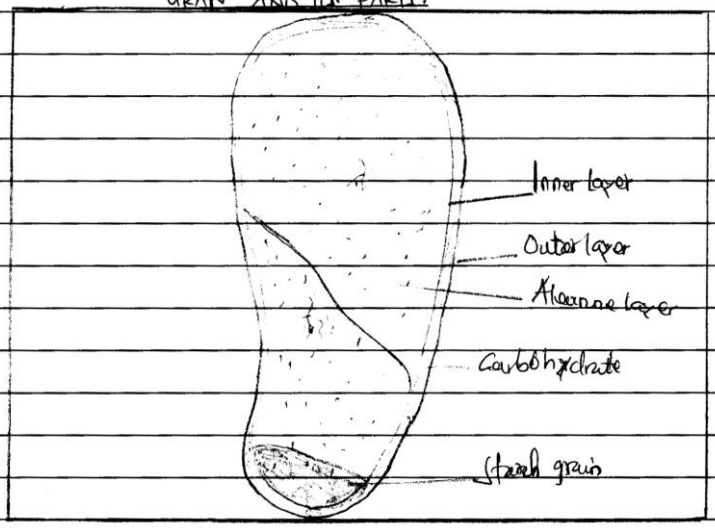
Figure 2: *The candidates' performance in question 2.*

The analysis of the candidates' responses indicates that majority of them scored low marks in this question due to lack of knowledge on the structures of different food grains and their nutritional contents. In part (a), some of the candidates drew a diagram of maize or bean grain. Others provided irrelevant labels to the correctly drawn diagram. For example, one candidate labeled the respective main nutrients found in the nutritive parts of wheat grain as *calcium and iron minerals, vitamins* B_1*, carbohydrates, protein* and *fats* in the place of *testa/bran, scutelum, endosperm, aleurone layer* and *embryo/germ*, respectively. A few candidates interchanged the positions and labels of the parts. For example, one candidate labeled the *bran* as *aleurone layer*, the *germ* as *endosperm* and the *aleurone layer* as *scutellum*.

In part (b), the candidates who provided incorrect diagrams and labels in part (a) also provided incorrect location and nutrient composition of the parts. Some stated the functions of food nutrients in the body instead of the nutrient composition of some of the correctly labeled parts. A few candidates managed to give the nutrient composition of one or two correctly labeled parts but did not state the location of the parts. Extract 2.1 is a sample answer of a candidate with poor responses.

2 a) The diagram of a cross section of wheat flour grain and to label its nutritive parts

THE DIAGRAM OF CROSS SECTION OF WHEAT GRAIN AND ITS PARTS.



b) The location and nutrient composition of each part

i) Layer part → Nutrients are starch grain they contain nutrient which is fat fat which help in the body. They provide vitamin fat in the body

ii) Inner and outer layer: This part contain the carbohydrates which help to provide nutrients to the body for growth well

iii) It contain the oxalic acid. This help in the growth of the body where by it provides nutrients to the body for growth.

iv) Aleurone layer: The layer help in the body which by it provide with the nutrient to the body

v) Carbohydrate molecules: Which provide carbohydrate in the body for the growth of the body

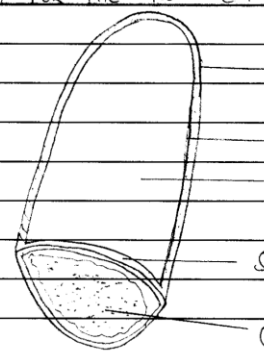
Extract 2.1: *A sample of incorrect responses for question 2.*

In Extract 2.1, the candidate provided an incorrect diagram, labels, location and nutrient composition of the nutritive parts of wheat grain due to lack of knowledge on the structures of different food grains and their nutritional contents.

Majority of the candidates with good performance were able to draw a correct diagram of wheat grain in part (a) of the question. However, some of the candidates drew a diagram of wheat grain with three instead of two layers; others failed to locate and name correctly all nutritive parts, hence, failed to score all 3 marks allocated to this part.

For example, one candidate wrote *endodermis* in the place of *endosperm*. This candidate failed to understand that endodermis is the innermost layer of the cortex that forms a sheath around the vascular tissue of roots and some stems, while the endosperm part of a wheat grain surrounds the embryo and is composed mainly of carbohydrate and some proteins. In part (b), some candidates managed to locate correctly all parts and mentioned one or more nutrients composed in each of the labeled parts of wheat grain. Others stated correctly the location of the parts but provided incorrect nutrition composition in some parts, while few candidates gave the correct nutrition composition to the incorrectly located parts, hence, failed to score full marks. Extract 2.2 is a sample of responses of a candidate who attempted well the question.

2.(a) A DIAGRAM FOR THE CROSS-SECTION OF WHEAT GRAIN.



(b) (i) Bran :- It is located at the surface of the grain.
- It contains minerals and the B vitamins.
- It is easily removed from the grain.

(ii) Alourone layer :- It is the second membrane, as it is coated by the bran.
- It contains proteins in high amount.

(iii) Endosperm :- This is the largest part of the grain.
- It contains a large amount of carbohydrates.

(iv) Scutellum :- This is the layer which separates the endosperm and the germ.
- This layer contains high amount of vitamin B1 than other nutrients like: Lipids.

	(iv) Germ : - This is the lower part of the grain. - It contains a large amount of fats and protein.	

Extract 2.2: *A sample of correct responses in question 2.*

In Extract 2.2, the candidate scored high marks. However, the candidate failed to score full marks because he/she incorrectly drew a third layer between the scutellum and germ.

2.1.3 Question 3: Nutrient requirement

The question required the candidates to briefly explain eight factors to consider when planning family meals.

The question was attempted by 205 (99.5%) candidates and only 1 (0.5%) candidate did not attempt it. The general performance in this question was good since 203 (99.0 %) candidates scored 3 marks and above of which 192 (93.7%) candidates scored from 5 to 8 marks and 11 (5.3%) scored from 3 to 4.5 marks. Only 2 (1.0%) candidates scored from 2 to 2.5 and no one scored below 2 marks out of 8. Figure 3 is a summary of this performance.

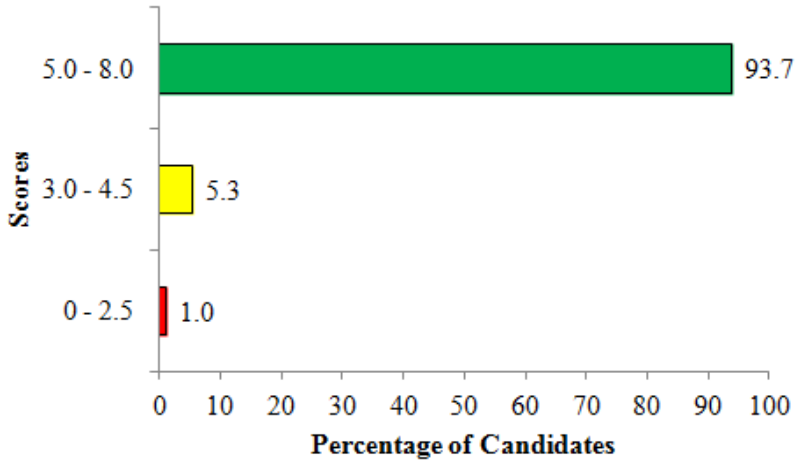
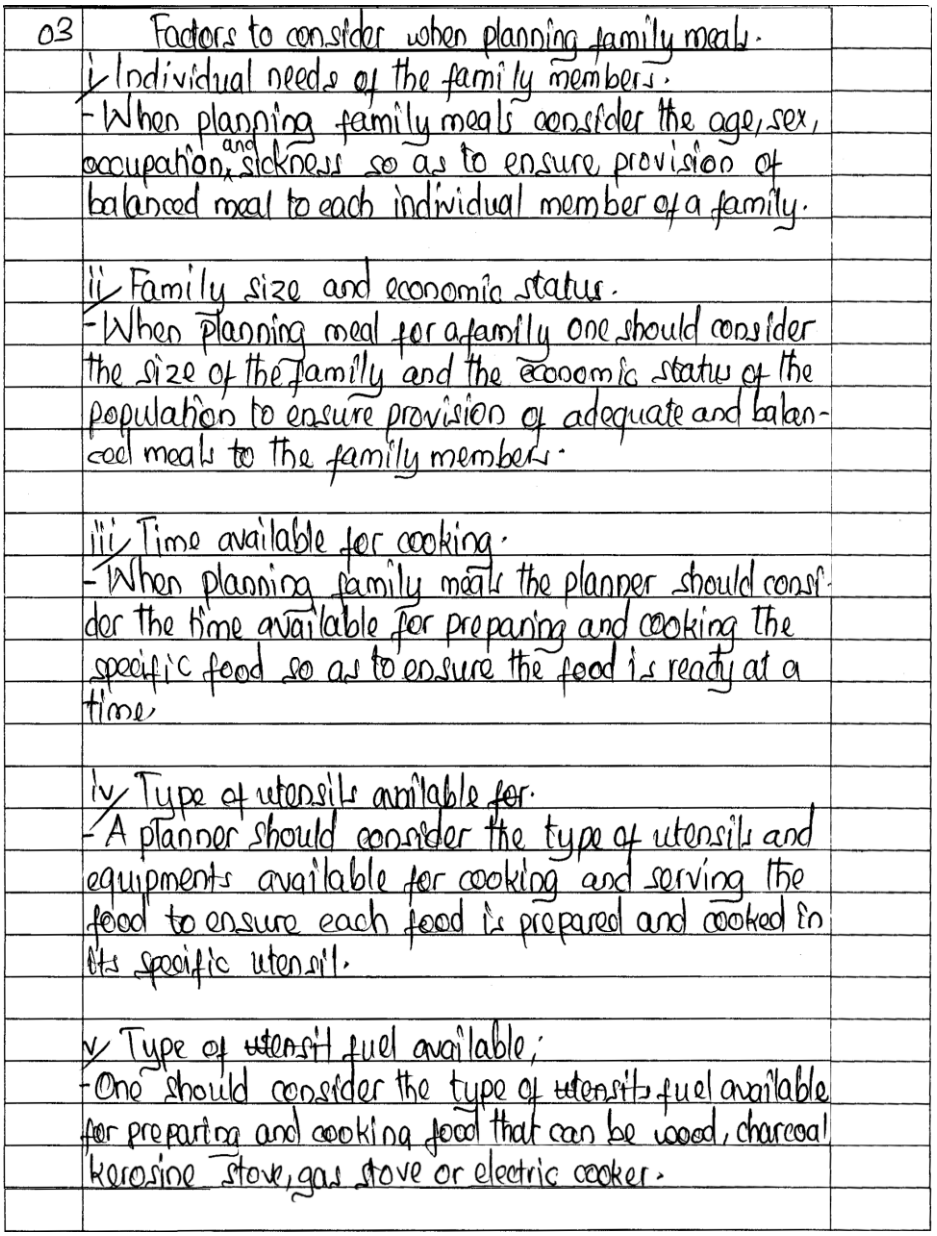


Figure 3: *The candidates' performance in question 3.*

The candidates who performed well in this question had adequate knowledge and practical skills on meal planning. The candidates were aware that when planning family meals, one should make sure that *the meal is balanced, its preparation should serve time and energy, the meal pattern must fulfill family needs, the meal should give maximum nutrients preservation, should give satiety, should consider family size,*

consider availability of foods or foods in season, consider the economic status and *equipment/utensils available for food preparation and cooking.* However, majority of the candidates failed to score full marks in this question because either they provided insufficient explanations to some of the factors provided or they repeated some of the factors. For example, some candidates treated *age, sex, lactating mothers* and *pregnant women* as different factors, while they are supposed to be explained under the same factor: *the meal pattern must fulfill family needs*. Extract 3.1 is a sample of responses from a script of a candidate with good performance.



03 Factors to consider when planning family meals.

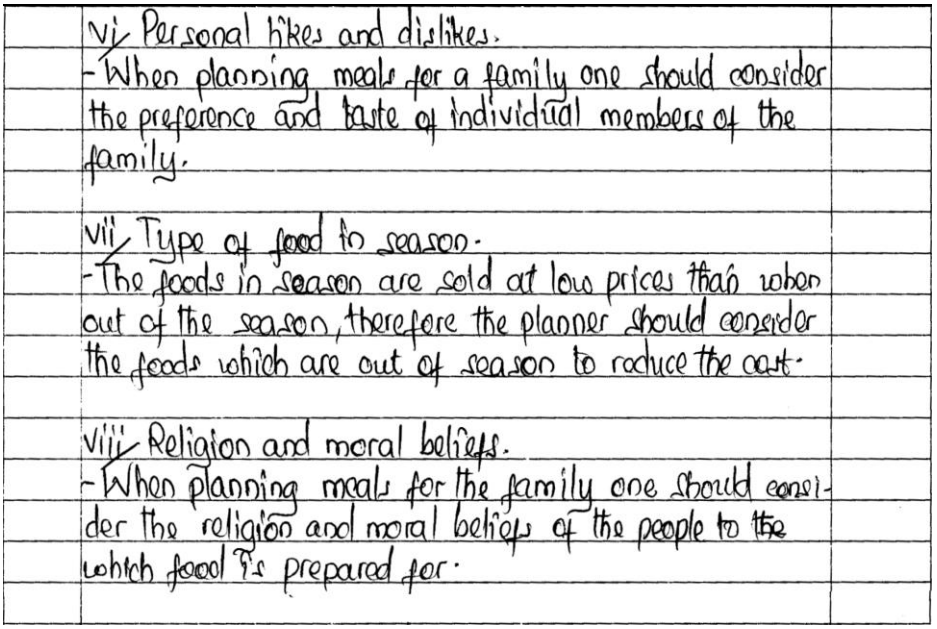
i/ Individual needs of the family members.
- When planning family meals consider the age, sex, occupation, and sickness so as to ensure provision of balanced meal to each individual member of a family.

ii/ Family size and economic status.
- When planning meal for a family one should consider the size of the family and the economic status of the population to ensure provision of adequate and balanced meals to the family members.

iii/ Time available for cooking.
- When planning family meals the planner should consider the time available for preparing and cooking the specific food so as to ensure the food is ready at a time.

iv/ Type of utensils available for.
- A planner should consider the type of utensils and equipments available for cooking and serving the food to ensure each food is prepared and cooked in its specific utensil.

v/ Type of ~~utensil~~ fuel available;
- One should consider the type of ~~utensils~~ fuel available for preparing and cooking food that can be wood, charcoal kerosine stove, gas stove or electric cooker.


vi Personal likes and dislikes.
- When planning meals for a family one should consider the preference and taste of individual members of the family.

vii Type of food to season.
- The foods in season are sold at low prices than when out of the season, therefore the planner should consider the foods which are out of season to reduce the cost.

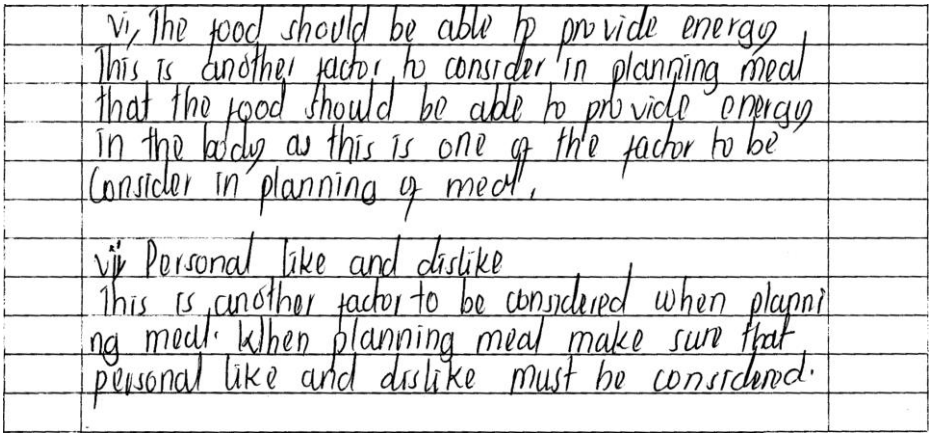
viii Religion and moral beliefs.
- When planning meals for the family one should consider the religion and moral beliefs of the people to the which food is prepared for.

Extract 3.1: *A sample of correct responses in question 3.*

In Extract 3.1, the candidate managed to explain the factors to be considered when planning family meals because he/she had adequate knowledge and practical skills on meal planning.

The candidates who scored low marks in this question had inadequate knowledge on meal planning. Majority of the candidates in this category managed to mention one to three correct factors to be considered during meal planning but provided irrelevant explanations or did not give explanations to the mentioned factors. Others misinterpreted the demand of the question, hence mentioned the factors to consider before planning the menu in catering establishments instead of the factors to consider when planning family meals. Some of the incorrect factors mentioned include the following: *space and equipment available in the kitchen, competitions in the locality, the type of people you are planning to cater for, number and capability of staff in food preparation and serving, study the area in which the establishment is situated, if there are possibilities of outdoor catering or take-away food* and *consider the modern trends in food fashion alongside popular traditional dishes*. A sample of responses from a script of a candidate with poor performance is provided in Extract 3.2.

03	Meal planning, is the saence that highlight the basic nutritional principle and their practical application in every living management. i/ Plan a complete day meal. This is one of the factor to be consider when plann ing meal that when planning meal a person should plan a complete day meal this means when planning meal plan all day meal from the morning to night. ii/ Observe hygrenic habit This is another factor to consider when planning meal. When planning meal the hygrenic rules should be observes as this is one of the factor to be considered in planning meal. iii/ Meals should be balanced This is another factor to consider when planning meal. When planning meal should consider that the meal yo are planning should be balanve that it should contain all nutrients at a right proportion. iv/ Plan a meal at a time. This is another factor to be consider when planning meal then to plan a meal at a time as this is one of the factor to consider in planning meal. So this is one of the factor to consider in planning meal. v/ The meal should contain different foods. This is another factor to consider to be consider in planning meal. That in planning meal should consi der that the meal should contain different food as this is one of the factor to consider in planning meal



Extract 3.2: *A sample of poor responses in question 3.*

In Extract 3.2, the candidate mentioned correct factors to consider when planning family meals in parts (iii), (v) and (vii). However, he/she provided irrelevant explanations to factors in parts (v) and (vii), hence, scored low marks. In addition, the candidate provided incorrect factors in parts (i), (ii), (iv) and (vi).

2.1.4 Question 4: Technology of specific products

Part (a) (i) of the question required the candidates to state two determinants of the choice of a raising agent to be used and give one example of a product and raising agent used in each case. In part (a) (ii), they were required to state what will happen if a filler material is not added to the baking powder during baking by giving two points. Part (b) needed them to briefly explain how physical raising agent brings about its effect in raising the dough.

The analysis shows that the question was attempted by all candidates (100%) of which 31 (15.0%) scored from 5 to 8 marks, 59 (28.7%) scored from 3 to 4.5 marks and 116 (56.3 %) scored from 0 to 2.5 marks. The performance in this question was average because 90 (43.7%) candidates scored 3 marks and above as illustrated in Figure 4.

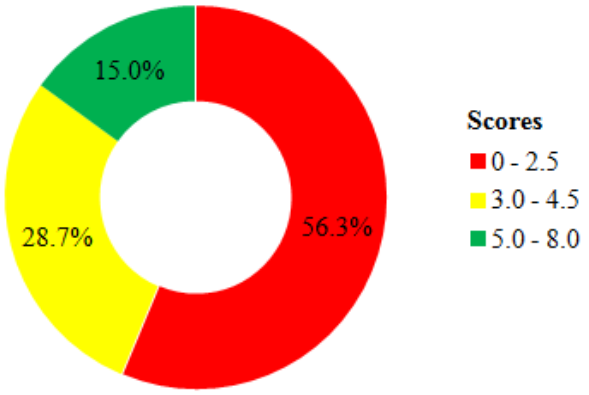
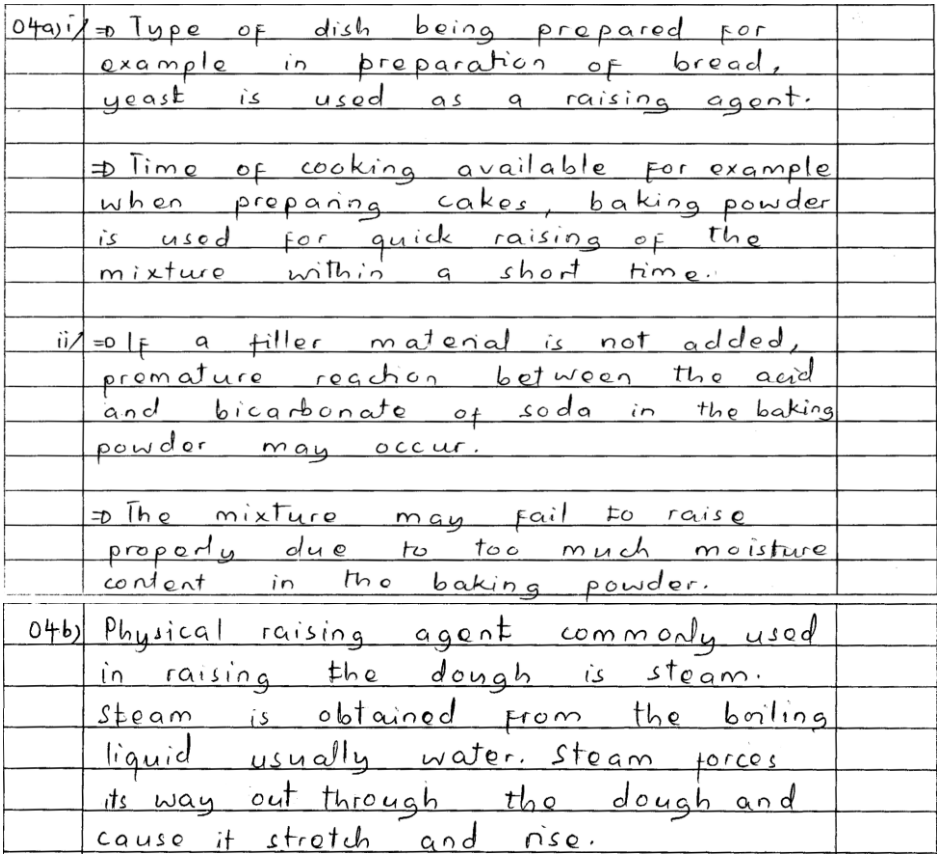


Figure 4: *The candidates' performance in question 4.*

The analysis of candidates' responses shows that the candidates with average and good performances had adequate knowledge and practical skills on raising agents, particularly on their types and properties. They were able to state correctly the determinants of the choice of a raising agent to be used in part (a) (i) as, *the type of product to be prepared, the time available for making the product* and *the quality of the intended product.* They were also able to give an example of a product and raising agent used in each determinant. In part (a) (ii), most of candidates were aware of the functions of filler material added to baking powder during baking which include: to standardize the baking powder, to make baking powder dry and to prevent chemical reaction between the acids and base components of the baking powder. This enabled them to correctly state that, *without a filler material less carbon dioxide gas will be produced, the baking powder will become inactive during baking* and *the acid and base components will react due to lack of buffer condition*. However, some of these candidates failed to provide clear explanations on the determinants of the choice of raising agent to use and the effects of lack of filler material in the baking powder, hence, failed to score full (6) marks allocated to these parts.

In part (b), the candidates were able to explain how the physical raising agent brings about the effects in raising the dough. They were aware that steam which is produced inside the mixture when the liquid present boils raises the dough when forcing its way out through it. However, some of the candidates failed to explain clearly how the physical raising agent (steam) is formed and how it makes the dough rise. For example, one candidate wrote, *the warm water is added into the flour mixture for it to produce steam and raise the dough*. Extract 4.1 is a sample of

responses from a script of one of the candidates who performed well in this question.



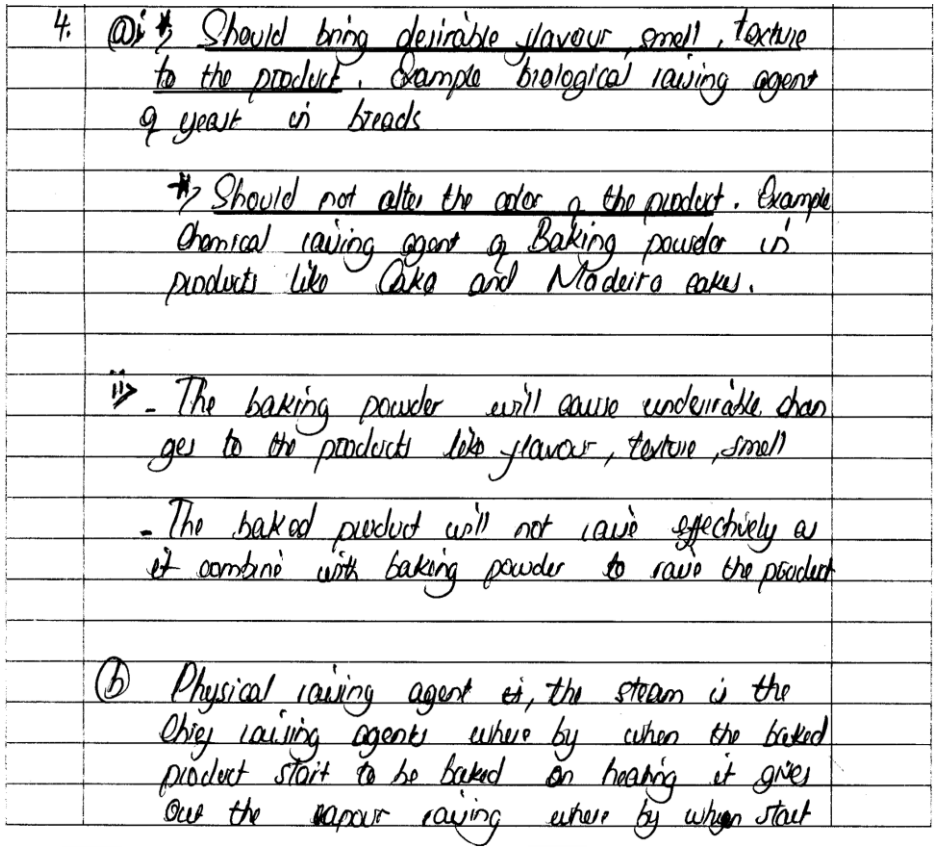
Extract 4.1: *A sample of correct responses in question 4.*

In extract 4.1, the candidate provided correct responses showing that he/she had adequate knowledge and practical skills on the types and properties of raising agents.

Majority of the candidates who had poor performance in this question (56.3%) had inadequate knowledge on the subject matter. Others misinterpreted the demands of some parts of the question. In part (a) (i), majority of the candidates provided the qualities of raising agents such as, *introduce air into the mixture, should be economical in use* and *should not change color, flavour, smell and texture* instead of determinants for the choice of raising agents. Others mentioned the types of raising agents. For example, one candidate wrote, *chemical* and *biological raising agents*. In part (a) (ii), majority of the candidates had insufficient knowledge and skills on the functions of filler material in the baking powder. Consequently, they provided irrelevant responses

such as: *the mixture will lose nutrients, oxygen gas will not be produced in the mixture, dough will lose its lightness, the mixture will be wet, yellow colour will be formed on the product* and *the mixture will be difficult to be backed*.

In part (b), majority of the candidates failed to explain how a physical raising agent brings about its effects in raising the dough mixture. Those who failed to understand the demand of this part of the question mentioned the mechanical raising agents *such as sieving, whisking, creaming, rolling, folding* and *beating.* Others provided incorrect points such as: *steam is added into the mixture before baking, chemical raising agent will produce carbon dioxide, the boiling water produce physical raising agent, the agent will release gas* and *by baking the physical raising agent comes out easily.* These responses reveal that the candidates had inadequate knowledge and skills on the effects of different raising agents in raising the dough mixture. Extract 4.2 is a sample of a response from a candidate with poor performance.


4. (a) (i) Should bring desirable flavour, smell, texture to the product. Example biological raising agent a yeast in breads

(ii) Should not alter the color a the product. Example chemical raising agent a Baking powder in products like Cake and Madeira cakes.

(iii) - The baking powder will cause undesirable changes to the products like flavour, texture, smell

- The baked product will not raise effectively as it combine with baking powder to raise the product

(b) Physical raising agent is, the steam is the chief raising agents where by when the baked product start to be baked on heating it gives out the vapour raising where by when start

4	cooking the food is closed by its lid so the vapour will remain inside the baking tin where the steam will be converted and give a little rise to the dough baked until got warmed return back to the dough and raise it.	

Extract 4.2: *A sample of incorrect responses in question 4.*

In extract 4.2, the candidate failed to respond correctly to any part of the question due to lack of knowledge on raising agents.

2.1.5 Question 5: Nutrient requirement

The candidates were required to outline four properties of vitamin A in part (a), while in part (b), they were required to state three functions of vitamin A in the body. In addition, the candidates were supposed to briefly explain three factors which influence the absorption of vitamin A in the body which forms part (c) of this question.

The question was attempted by 305 (99.5%) candidates and only 1 (0.5%) candidate did not attempt it. The data analysis shows that 32 (15.6%) candidates scored from 5 to 6.5 marks, while 99 (48.3%) scored from 3 to 4.5 marks. The remaining 74 (36.1%) candidates scored from 0 to 2.5 marks. Only 2 (1.0%) candidates scored 0 and no one scored above 6.5 out of 8 marks. The performance in this question was good since 131 (63.9%) candidates obtained 3 marks and above. The performance for this question is summarized in Figure 5.

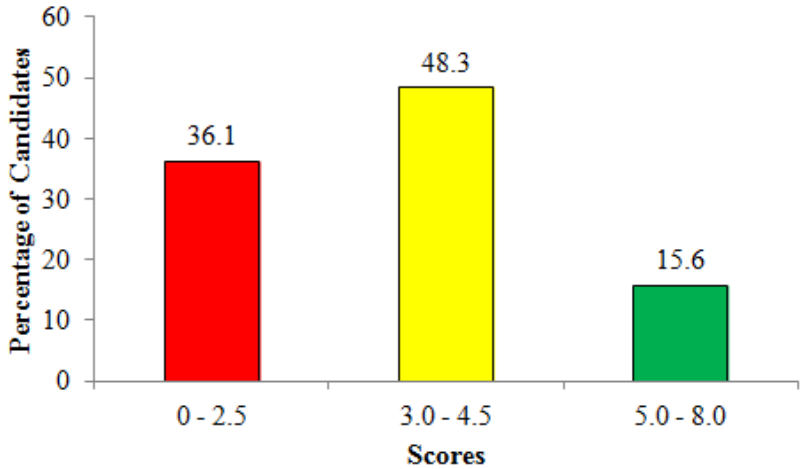


Figure 5: *The candidates' performance in question 5.*

The responses analysis reveals that majority of the candidates who performed well in this question managed to outline the properties of vitamin A in part (a). They understood that *vitamin A is soluble in fat but insoluble in water, is stable to heat, acids and alkalis, is easily oxidized and destroyed by ultra violet rays* and *its colour is pale yellow or pale yellow-green*. They also managed to state correctly the functions of vitamin A in the body in part (b). In part (c), the candidates managed to provide the correct factors which influence the absorption of vitamin A in the body but some listed instead of explaining the factors. Others gave insufficient explanations.

The candidates who scored average marks managed to provide correct properties of vitamin A in part (a) and the functions of vitamin A in the body in part (b). However, in part (c), the candidates provided incorrect factors which include: *presence of phytic acid/phytates, haem iron, the acidic medium of the stomach* and *presence of parasites in the body.* These candidates failed to understand that these are some of the factors which influence the absorption of iron in the body, and not absorption of vitamin A.

Furthermore, the analysis reveals that most of candidates who scored low marks had insufficient knowledge on the properties, functions and factors affecting the absorption of different nutrients in the body. In part (a), the candidates managed to provide the most familiar properties of vitamin A which are *insoluble in water* and *soluble in fat*. Therefore, they gave incorrect properties such as: *is active in organic solvent, they are made up of fat soluble matter, is denser than water, they can be excreted in the body, is not stored in the body, is lost in water, is more volatile, is easily destroyed by cooking temperature* and *can be destroyed by heat.* They also mentioned incorrect colours of vitamin A such as *red, dark green, purple, green* and *orange*. These candidates failed to understand that these are the colours of dietary sources of vitamin A and not the colours of vitamin A.

In part (b), the candidates guessed the functions of vitamin A in the body. Consequently, they wrote functions of other nutrients. For example, one candidate wrote, *for healing wounds, prevent anemia* and *helps to make connective tissue which binds cells in bone and muscle tissue together*. This candidate failed to understand that these are functions of vitamin C and not of vitamin A. Another candidate stated:

vitamin A gives the body building materials, to make the skin be soft and healthy and *for the proper absorption of calcium and phosphorus minerals in the intestines* which are not correct. Some of the candidates in this category misinterpreted part (c) of the question. As a result, they provided the properties of vitamin A in the body. For example, one candidate wrote; *vitamin A is stored in the body, is fat soluble vitamin* and *is not easily affected by acid or heat*. Others left this part unanswered due to lack of knowledge on the concept of vitamin A absorption. A few candidates managed to mention one or two correct factors which influence the absorption of vitamin A in the body but did not give any explanation. Extract 5.1 is a sample of a response from a candidate who scored low marks.

5a	Properties of vitamin A:	
	- On heating vitamin A cause effect.	
	- There is the effect of vitamin A on heat.	
	- It is insoluble in water.	
	- It can undergo saponification.	
5b.	- Vitamin A used to prevent diseases like colour blindness.	
	- Vitamin A used in provision of energy in the body.	
5c.	- The amount needed by the body.	
	- Availability of iron in the body.	

Extract 5.1: *A sample of incorrect responses in question 5.*

In extract 5.1, the candidate provided incorrect responses because he/she had insufficient knowledge on the properties, functions and factors affecting the absorption of different nutrients in the body.

2.2 Section B: Essay questions

The section had five essay questions and the candidates were required to answer only 3 questions. The questions were constructed from the following topics: *Food processing and preservation, Food production, Food composition* and *Food storage*. Each question carried 20 marks. The pass score for each question was 7 marks and above.

2.2.1 Question 6: Food processing and preservation

The question required the candidates to support the statement, "Food fortification is an important practice to improve the micronutrient intake of intended individuals" by explaining how cereal flour and common salt are fortified in part (a). Part (b) required them to explain seven necessary conditions for a successful food fortification.

This question was opted by 72 (35.0%) candidates and left by 134 (65.0%) candidates. Data analysis indicates that 28 (38.6%) candidates scored from 12 to 16 marks, 37 (51.4%) scored from 7 to 11.5 marks while 7 (9.7%) scored from 2.0 to 6.5 marks out of 20. The performance of this question was good because 65 (90.3%) candidates scored 7 marks and above. Figure 6 illustrates this performance.

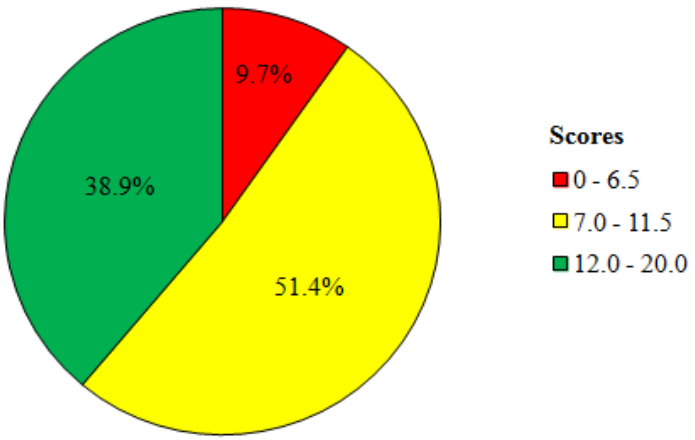


Figure 6: *The candidates' performance in question 6.*

The analysis of the candidates' responses indicates that those who scored 7 marks and above had adequate knowledge and practical skills on food fortification. In part (a), the candidates managed to explain that, *cereal flour is fortified with folic acid, thiamine, niacin, calcium and iron so as to prevent anaemia and pellagra* and *common salt is fortified with iodine for the purpose of preventing endemic goitre.* However, the candidates failed to score full marks in this part because they mentioned

only one example of a nutrient used in the fortification of cereal flour. Others mentioned incorrect nutrients used in the fortification of cereal flour such as *vitamin D* and *fluoride*. These candidates failed to understand that vitamin D is commonly added to margarine, vegetable oils and dairy products to prevent rickets and osteoporosis, while fluoride is used in safe amounts in the fortification of tape water supplies to prevent tooth decay (dental caries).

In part (b) of this question, majority of the candidates managed to explain the conditions necessary for a successful food fortification. They were aware that for food fortification to be successful, it is important that: *the nutrient deficiency in the population should be identified, the fortification should not raise the price of the food, fortified food should have a wide consumption, the food carrier and the nutrient to be added should be suitable* and *there should be few manufacturers.* Other important conditions provided by the candidates include: *fortification should be monitored and controlled, the appropriateness of legislation needs should be considered* and *the intended fortification should be technically feasible*. However, majority of these candidates failed to score full (14) marks allocated to this part because they provided three to six instead of seven correct conditions required. Others provided insufficient explanations to some of the correctly mentioned conditions.

Further analysis indicates that majority of the candidates who opted for this question scored low marks due to misconceptions on the concept of food fortification. In part (a), some of the candidates explained the uses of cereal flour and common salt instead of explaining how they are fortified. For example, one candidate wrote: *Cereal flour is fortified to improve the thickness of the food during cooking and also provide energy for the body* and *common salt is fortified to add flavour to the food so as to improve the taste of the food.*

A few candidates had insufficient knowledge on the fortification of different foods, so they provided incorrect responses. For example, one candidate wrote the following: *Cereal flour is fortified by addition of vitamins so as to correct the deficiency of vitamins* and *common salt is fortified by iron to correct iron deficiency in the body*.

However, in part (b), some of the candidates provided the factors to consider when planning for national food fortification programs instead of the conditions necessary for a successful food fortification. The incorrect factors mentioned include: *consider the effect of fortification to the development of people and country, consider the costs of fortification and distribution, if a nutritional deficiency exist and if fortification will alleviated it, consider alternatives to fortification, volume or safety amount required, nature of food crops to be used* and *the existing processing and technology ability*. Others mentioned the factors to consider during food fortification instead of the conditions necessary for a successful food fortification. A few candidates mentioned the common fortificants such as, *table salt, margarine, cooking oil, cereal flours, tea leaves, skimmed milk powder, packed fruit juices* and *breast milk substitutes* and stated the possible nutrients which are added to these products. Extract 6.1 is a sample of responses from one of the candidates who scored low marks.

Nutrient needed, this is a good way which used for food to be fortification because the successful of food fortification must be to have a nutrient needed inorder to improve food fortified and must have a available of food fortification.

Carrier fortification quality, this is meant simply that the food fortification is used as a carrier fortifican due to avoid good food without fortified.

Should be Available, this is means simply that the food fortification shaild be available due to the presence all ingredient must be available in the presence of good food

Should not affect consumption pattern. this is means simply that the the fortification is not affect food consumption because the food which are fortified is the food which are already to made for eating to that fortied food but is help to have a

Successful ~~wi~~ food fortification due to get well food due to the use of fortified food.

Should not change the colour, texture, order, ~~taste~~ taste of the food, this it means simply that the change of the colour, texture order and taste of the food because when fortified food inorder to increase quality of the food and a increase the shelf life of the food.

must be stable under various climatic condition, this it means that the stable under various climatic condition due to food it fortified by using all igredient which are available and both of out of the seasons and the food must be good for consumption.

Alternative of fortification food, this it means simply that the food which are fortified they advice to use different way which ensure the alternative way which to ensure the food it successful for fortification.

therefore food fortification, these it all about food when they are introduce by one or more nutrient it added to a food for the purpose of improving the nutritional value inorder to increase quality of the food.

Extract 6.1: *A sample of incorrect responses in question 6.*

In Extract 6.1, the candidate provided incorrect response in part (a). In part (b), he/she provided the factors to consider during food fortification instead of the necessary conditions for a successful food fortification.

2.2.2 Question 7: Food production

The question required the candidates to explain nine actions to be taken by any government in order to improve food security at household level.

This question was chosen by 158 (76.7%) candidates of which 2 (1.3%) scored from 12 to 13 marks, 79 (50.0%) scored from 7 to 11.5 marks and 77 (48.7%) scored from 2.5 to 6.5 marks. No candidates who scored above 13 marks in this question and the lowest marks were 2.5. Generally, the candidates' performance in this question was average, since 81 (51.3%) of them scored 7 marks and above. Figure 7 is an illustration of this performance.

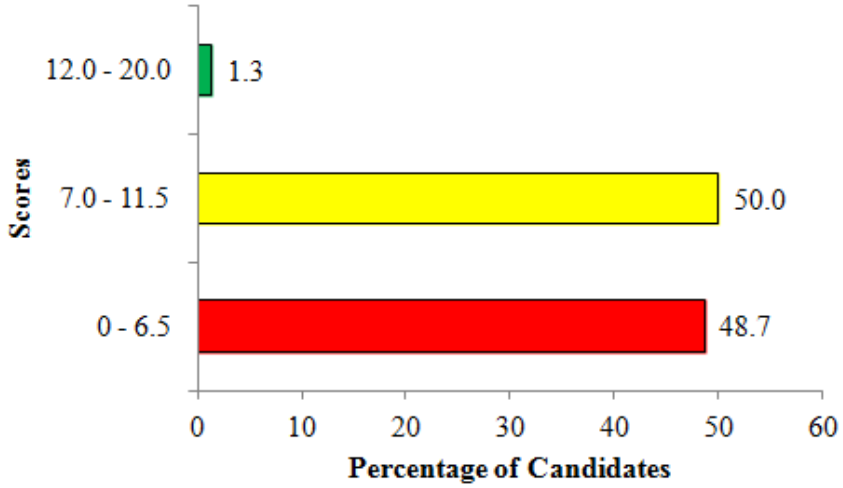


Figure 7: *The candidates' performance in question 7.*

The analysis of the candidates' responses indicates that majority of the candidates who scored from 7 to 13 marks understood that it is the responsibility of any government to ensure that each household has adequate access to amounts of food of the right quality to satisfy the dietary needs of all of its members throughout the year. This enabled them to provide the correct actions which should be taken by any government in order to improve food security at the household level such as: *to establish sustainable government food grain reserves, to ensure sustainable poverty alleviation programs, increasing agricultural food production by using sustainable methods, educate people about safe food crop storage and processing, reform the purchase of cash crops produced by small farmers so that they can earn more from their produce* and *to provide subsidies to producers and consumers to ensure availability of food throughout the year by providing free social services.* Other mentioned actions were: *implementing food price control strategies, improving equity by ensuring that all people pay a fair share of taxes and increasing minimum wages, releasing foods to the people with food shortage* and *improving food marketing and distribution*. However, these candidates failed to score more than 13 marks because they provided less than nine correct actions. They included incorrect actions in their responses such as: *government to provide reliable climatic information, to encourage family planning to ensure small family size, ensure equal distribution of food to all family members, improvement of infrastructure in food processing, government to seek food aids from rich countries* and *government must ensure that people use the available crops properly*.

Further analysis indicates that the candidates who performed poorly in this question had insufficient knowledge on the roles of government in the improvement of the household food security. As a result, they mentioned only one to four correct actions which any government should take in order to improve food security at the household level instead of the required nine. Some of the irrelevant actions provided by these candidates were: *by the government to provide social services, formation of strict laws about food, food fortification for improvement of nutrient intake, improvement of food manufacturing industries, government to establish household gardens and fishing ponds, creating enough social centers* and *any government to provide supplementary foods*. Other candidates provided incorrect explanations to the correctly mentioned actions. For example, one candidate wrote: *controlling food price - any government should make the food price as lower as possible for all people to buy enough foods* and *increasing production of agriculture products - any government should provide farms and offer enough inputs such as seeds, fertilizers and chemicals to increase food production*. Extract 7.1 is a sample of responses from one of the candidates who scored low marks.

7. Food security is the increasing the availability and accessibility to the all the people and all the time and to consider the special group like Children and Adolescence. The food security in household level may lead the production of the more the nutrient in the food production in the food substance in the nutrition in of the goverment to secure the house hold security. The following are the improvement of food security at house hold security level which are:-

Formulation of the strong policy. The people are prudent in the household level the strong policy of the provide of the goverment the family have the tubality to secure the food which enough to the all family members to have the share to the provide the people in the store the food in the food production the family and society.

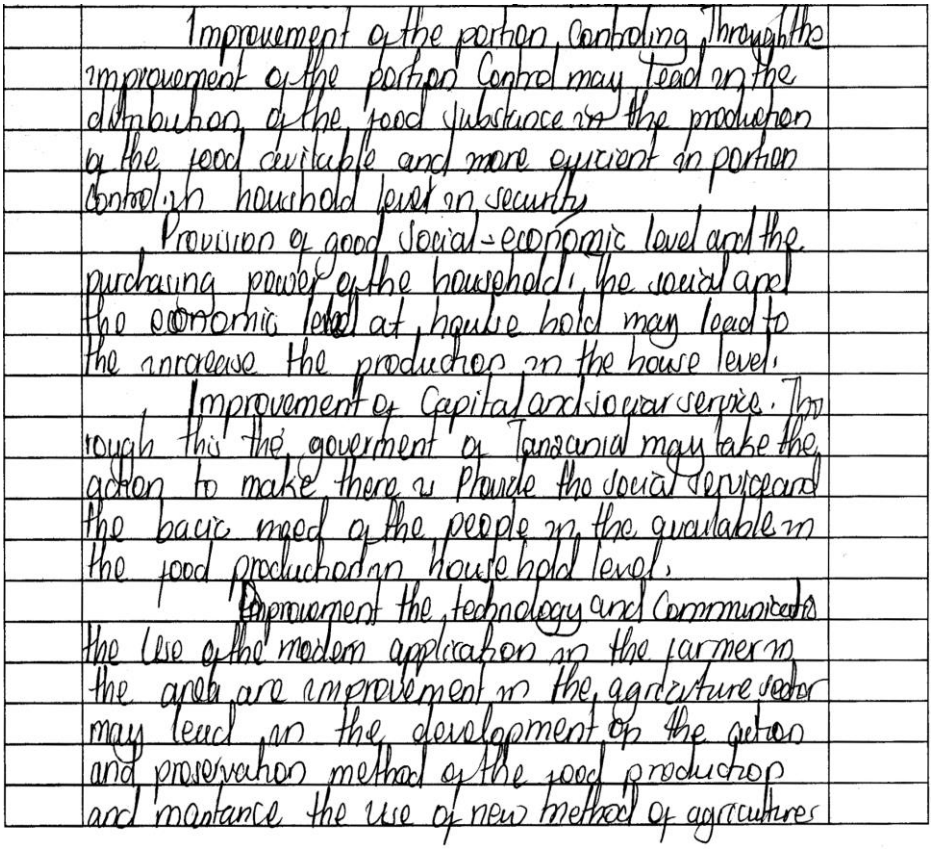
The improvement on provide the education to the member of family and society and household level by introducing the education in the family level the people in the maintance of the family level of the family which may lead to the improvement of the cultural in production education at family level and house hold level.

Improvement of the living standard condition of the people. The goverment they are improvement in the improvement of the living standard condition of the people on the family level in the to secure the amount of the food for they are need of the family level.

Improvement of the agriculture sectors. They are improvement on the social service of the sector and the production and the production of the house hold of the food production.

Improvement of the distribution of the food and the use food. The food are improved in the management of the use in the production of the production improvement of the distribution and intake of the food production of the food production and use of the food in household.

Provision of good marketing and good technology. The improvement of the marketing may lead in the improvement of the low of the marketing are the and they are more provision of good marketing and good production and faculties and moderate and more efficient in production in marketing in household


Improvement of the portion Controling Through the improvement of the portion Control may lead on the distribution of the food substance in the production of the food available and more efficient in portion control in household level in security.

Provision of good Social-economic level and the purchasing power of the household, the social and the economic level at house hold may lead to the increase the production on the house level.

Improvement of Capital and social service. Through this the goverment of Tanzania may take the action to make there is Provide the social service and the basic need of the people in the available in the food production in house hold level.

Improvement the technology and Communication the use of the modern application in the farmer in the area are improvement in the agriculture sector may lead on the development on the action and preservation method of the food production and maintance the use of new method of agriculture

Extract 7.1: *A sample of irrelevant responses in question 7.*

In Extract 7.1, the candidate provided six irrelevant actions to be taken by any government in order to improve food security at the household level. He/she also provided irrelevant explanations on the improvement of food and food use, good marketing and living standards, hence, scored low marks.

2.2.3 Question 8: Food composition

The candidates were required to describe nine factors that affect nutritional value of food stuffs.

The question was opted by 61 (29.6%) candidates. This means 145 (70.4%) candidates did not attempt this question. The question had average performance because, 33 (54.1%) candidates scored 7 marks and above. The analysis of data on candidates' performance indicates that 2 (3.3%) candidates scored from 12 to 12.5 marks, 31 (50.8%) scored from 7 to 11.5 marks while 28 (45.9%) scored from 0.5 to 6.5 marks. No candidates who scored above 12.5 marks out of 20. Figure 8 summarizes this performance.

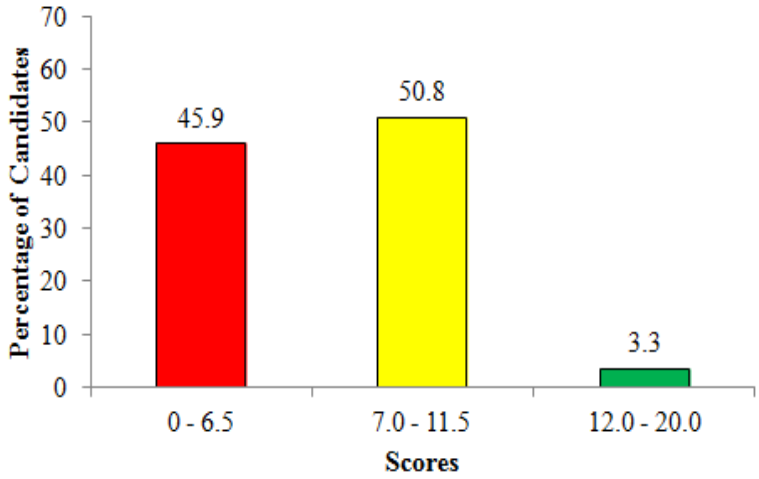


Figure 8: *The candidates' performance in question 8.*

The analysis of the candidates' responses indicates that majority of the candidates who had average and good performances provided three to six correct factors that affect nutritional value of food stuffs. They explained correctly how the *climatic condition, level of maturity, methods of food preparation and cooking, variety and species of the plant or animal, type of soil and how the plants or animals are raised, methods of processing* and *conditions of transport and storage structure* affect nutritional value of food stuffs. However, the provision of less than nine correct factors and irrelevant or insufficient explanations to some of the mentioned factors caused these candidates to fail to score full marks.

On the other hand, the candidates who had low scores misunderstood the question. For instance, some candidates perceived the factors that affect nutritional value of food stuffs as the factors affecting growth of microorganisms. Others provided the factors which affect the nutrient needs of individuals such as *sex, age, occupation or level of activity, body size* and *physiological status of the body* instead of the factors affecting nutritional value of food stuffs. In addition, a few candidates just outlined few correct factors instead of explaining them. Extract 8.1 is a sample of responses from a candidate with poor performance.

8. Food is any solid or liquid substance that when taken by the body provide the body with necessary functions each of provide the body with energy. Where by nutrients are chemical substance found in food and ~~plus~~ when the body receive utilize and play the necessary function example portein for growth and repair of worn out tissues.

The following are the factor that affect nutritional value of food stuff.

Moisture content is one of the factor where by the food with high moisture content lead to the increase of microorganisms in the food where then affect the nutrients in the food microorganisms prefer foods with high moisture content.

Nutrient content is also another factor that affect the nutritional value of food stuffs. That a food with a large nutrient content is mostly likely to be affected by microorganisms since also microorganism need nutrients for their growth.

Biological structure is also a factor affecting the nutritional value of food stuffs. In which the foods containing a covered structure is ~~likely~~ mostly not affected by microorganisms since their under structures are removed ~~but~~ the example egg has the eggshell and groundnuts has a covered peel, While foods that have no a biological structure are, mostly likely to be affected by the microorganisms and that affect the nutritional value of the food.

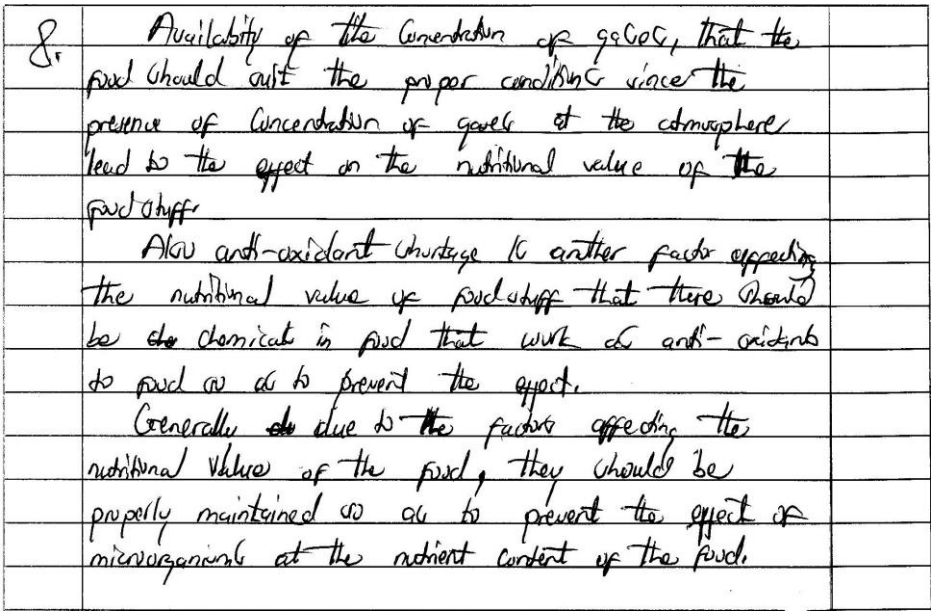
Temperature is also another factor that affect the nutritional value of the food stuffs. That is ~~the~~ the food should have an optimum temperature

8 that organisms cannot attack. That it should not have a very high temperature since some of organisms work best at high temperature and should not be a low temperature since also there are microorganisms that work best at lower temperature. Hence the food should have an optimum temperature so as to prevent the effect.

PH Content is also another factor affecting the nutritional value of food stuffs. The food also should be kept at an optimum pH and prevent keeping food at high pH and low pH since there are microorganisms that affect the ~~fo~~ nutritional value of food and can survive at the the lower and higher pH value.

Oxidation - reduction potential is also another factor affecting the nutritional value of the ~~food~~ stuffs. Food should be kept at a proper condition since Microorganisms ~~are~~ can ~~the~~ live at both ~~areas~~ conditions aerobically and anaerobically hence can affect the nutrient value of the food such that food should be kept at an appropriate condition.

Relative humidity is also another factor that affect the nutritional value of food stuffs. Therefore food with should be stored at a condition compared to the relative humidity of the place. Since microorganisms affect the ~~food~~ nutritional value of the food so if the ~~not~~ relative humidity at the atmosphere is high the food should should be kept low but if the atmosphere is with low humidity then the content of the food should be kept high so as to prevent the entry of micro-organisms in the food.


8. Availability of the concentration of gases, that the food should suit the proper conditions since the presence of concentration of gases of the atmosphere lead to the effect on the nutritional value of the food stuff.

Also anti-oxidant shortage is another factor effecting the nutritional value of food stuff that there should be the chemical in food that work as anti-oxidants to food so as to prevent the effect.

Generally ~~the~~ due to the factors effecting the nutritional value of the food, they should be properly maintained so as to prevent the effect of microorganisms at the nutrient content of the food.

Extract 8.1: *A sample of incorrect responses in question 8.*

In Extract 8.1, the candidate explained the factors that affect microbial growth in foods instead of the factors that affect nutritional value of food stuffs due to misconception.

2.2.4 Question 9: Food processing and preservation

Candidates were given the statement, "Fish are highly perishable food items which need immediate preservation so as to prevent spoilage" and required to support it by explaining three reasons for the rapid spoilage of fish in part (a), and in part (b), four traditional methods of preserving fish.

The question was opted by 159 (77.2%) candidates and 47 (22.8%) did not opt it. The candidates' performance in this question was good since 149 (93.7 %) candidates scored from 7 to 17 marks of which 36 (22.6%) scored from 12 to 17 marks and 113 (71.1%) scored from 7 to 11.5 marks. The rest 10 (6.3%) candidates scored from 2.5 to 6.5 marks out of 20. Figure 9 illustrates the candidates' performance in this question.

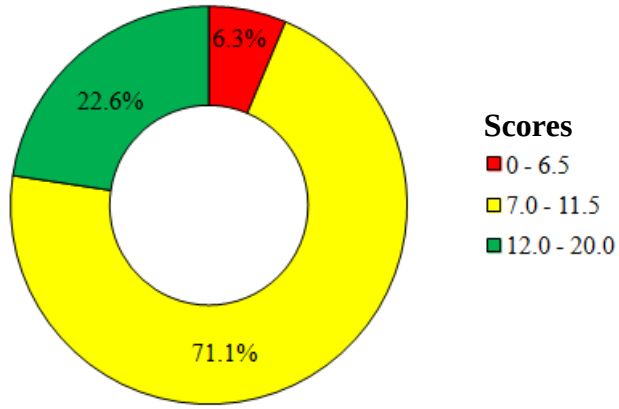


Figure 9: *The candidates' performance in question 9.*

Data analysis indicates that the candidates who performed well in this question were able to explain the reasons for the rapid spoilage of fish in part (a). The candidates were able to explain how the characteristics of fish such as *being cold blooded animals with high moisture content, they struggle much when removed from water before they die, they contain mainly unsaturated fatty acids* and *they contain nitrogenous compounds* make them spoil rapidly. However, most of candidates were not able to explain clearly how the mentioned reasons facilitate rapid spoilage, hence scored low marks in this part. Others provided only one or two correct reasons for rapid spoilage of fish instead of three. The incorrect responses provided by these candidates include: *fish have soft texture, they have internal parts which deteriorate easily, they contain more protein, are sources of food for microorganisms, are perishable foods* and *they have high respiration rates*. In part (b), the candidates managed to explain the traditional methods of preserving fish. However, some of them mixed traditional and modern methods of preserving fish by mentioning methods such as *freezing, canning* and *using chemical preservatives*. Extract 9.1 is a sample of responses from a candidate with good performance.

9. Perishable food are the type of food which they easily decompose in a short period of time. An example of perishable food is a fish. This food or organism need to be preserved without taking time from when they are fished. The following are the reasons as to why fish ~~spoil~~ undergo spoiling rapidly:

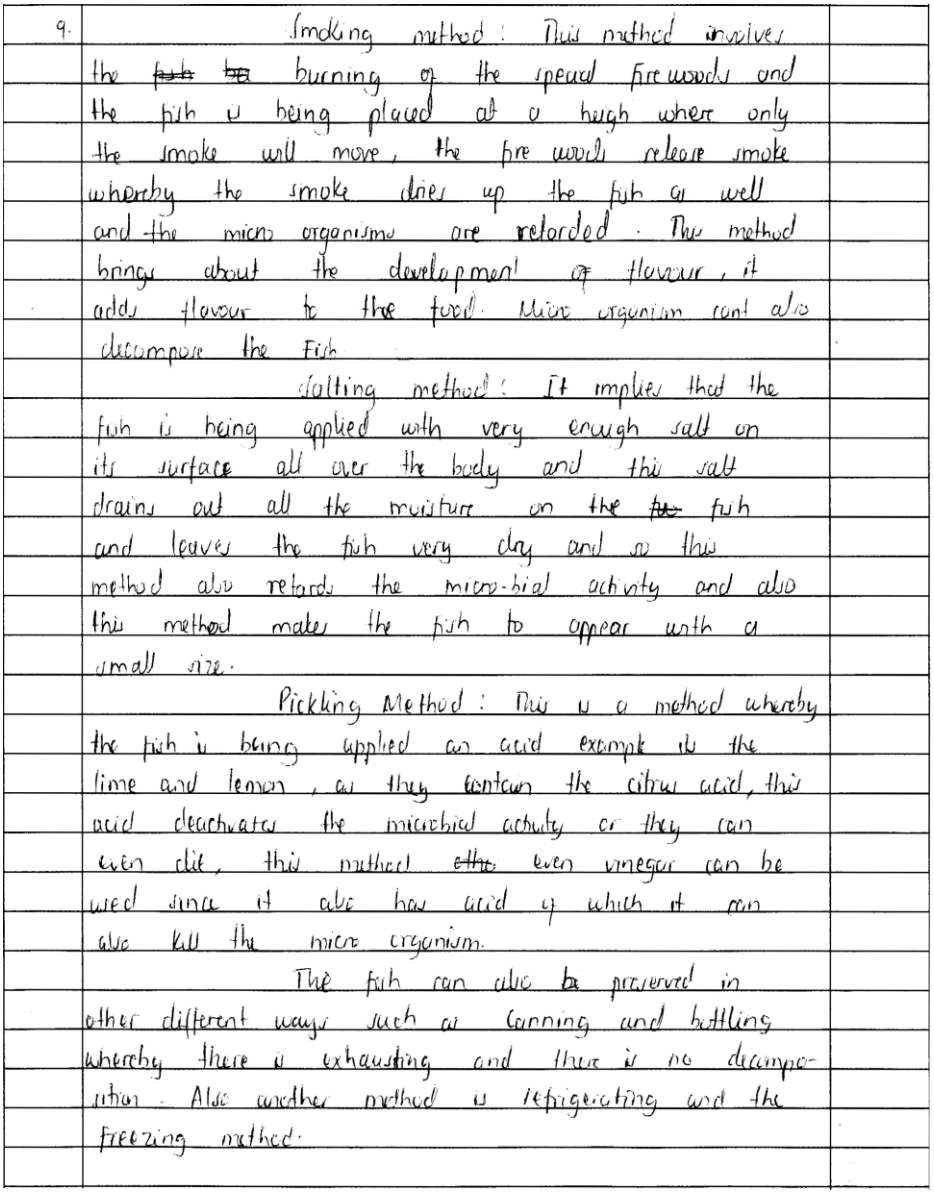
High fat content in the body: It contains the fat which they are made up of the carbon, Numerous Hydrogen and oxygen. They contain the unsaturated fats. And so when the fat undergoes oxidation it leads to odour thus spoilage

High moisture content: the fish contains the moisture of which it all regulates to the spoilage since the moisture can favour the growth of the micro organism and thus spoilage.

Fish contains nitrogenous compounds with ammonia. It has a shocking smell and so when the ~~organs~~ of internal organs of a fish are left inside the fish's body, they contain ammonia of which they accelerate the spoilage.

Food preservation is the way of retarding or slowing down the spoilage of food for prolonging the shelf life. Methods of preserving the fish by using the traditional method are such as

Drying method: This is the process whereby the fish is being placed under the direct sunlight for enough time. this method retard the microbial growth in the body of fish this is because the water and moisture has been drained out from the body ~~and~~ by using of the sunlight and so the micro organisms cant decompose the fish with no moisture.


9. Smoking method: This method involves the ~~fish~~ ~~the~~ burning of the spread fire woods and the fish is being placed at a heigh where only the smoke will move, the fire woods release smoke whereby the smoke dries up the fish as well and the micro organisms are retarded. The method brings about the development of flavour, it adds flavour to the food. Micro organism cant also decompose the Fish

Salting method: It implies that the fish is being applied with very enough salt on its surface all over the body and this salt drains out all the moisture on the ~~fish~~ fish and leaves the fish very dry and so this method also retards the micro-bial activity and also this method makes the fish to appear with a small size.

Pickling Method: This is a method whereby the fish is being applied an acid example is the lime and lemon, as they contain the citric acid, this acid deactivates the microbial activity or they can even clot, this method ~~ethe~~ even vinegar can be used since it also has acid of which it can also kill the micro organism.

The fish can also be preserved in other different ways such as canning and bottling whereby there is exhausting and there is no decomposition. Also another method is refrigerating and the freezing method.

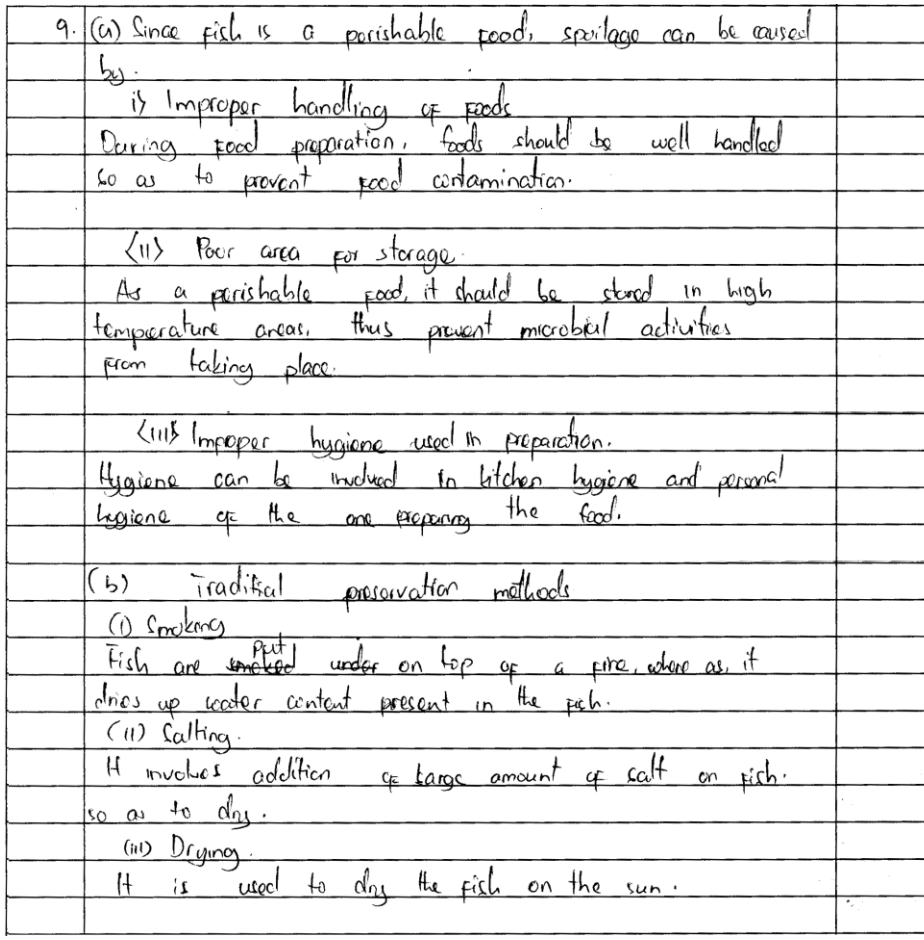
Extract 9.1: *A sample of correct responses in question 9.*

In Extract 9.1, the candidate responded correctly to all parts of the question because he/she had adequate knowledge on the spoilage and preservation of fish.

A few candidates (6.3%) had poor performance because they failed to understand the requirement of the question. In part (a), some of the candidates mentioned the sources of microbial food contamination, while others wrote the symptoms of spoiled fish. For example, one candidate wrote the following reasons for the rapid spoilage of fish: *fish*

produce bad smell like ammonia, texture of the flesh is changed to be soft and *the skin and other parts are dry and change colour*.

However, in part (b) the candidates managed to mention two to four correct traditional methods of preserving fish although they provided incorrect or insufficient explanations. Other candidates mixed the traditional methods of preserving fish with the methods of cooking fish which include, *steaming, boiling, deep frying* and *roasting*. The candidates also showed poor mastery of essay writing skills, as they did not include introduction and conclusion in their responses. Extract 9.2 is a sample answer of a candidate with low score.


9. (a) Since fish is a perishable food, spoilage can be caused by:
(i) Improper handling of foods
During food preparation, foods should be well handled so as to prevent food contamination.
(ii) Poor area for storage
As a perishable food, it should be stored in high temperature areas, thus prevent microbial activities from taking place.
(iii) Improper hygiene used in preparation.
Hygiene can be involved in kitchen hygiene and personal hygiene of the one preparing the food.
(b) Tradifical preservation methods
(i) Smoking
Fish are ~~smoked~~ put under on top of a fire, where as, it dries up water content present in the fish.
(ii) Salting.
It involves addition of large amount of salt on fish. so as to dry.
(iii) Drying.
It is used to dry the fish on the sun.

Extract 9.2: *A sample of poor responses in question 9.*

In Extract 9.2, the candidate provided the causes of microbial food contamination in part (a) and insufficient explanations on the traditional methods of preserving fish in part (b). The candidate also showed a

poor mastery of essay writing skills because he/she did not provide an introduction and conclusion in answering the question.

2.2.5 Question 10: Food storage

In this question, the candidates were required to describe seven major problems facing the storage of non-perishable food crops in the tropics and suggest four storage practices to tackle those problems.

The question was opted by 168 (81.6%) candidates of which 17 (10.1%) scored from 12 to 16 marks, 125 (74.4%) scored from 7 to 11.5 marks and 26 (15.5%) scored from 1 to 6.5 marks. This analysis implies a good performance of candidates in this question since 142 (84.5%) candidates scored 7 marks and above. The scores of candidates in this question is summarized in Figure 10.

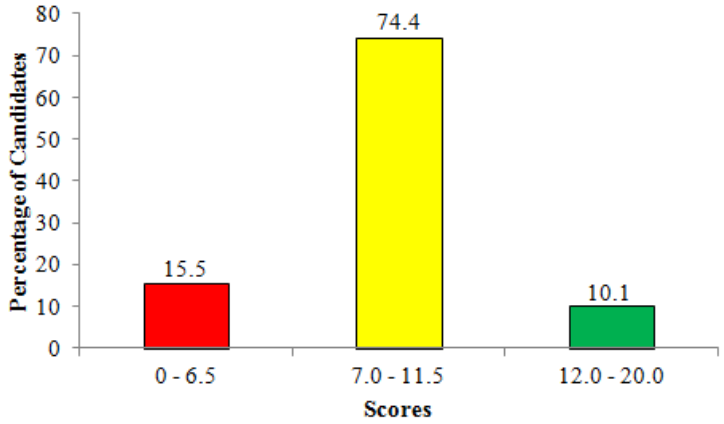


Figure 10: *The candidates' performance in question 10.*

The analysis of candidates' responses indicates that the candidates who scored high marks had adequate knowledge and practical skills on storage practices of non-perishable crops. They managed to describe the problems facing the storage of non-perishable food crops in the tropics such as: *extreme tropical weather conditions which lead to physical and chemical changes of the food crops, poor storage structures which does not help to minimize the effects of other factors, existence of many species of pests which attack the crops before and during storage, the incidence of new pests and the development of resistance to currently used insecticides* and *poor communication and infrastructure*. Other mentioned problems were: *food crop infestation by pests other than insects which include fungi, mites and bacteria, inadequacy of pest*

control operations caused by few trained extension and pest control officers and *lack of inputs such as pesticides for control of the pests and storage gear for protection of the products*. The candidates also managed to suggest the storage practices to tackle the problems facing the storage of non-perishable food crops in the tropics. However, the candidates failed to score full marks in this part because they provided some incorrect problems or treated one problem as two or more different problems. For example, one candidate wrote, *poor infrastructure, poor transportation, lack of knowledge on pest control* and *lack of extension personnel in some areas* as four different problems instead of two which are *poor communication and infrastructure* and *inadequacy of pest control operations caused by few trained extension and pest control officers*.

Further analysis indicates that the candidates who performed poorly in this question failed to understand its demand, hence provided a variety of incorrect responses. For example, some of the candidates provided the types of food grain deterioration such as *loss of viability, self heating, infestation by pests, nutritional loss, surface burn, contamination by external materials, physical damage of parts of the seed* and *change in colour, taste and flavour* instead of the problems facing storage of non perishables. Others explained the agents of food grain deterioration and losses which include: *self heating, mites, insects, rodents, birds* and *fungi*. These candidates also explained incorrect practices to tackle the problems facing the storage of non-perishable food crops in the tropics. Some explained the methods of food crop storage; others explained the practices involved in good storage management which are, *thorough drying and cleaning of the crops, sanitary measures in and outside the store, application of pesticides* and *regular monitoring of the produce during storage*. Extract 10.1 is a sample answer from a script of a candidate with weak performance.

10 Non-Perishable food: Are food that do not get rapid spoilage. Also non perishable food are food that stay for a long period of time without spoilage. example cereals and Pulse. can stay for a long period of time

The following are mayor problem. facing the storage of non-perishable food crops in the tropics and Suggest four storage practices to tackle problem. These are:

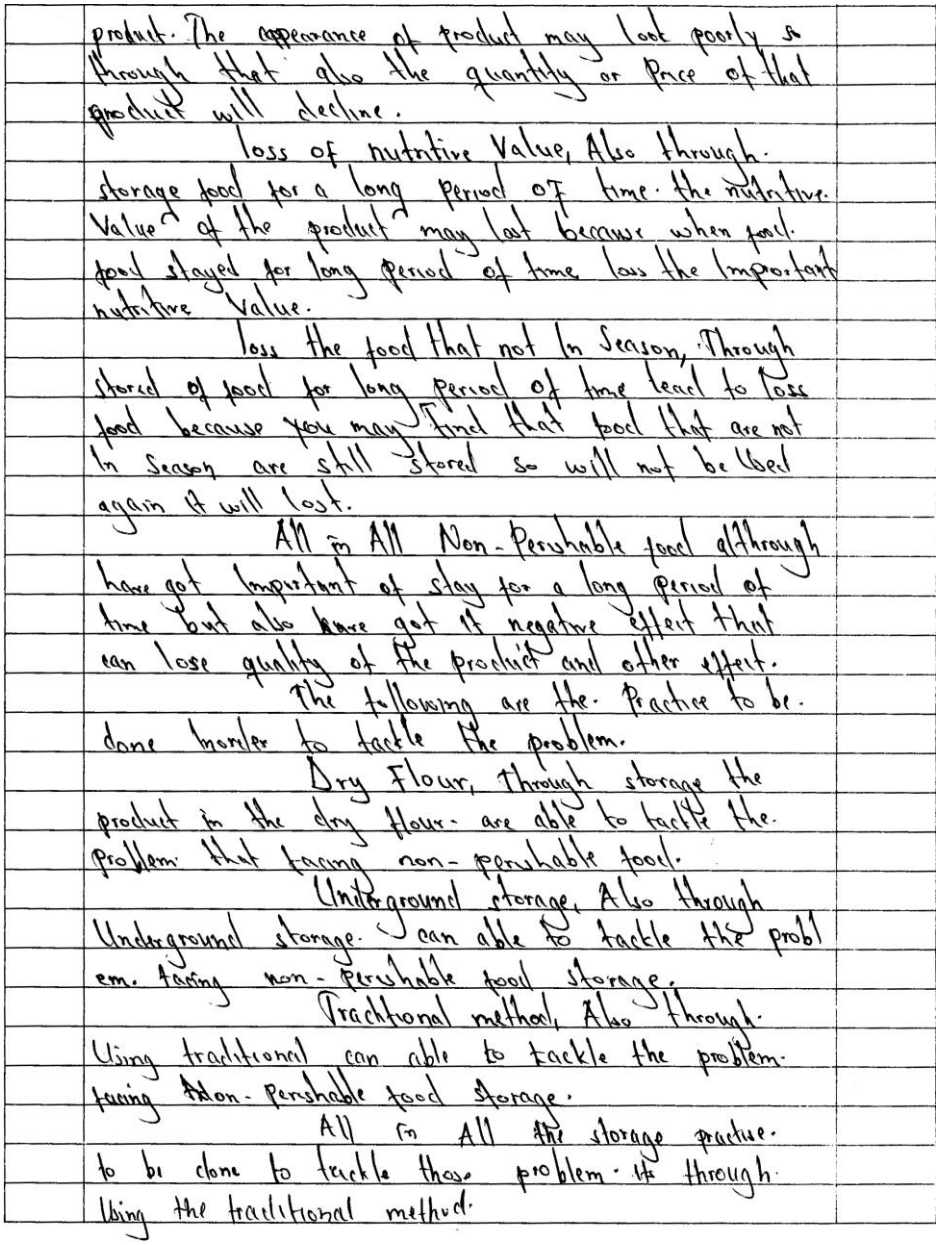
loss quality of Product, Also the problem. Facing non-perishable. Its that the product may loss its quality. and when the product loss its quality its will be difficult to Use it. So Also Non-perishable food through storage for a long period of time it may loss it quality.

The product may be destroy, Also through. storage for a long period of time. the product may be. destroyed in any ways. So Non-Perishable food also Facing problem that product may destroy.

The product may be lost, Also through. stored the food for a long period of time the product may be last in any way either by weeds, or pest although your storage for a long period of time. It may get lost.

loss colour, Texture and appearance. of the product, Also Product may loss colour texture and apperance when stay for a long period of time the appearance, texture and colour of the product may lost.

Price or quantity decline, When the. product stay a long period of time the price and. quantity will decline due to the quality of the


product. The appearance of product may look poorly so through that also the quantity or price of that product will decline.

loss of nutritive Value, Also through. storage food for a long period of time. the nutritive. Value of the product may lost because when food. food stayed for long period of time loss the important nutritive Value.

loss the food that not in Season, Through stored of food for long period of time lead to loss food because you may find that food that are not in Season are still stored so will not be used again it will lost.

All in All Non-Perishable food although have got important of stay for a long period of time but also have got it negative effect that can lose quality of the product and other effect.

The following are the. Practice to be. done inorder to tackle the problem.

Dry Flour, Through storage the product in the dry flour. are able to tackle the. problem that facing non-perishable food.

Underground storage, Also through Underground storage. can able to tackle the probl em. facing non-perishable food storage.

Trachtional method, Also through. Using traditional can able to tackle the problem. facing Non-Perishable food storage.

All in All the storage practice. to be done to tackle those problem. is through. Using the traditional method.

Extract 10.1: *A sample of an incorrect answer in question 10.*

In Extract 10.1, the candidate explained the types of food grain deterioration and the methods of food crop storage instead of the problems facing the storage of non-perishable food crops and practices to tackle those problems respectively.

3.0 ANALYSIS OF THE CANDIDATES' PERFORMANCE FOR EACH QUESTION IN PAPER 2

3.1 Section A: Short answer questions

The section had five compulsory questions constructed from the topics of *Malnutrition, Food quality and safety, Food microbiology* and *Catering and institutional feeding*. Each question carried 8 marks. The pass score for each question was 3 marks and above.

3.1.1 Question 1: Malnutrition

The candidates were required to briefly explain how diseases cause undernutrition to children in part (a). In part (b), they were required to briefly explain three effects of undernutrition to the economy of a country.

The question was attempted by all (100%) candidates who sat for this examination. The analysis of candidates' performance reveals that 25 (12.1%) candidates scored from 5 to 6.5 marks, 114 (55.4%) scored from 3 to 4.5 marks and 67 (32.5%) scored from 0 to 2.5 marks. This suggests that the performance in this question was good since 139 (67.5%) candidates scored 3 marks and above as Figure 11 illustrates.

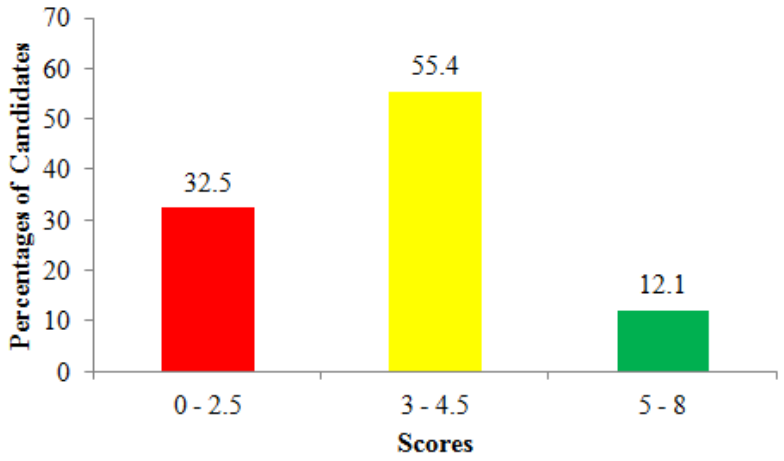


Figure 11: *The candidates' performance in question 1.*

The analysis shows that the candidates with good performance were aware that undernutrition occurs when the body does not get enough nutrients due to various factors. This enabled them to explain correctly that diseases cause undernutrition to children through *decreased food intake by lowering appetite, increasing metabolic requirements which*

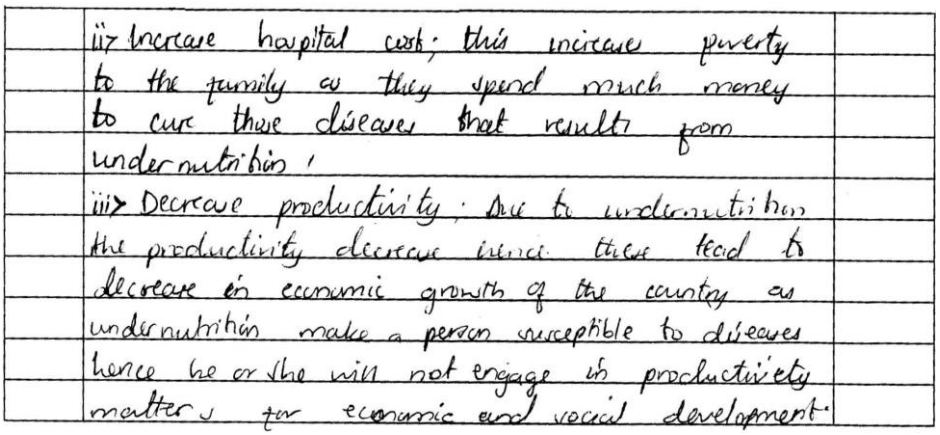
may not be met, direct loss of nutrients from the body through vomiting or diarrhoea and *decreased nutrient absorption* in part (a). In part (b), majority of the candidates managed to mention the effects of undernutrition to the people but failed to relate those effects with the economic development of a country. For example, one candidate wrote the following effects of undernutrition:

(i) *Increased mortality rate: undernutrition cause many people die. This effect cause low economy of a country.*
(ii) *Increased incidence of diseases: Undernutrition cause various diseases and hence poor development of economy of a country.*

This candidate failed to explain clearly how the *increased mortality rate* and *increased incidence of diseases* affect the economic development of a country. Other candidates wrote two instead of four correct effects, hence failed to score full marks. Extract 11.1 is a sample of responses from a candidate with good performance.

1.(a) Diseases it is time that cause of undernutrition to children have.
- It lead to loss of appetite some disease cause loss of appetite hence lead to inadequate intake of food to the child hence this lead to undernutrition
- Poor absorption of food in the body this is also occurs whereby some of disease enterfere the absorption of nutrients in the body hence this lead to malnutrition

(b) Effects of undernutrition to the economy of a country is Increase mortality rate; due to under nutrition many people die, hence increase mortality rate this have effect to the economy of the country as it retard the growth of national economy due to lose of man power.



Extract 11.1: *A sample of correct responses in question 1.*

In Extract 11.1, the candidate explained correctly all parts of the question showing that he/she had adequate knowledge on the causes and effects undernutrition.

Further analysis indicates that the candidates who performed poorly in this question misinterpreted its demands. In part (a), some candidates mentioned the signs and symptoms of a specific nutrition disorder. Others mentioned the common diseases/disorders caused by undernutrition in Tanzania. For example, one candidate provided the following response:

> *(i) Protein-Energy-Malnutrition which include kwashiorkor and marasmus is caused by low food intake and lack of protein and energy in the diet.*
> *(ii) Anaemia which is caused by lack of iron in the diet.*
> *(iii) Goitre is caused by lack of iodine mineral in the diet.*

A few candidates mentioned the diseases which cause undernutrition to children instead of explaining how diseases cause undernutrition. The mentioned diseases include: *diarrhoea, measles, HIV/AIDS* and *intestinal parasites*.

In part (b), some of the candidates provided the causes of undernutrition such as *family food shortage, poverty, diseases, bad traditions and customs, food insecurity, inadequate maternal and child care practices, low food production, poor diet* and *inadequate social services* instead of the effects of undernutrition to the economy of a country. Others provided the management of undernutrition in children which include: *increase in the concentration of energy and protein in the meals,*

provision of supplementary foods, feed them more frequently, feed them with variety of foods available and *take them to the hospital for treatment*. A few candidates mentioned one to two correct effects but gave incorrect explanations. Extract 11.2 is a sample of responses from one of the candidates who scored low marks.

1 (a) How diseases cause ~~Ano~~ undernutrition to children.

Undernutrition the have condition to be having problem faing in the body or excess in the body.

(i) poor growth.

This is diseases causes undernutrition to children suffering from kwashiorkor and Marasmus they have poor growth in the heath.

(ii) Muscle washing

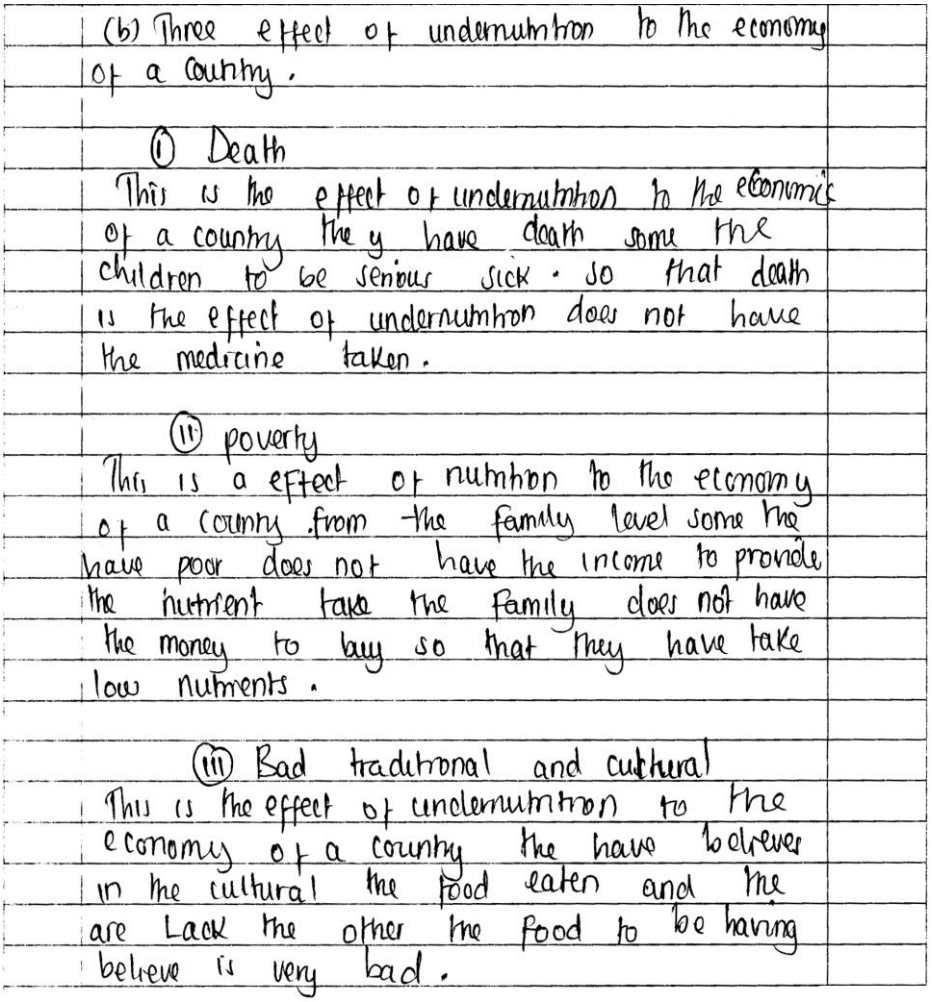
This diseases causes undernutrition to children the have loss of washing so that they have poor for growth ,suffening kwashiorkor and marasmus.

(iii) Oedema

This is a caused undernutrition to children from suffering kwashiorkor they have all the body should be oedema occurs.

(iv) Hair change

This is causes of undernutrition to children suffering kwashiorkor the hair ~~chair~~ browns.


(b) Three effect of undernumtron to the economy of a country.

① Death

This is the effect of undernumtron to the economics of a country they have death some the children to be serious sick. so that death is the effect of undernumtron does not have the medicine taken.

⑪ poverty

This is a effect of numtron to the economy of a county .from the family level some the have poor does not have the income to provide the nutrient take the family does not have the money to buy so that they have take low nutments.

⑪ Bad traditional and cultural

This is the effect of undernumtron to the economy of a county the have believer in the cultural the food eaten and the are Lack the other the food to be having believe is very bad.

Extract 11.2: *A sample of incorrect responses in question 1.*

In Extract 11.2, the candidate provided some of the symptoms of kwashiorkor instead of ways through which diseases cause undernutrition to children in part (a). In part (b), he/she gave some of the causes of undernutrition instead of the effects of undernutrition to the economy of a country.

3.1.2 Question 2: Food quality and safety

Part (a) of the question required the candidates to differentiate food industry quality program from food industry quality system. Part (b) required them to give four reasons for implementing quality assurance programs in food industries.

Statistics shows that the question was attempted by 205 (99.5%) candidates of which 28 (13.7%) scored from 5 to 7 marks and 52

(25.3%) scored from 3 to 4.5 marks. The candidates who scored from 0 to 2.5 marks were 125 (61.0%) of which 16 (7.8%) scored 0. The performance for this question was average since 80 (39.0%) candidates scored 3 marks and above. Figure 12 summarizes this performance.

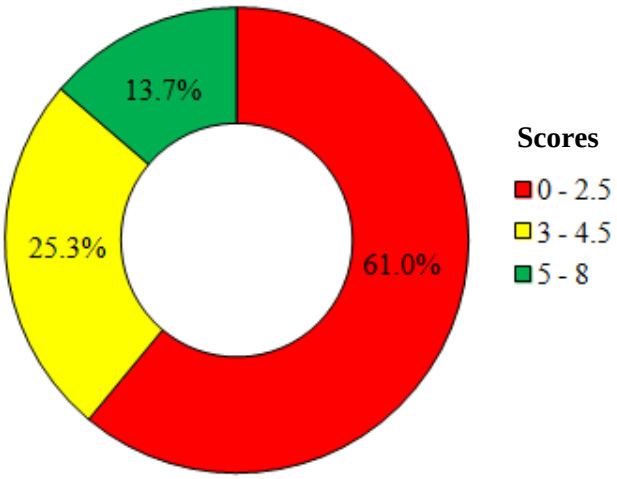
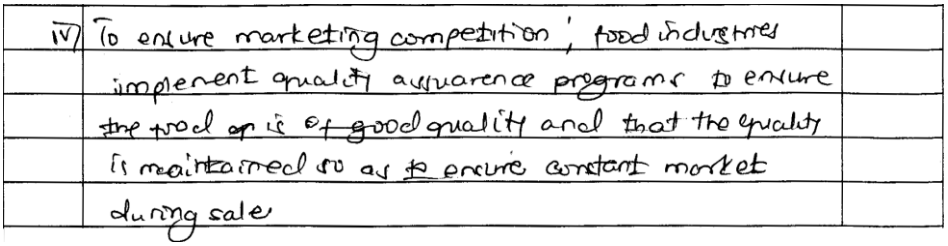


Figure 12: *The candidates' performance in questions 2.*

Majority of the candidates who scored good marks in this question failed to score full (8) marks because they failed to provide a clear difference between food industry quality program and food industry quality system in part (a). Most of them managed to define correctly either food industry quality program or food industry quality system but not all of them as the question demanded. However, in part (b) the candidates managed to give the correct reasons for implementing quality assurance programs in food industries which include: *to safeguard consumers' health, to meet regulatory requirements, to ensure fair trading, to meet consumers' expectations, for marketing sustainability* and *to ensure company's management on quality of the manufactured products.* Extract 12.1 is a sample answer from a script of a candidate with good performance.

Q2a)	Food industry quality program is a ~~program~~ set of organized plans and their application towards ~~to quality~~ quality of food industry these can include the provision of education to people on the quality of food and even emphasizing on the intake and utilization of quality foods. while Food industry quality system is a set of procedures and measures to be undertaken to ensure quality of food. the system can be for instance HACCP aiming and eliminating all potential hazards found in food by going through a series of steps to ensure good quality is attained.	
2b)	Reasons for implementing quality assurance programs in food industries are;	
i)	To ensure health of the consumer, quality assurance is maintained. is done in food industries ~~factors~~ to ensure that all potential hazards or toxins such as microbes present in food are gotten rid off, so as to ensure safety and health of the consumer.	
ii)	To ensure free fair trade practices; most food industries tend to implent quality assurance such to make their products worth of the exchange or money to be sold at. This include trade unions which obtain food from food industries.	
iii)	Because of Regulatory requirements; Most food industries implement quality assurance programs such to meet the needs kept by the food ~~to~~ regulatory bodies such as TBS and TFDA on the requirement standards of a particular food.	



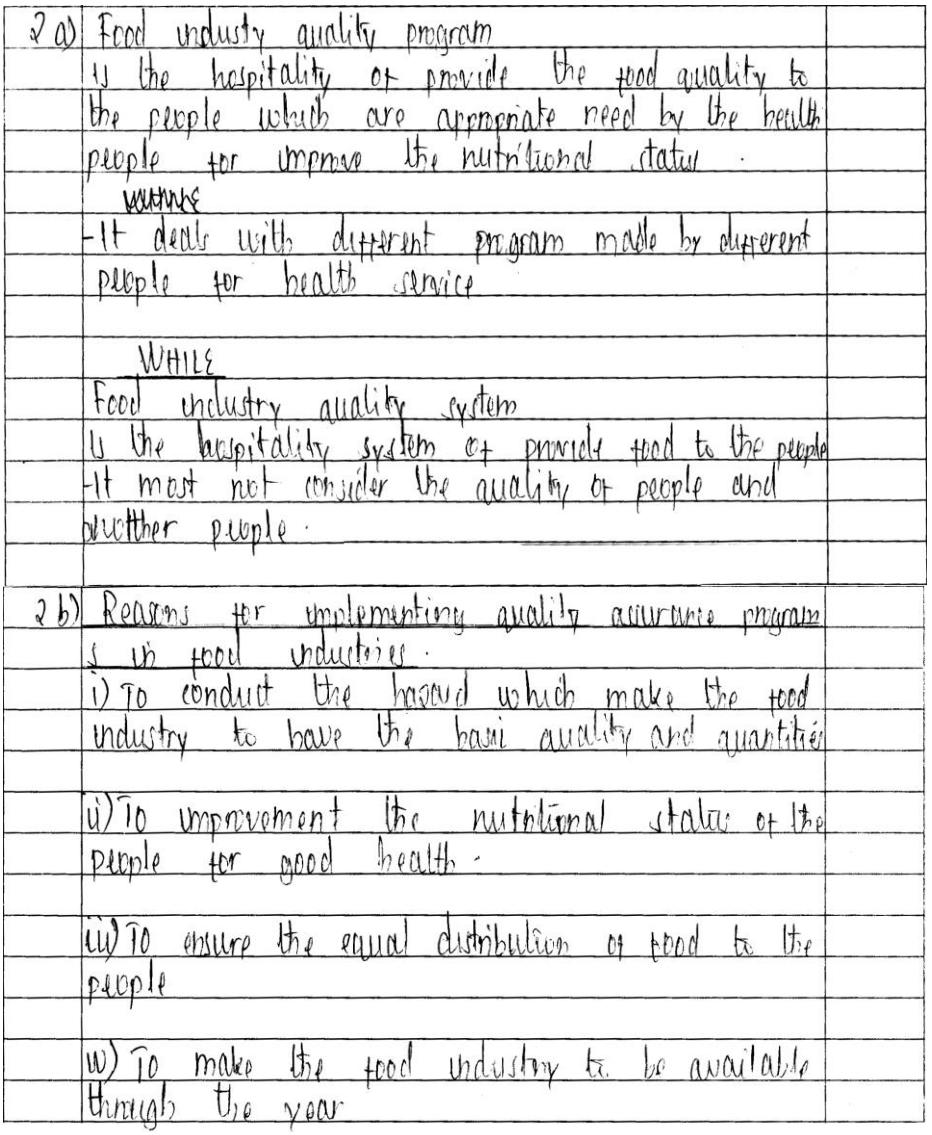
Extract 12.1: *A sample of good responses in question 2.*

In Extract 12.1, the candidate managed to differentiate food industry quality program from food industry quality system and to give the reasons for implementing quality assurance programs in food industries. This indicates that the candidate had adequate knowledge on the concept of food industry quality and food quality assurance.

On the other hand, candidates who scored low marks had inadequate knowledge on food quality and safety, particularly on the concept of food safety and food quality assurance. As a result, they provided a variety of irrelevant responses in all parts of the question. For example, in part (a) one candidate wrote, *food industry quality program is a plan which is established by the industry to ensure that the product is of good quality while food industry quality system is a plan established by the government which deals with different food quality programs made by different food organizations such as TBS, TFDA and TFNC.* Another candidate wrote, *food industry program is the program that deals with the quality of food industry, characteristics and features of the food in the industry while food industry quality system is the system that involves quality of food in food industry to ensure safe food supply.*

In part (b), only few candidates managed to provide one to two correct reasons for implementing quality assurance programs in food industries. Some of the incorrect reasons provided by these candidates were: *to help to control hazard analysis control point in food industries, to ensure good marketing of products, to control food poisoning and contamination, to improve bulky production of foods, conduct the hazard control analysis* and *to ensure production of safe foods to the people*. Other candidates misinterpreted this part, so, they gave the requirements of food quality and safety which include: *it is used in Hazard Analysis Critical Control Point (HACCP), used in Good Manufacturing Procedures (GMP), used in Good Hygienic Procedures (GHP)* and *used in Total Quality Management (TQM)* instead of the

reasons for implementing quality assurance programs in food industries. Extract 2.1 shows a sample of responses from a script of a candidate whose performance was poor.



Extract 12.2: *A sample of poor responses in question 2.*

In Extract 12.2, the candidate failed to provide relevant responses in any part of the question due to lack of knowledge on food safety and food quality assurance.

3.1.3 Question 3: Food microbiology

Part (a) of this question required the candidates to state four rules to be observed in handling raw and cooked foods in order to prevent cross contamination. Part (b) required them to outline four uses of microorganisms in food processing and preservation and to give one example of microorganism in each use.

This question was attempted by 205 (99.5%) candidates and only 1 (0.5%) candidate did not attempt it. The performance in this question was average, since 116 (56.6 %) candidates scored 3 marks and above of which 2 (1.0%) scored from 5 to 5.5 marks and 114 (55.6%) scored from 3 to 4.5 marks. The candidates who scored from 1 to 2.5 marks were 89 (43.4%) and no one scored above 5.5 marks. Figure 13 illustrates this performance.

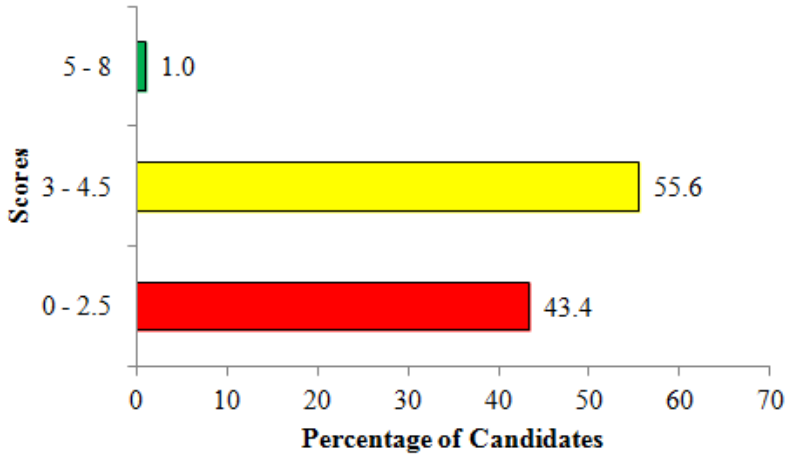


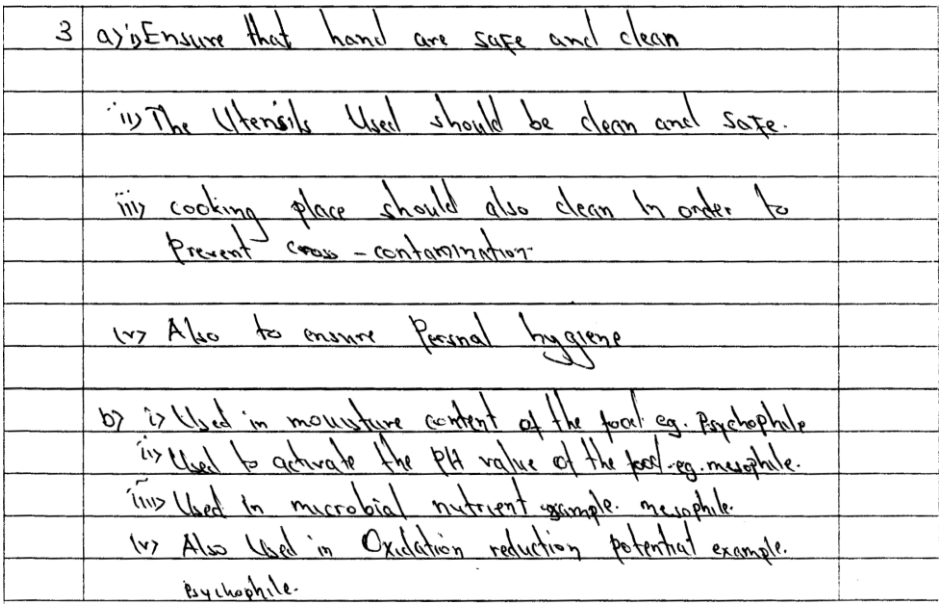
Figure 13: *The candidates' performance in question 3.*

The analysis of candidates' responses shows that the candidates with average and good performances had adequate knowledge and practical skills on the concept of the important microorganisms in food microbiology. In part (a), the candidates were able to explain two to three correct rules to be observed in handling raw and cooked foods in order to prevent cross contamination. In part (b), few candidates were able to outline one to three uses of microorganisms in food processing and preservation, but they failed to give correct examples of microorganisms to the mentioned uses. Some of the candidates treated one use as two or three different uses of microorganisms. For example, one candidate wrote, *yeast is used in the brewing industry to produce alcohol, are used in baking industry to produce bread and cakes for*

example yeast and *bacteria are used in dairy industry to ripen cheese and produce yogurt* as three different uses of microorganisms. This candidate did not understand that these are the examples of the uses of microorganisms in the production or manufacture of food products.

Further analysis shows that some of the candidates who scored low marks had insufficient knowledge on the important microorganisms in food microbiology. These candidates provided various incorrect or repeated points in all parts of the question. Other candidates responded contrary to the demands of all parts of the question due to misconceptions. In part (a), majority of the candidates provided the personal hygiene rules to be observed in order to prevent food poisoning which include: *wash thoroughly your hands before handling food, dry your hands well, never smoke, chew gum or spit in a food handling or food storage area, never cough or sneeze over food, wear clean protective clothing, keep your personal items away from food, keep fingernails short, do not wear jewellery, cover all cuts and wounds with a water proof bandage* and *wear disposable gloves*. Others mentioned the steps to prevent microbial food poisoning such as: *lowering pH by increasing acidity, process the food to destroy the microorganisms, lowering temperature by refrigeration/freezing* and *reducing exposing cooked foods to human contacts*.

In part (b), the candidates provided a variety of irrelevant uses of microorganisms in food processing and preservation. The irrelevant uses mentioned by the candidates include: *used in canned foods to increase their profit, used as living organisms which requires water and air to grow, in food processing because are found naturally in foods, use of microorganism preservatives, they are used to form food decay* and *to increase quality and quantity of the food*. Extract 13.2 is a sample of responses from a candidate who scored low marks.



Extract 13:2: *A samples of poor responses in question 3.*

In Extract 13:2, the candidate mentioned the rules under personal and kitchen hygiene in part (a). However, the candidate provided irrelevant uses of microorganisms in food processing and preservation in part (b), hence scored low marks.

3.1.4 Question 4: Nutrition program planning and intervention

The candidates were required to define nutrition rehabilitation program in part (a) of this question. They were required to state three objectives of nutrition rehabilitation programs in part (b) (i) and four indicators of successful nutrition rehabilitation program in part (b) (ii).

The question was attempted by all (100%) candidates. The data analysis shows that 61 (29.6%) candidates scored from 5 to 7.5 marks, 87 (42.2 %) scored from 3 to 4.5 marks and 58 (28.2%) scored from 0 to 2.5 marks. The general performance in this question was good because 148 (71.8%) candidates scored 3 marks and above. Figure 14 is an illustration of this performance.

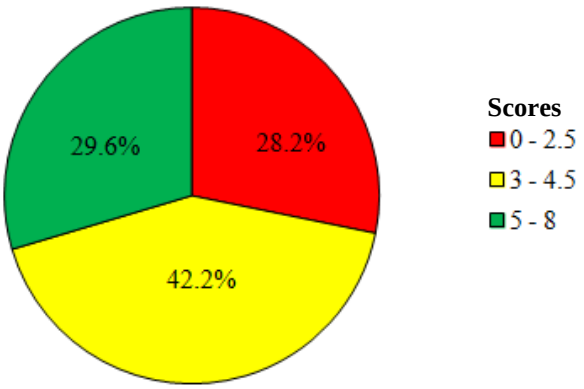


Figure 14: *The candidates' performance in question 4.*

Candidates who had average and above scores (71.8%) were not able to give the correct definition of nutrition rehabilitation program in part (a). Majority of these candidates thought that nutrition rehabilitation program is responsible just for feeding the severely malnourished children. So, they defined it *as a type of nutrition program which provides proper diet to severely malnourished children by involving mothers or guardians in rehabilitation centres*. In part (b) (i), majority of these candidates managed to state two to three correct objectives of nutrition rehabilitation which include: *to assess the progress of children and pick out those who are not doing well or are in danger for rehabilitation, to provide medical and nutritional therapy* and *to provide nutrition and child care education to mothers or guardians.* They were also able to state two to four correct indicators of a successful nutrition rehabilitation program. However, some of the candidates failed to state clearly the objectives of nutrition rehabilitation programs and indicators of a successful nutrition rehabilitation program, hence failed to score full marks. Extract 14.1 is a sample of responses from a candidate who scored good marks.

4. a) Nutrition Rehabilitation program: It is the types of feeding program which are used to strength severely malnourished children

b) i) Objectives of nutrition rehabilitation programmes.

To access the progress of children and pick out those who are not doing well and those who are in danger of malnutrition. This is that is among of the objectives of nutrition rehabilitation program is to pick the children out who are not doing well and those who are in danger of malnutrition inorder to prevent them from malnutrition

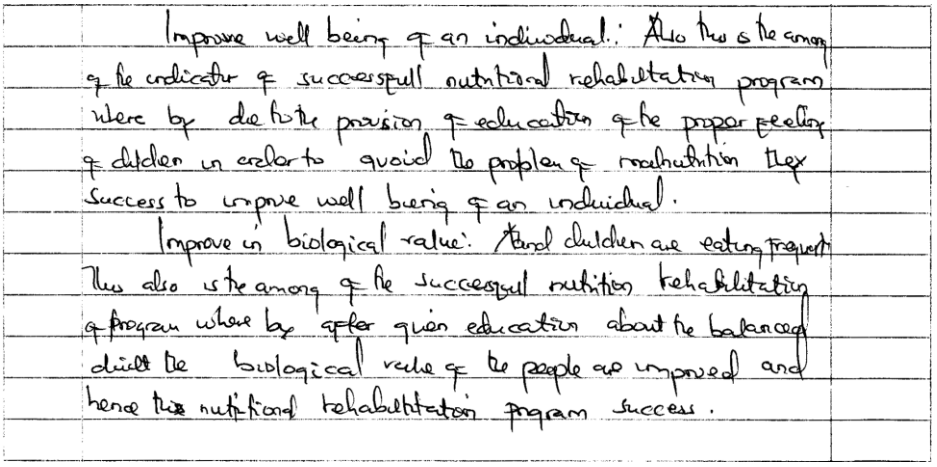
To provide therapetic diet: Also this is the among of the ~~nutr~~ objective of nutritional rehabilitation program where by the children are provide therapetic diet which can prevent them from malnutrition and this can strength severely malnourished child.

To provid education to the mother on how to feed their children. Also this is the among of the objective of nutrition rehabilitation program where by they provide education to the mother on how to feed their children a balanced diet.

b ii) Indicators of successfull nutrition rehabilitation program.

i) Decrease in severely deficiency diseases: Also this is the among of the indicators of successfull nutrition rehabilitation program where by the after the feeding program which were used to strength severly the malnourished children they success to decreases in severely deficiency disorders.

Decrease in mortality rate: Also the among of the indicater for successfull nutritional rehabilitation program is the decrease in number of sick people where by after given the therapetic diet and education the number of sick people are decreased.



Improve well being of an individual: Also this is the among of the indicator of successful nutritional rehabilitation program where by due to the provision of education of the proper feeding of children in order to avoid the problem of malnutrition they success to improve well being of an individual.

Improve in biological value: And children are eating frequent this also is the among of the successful nutrition rehabilitating program where by after given education about the balanced diet the biological value of the people are improved and hence the nutritional rehabilitation program success.

Extract 14.1: *A sample of good responses in question 4.*

In Extract 14.1, the candidate provided the objectives of nutrition rehabilitation programs and indicators of successful nutrition rehabilitation program. However, the candidate provided unclear definition of nutrition rehabilitation, hence failed to score full marks.

Nevertheless, 87 (42.2 %) candidates scored low marks due to inadequate knowledge and skills on nutrition rehabilitation. They gave incorrect definitions of nutrition rehabilitation program in part (a) such as, *is a rehabilitation activity used to promote breastfeeding to severely malnourished children, is a program used in increasing the standard of living of the people. the feeding program which is used to support the malnourished children in a certain camp* and *a program for carrying day care activities including day feeding and care*. In part (b) (i) of the question, some of the candidates provided irrelevant objectives of nutrition rehabilitation programs. Others mentioned the services which are provided in the Maternal and Child Health clinics. For example, one candidate wrote, *family planning activities, immunization* and *treatment of minor illness*. Furthermore, some of the candidates managed to mention one to two correct indicators of successful nutrition rehabilitation program in part (b) (ii). Others provided irrelevant indicators such as *decrease mental apathy, well biological fluid balance and tissue of the body, promoting breastfeeding, to improve body weight gain* and *increase rates of breastfeeding and decrease high rates of bottle feeding*. Extract 14.2 is a sample of responses provided by one of the candidates with low scores.

04. a) Nutritional rehabilitation programs refers to the program that undertakes the activities of making malnourished children well again through food supply.

b) i. Objectives:
- To prevent the recurrence of undernutrition in rehabilitated children.

- To prevent the occurrence of undernutrition or malnutrition-related disorder from occuring in children or siblings in households.

- To reduce or completely eradicate the case fatality rate of malnutrition cases.

ii. Indicators of success:
- Children are fed more frequently with existing foods in the family/household.

- The amount of food increases at each meal for children.

- Increased production of some foodstuffs such as groundnuts which are high in protein and provide a concentrated form of energy.

b) ii. - Improvement in the lifestyles of some parents which are detrimental or dangerous to the welfare of children.

Extract 14.2: A sample of incorrect responses in question 4.

In Extract 14.2, the candidate responded incorrectly to all parts of the question due to inadequate knowledge and skills on nutrition rehabilitation.

3.1.5 Question 5: Food microbiology

In part (a), the candidates were required to briefly describe two main factors which contribute to poor food hygiene. Part (b) required them to outline four hygienic problems associated with street-vended foods.

The question was attempted by 205 (99.5%) candidates. The question was poorly answered since 162 (79.0%) candidates scored from 0 to 2.5 marks of which 10 (4.9%) candidates scored 0. In addition, 42 (20.5%) candidates scored from 3 to 4.5 marks and only 1 (0.5%) candidate scored the highest 5 marks out of 8 as illustrated in Figure 15.

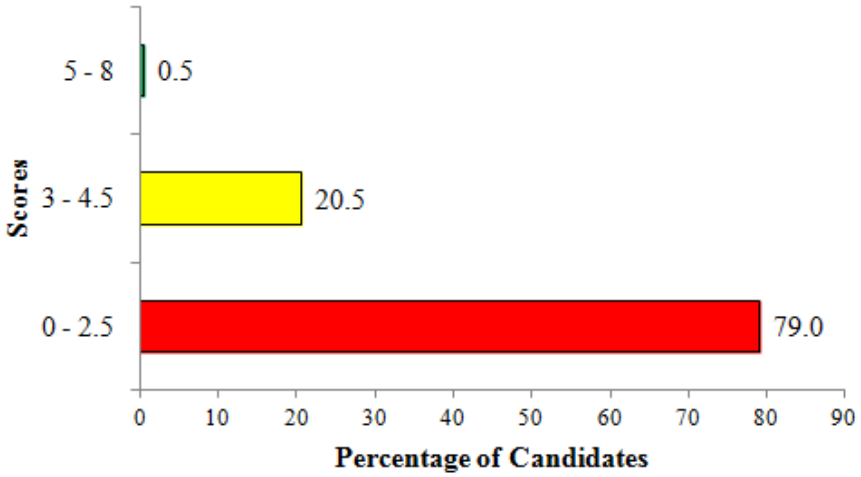
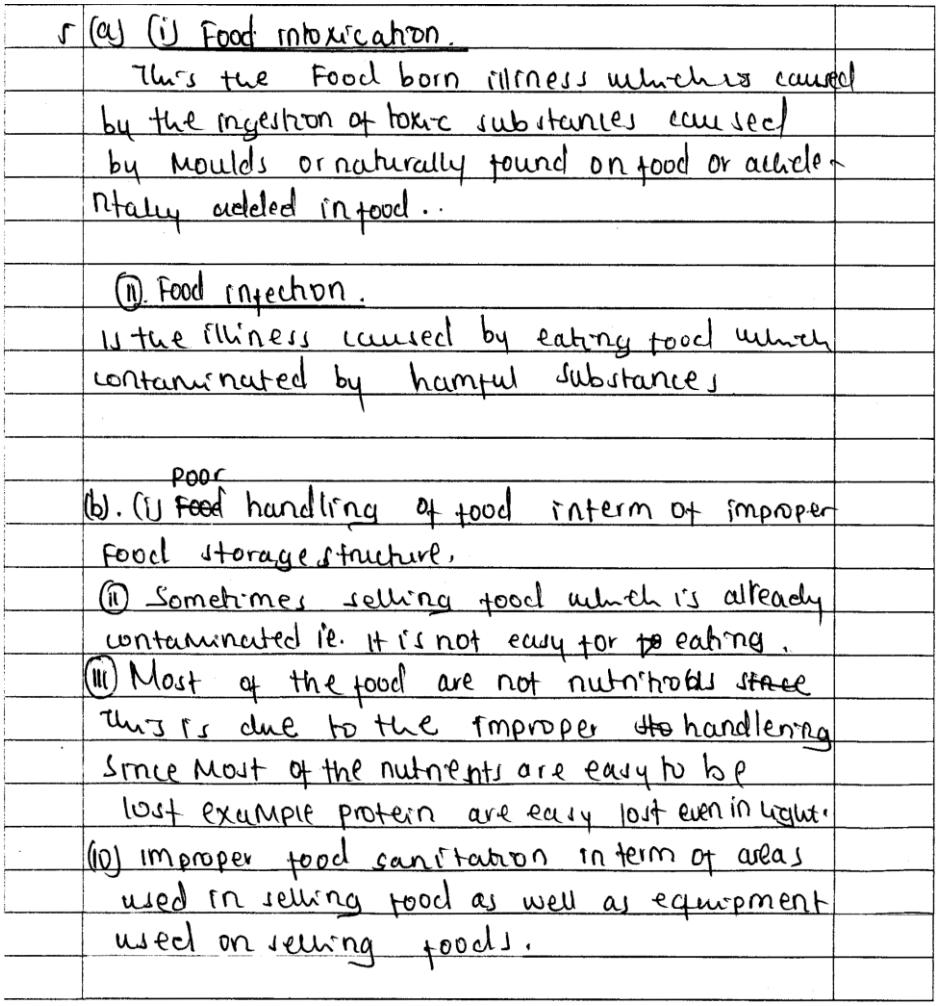


Figure 15: *The candidates' performance in question 5.*

The analysis of the candidates' responses shows that a total of 162 (79%) candidates scored low marks in this question mainly due to misinterpretation of the question and limited knowledge on the sub-topic of food hygiene. In part (a), some of the candidates listed the correct factors which contribute to poor food hygiene but they could not explain them correctly. For example, the candidates mentioned poor personal hygiene but the explanation given was related to the unavailability of clean and safe water. Other candidates provided unrelated factors while a few left this part unanswered. In part (b), some candidates managed to outline a single correct hygienic problem associated with street-vended foods and the rest of the points were not related to the examined concept. Others outlined the problems faced by street food vendors which include *lack of proper or permanent areas*, *lack of capital, lack of knowledge on food preparation and cooking* and *poor utensils and equipment used*. Extract 15.1 is a sample of responses from a candidate with poor performance.


5 (a) (i) Food intoxication.
This the Food born illness which is caused by the ingestion of toxic substances caused by moulds or naturally found on food or article ntally added in food..

(ii). Food infection.
Is the illness caused by eating food which contaminated by hamful substances

(b). (i) ~~Food~~ poor handling of food interm of improper Food storage structure.
(ii) Sometimes selling food which is already contaminated ie. it is not easy for ~~to~~ eating.
(iii) Most of the food are not nutrithous ~~since~~ This is due to the improper ~~to~~ handlenng since Most of the nutrients are easy to be lost example protein are easy lost even in light.
(iv) improper food sanitation in term of areas used in selling food as well as equipment used on selling foods.

Extract 15.1: *A sample of incorrect responses in question 5.*

In Extract 15.1, the candidate provided the types of foodborne illnesses in part (a) because of misconception. In part (b), the candidate provided incorrect hygienic problems associated with street-vended foods due to lack of knowledge on food hygiene.

On the other hand, the candidates who scored from 3 to 5 marks (21%) had partial knowledge on food hygiene. In part (a), some of them were able to mention the factors which contribute to poor food hygiene which include: *poor personal hygiene, climatic conditions/factors* and *socio-economic factors derived from poverty* but failed to provide correct explanations to some of the factors. Other candidates managed to explain correctly only one factor while other explanations were inadequate to meet the demand of the question. In part (b), majority of the candidates were able to outline two to three correct hygienic

problems associated with street-vended foods. They mentioned the common hygienic problems which include: *lack of clean water, contamination of foods by disease causing microorganisms carried by dust and flies, poor or lack of storage facilities* and *poor or lack of toilets*. Some of the candidates failed to associate the mentioned hygienic problems with the street-vended foods, thus, lost some marks.

3.2 Section B: Essay questions

The section had five essay questions and the candidates were required to answer only 3 questions. The questions were constructed from the following topics: *Malnutrition, Nutrition program planning and intervention* and *Catering and institutional feeding*. Each question carried 20 marks. The pass score for each question was 7 marks and above.

3.2.1 Question 6: Malnutrition

The question required the candidates to analyze six common indicators which are used to assess the nutritional status of the people.

This was the least opted question because only 51 (24.8%) candidates chose it. This means 155 (75.2%) candidates did not opt it. The data analysis shows that 9 (17.6%) candidates scored from 12 to 15 marks, 13 (25.5%) scored from 7 to 11.5 marks and 29 (56.9%) scored from 0 to 6 marks. This trend indicates average performance of the candidates since 22 (43.1%) candidates scored 7 marks and above. Figure 16 is an illustration of the performance.

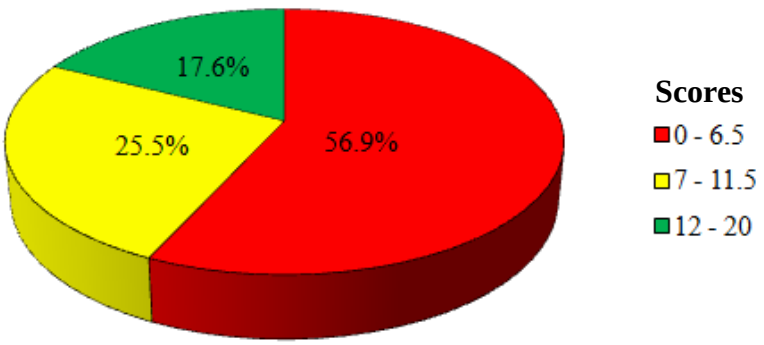


Figure 16: *The candidates' performance in question 6.*

The analysis of the candidates' responses shows that candidates who scored high marks understood the relationship between indicators and

the nutritional status of the people. They were aware that *the rates of non-communicable chronic diseases, Protein-Energy malnutrition, food crises/insecurity, micronutrient deficiencies, caring capacity and practices* and *undernutrition-infection complex to children* are the direct indicators of good and poor nutritional status of the people. However, the candidates in this group failed to score full marks because they provided three to six correct indicators with insufficient explanations to justify the demand of the question. However, other candidates also failed to include relevant introduction and conclusion in their responses.

On the other hand, 56.8 percent of the candidates scored low marks because of inadequate knowledge on the methods and indicators used to assess the nutritional status of the people. They responded by highlighting one to two correct indicators with inadequate or irrelevant explanations. Moreover, other candidates in this category misinterpreted the question. Some of them provided the factors to consider for a successful community nutrition education program instead of indicators which are used to assess nutrition status of the people. Others outlined the anthropometric measurements used to assess the nutritional status of an individual such as, *weight for age, weight for height, mid upper-arm circumference, head circumference, chest circumference* and *skinfold thickness* but failed to connect them with the nutritional status of the people. In addition, a few candidates were able to score some marks on the introduction and conclusion parts. Extract 16.1 is a sample of responses from one of the candidates with low marks in this question.

6: Nutrition intervation - Is the multisector discipline which prevent anything and everything which is likely to affect the nutrition program. The nutritional education is provided to the people for the purpose of preventing malnutrition.

The following a common indicators which are used to asses the nutritional status.

Target group, before starting to asses the nutritional status of the people we you need to consider the affected group, are they pregnancy mother, children and then after identifying you need to know the place and the size of the population. After they you may proceed with another stage. This help to know the people who are likely to be affected and the problem which affect the people.

Communication skills also you should consider the communication between the people. For example you need to educate the sukuma people on how to prevent malnutrition but in teaching them your using english language where by they can not understand and therefore can not be able to hear you. Your adviced to use the language which is understable to all people inorder they can understand and they follow the instructions.

You should consider food habit and customs, also you need to consider the food habit and customs of the group of the people those who educating them. For example you needs to provide the education Zanzibar and you staff to advice them on eating pigs

6. while it is restricted to them. The program will failure since people will not be able to follow as it does not fit with their practices. The person who providing the education must consider food and taboos of a certain area so the program can be successful.

You should consider the material as a teaching aids. Also when you are providing education you are supposed to use a material as a teaching aids for example you needs to show the skills on ~~whow~~ how the white flour is being made. You must consider all the ingridients which are used and how it is made until becomes a white flour. Also when you want to show skill on how to prepare porridge you must involve all ingredients abd all equipments needed for cooking. Ofcourse people will enjoy the education and can be able to follow all instruction and there will prevent malnutrition.

You should consider the econgmic level of the people. Also the economic level of the people should be considered. And not just teaching them without considering their economic levels. For example you may find that in the area where you are going to provide education may be are very poor and then starting to tell them to use food which are at high priced for example meat where by they have got no money for buying meat. hence the programme will failure because they unable to afford things which are told to use.

6: You should consider the venue. Also the area where by the education provided should be considered. You should not choose an area where by people will get tired of it ; you need to choose an area where by the people those who are educating them should not get bored. They need to be enjoyable , so the area need to be conducive for the conductana of the program as it people can stay without tiredness.
Generally ; the education of the nutritional status will be successfull when a person who educating the people will be able to follow all the indicators mentioned above.

Extract 16.1: A sample of incorrect responses in question 6.

In Extract 16.1, the candidate provided the factors to consider for a successful community nutrition education instead of the indicators for assessing the nutritional status of the people.

3.2.2 Question 7: Nutrition program planning and intervention

In this question, the candidates were required to describe nine health services offered in Reproductive and Child Health clinics.

This question was opted by 139 (67.5%) candidates meaning that 67 (32.5%) did not select it. The data analysis shows that the candidates' performance in this question was good since 136 (97.8%) candidates scored 7 marks and above of which 109 (78.4%) scored from 12 to 19 marks and 27 (19.4%) scored from 7 to 11.5 marks. However, a few candidates, 3 (2.2%) scored from 3 to 6.5 marks and none scored below 3 marks. Figure 17 is a summary of this performance.

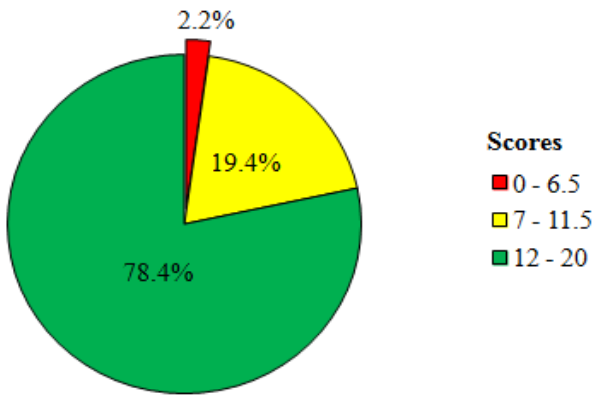
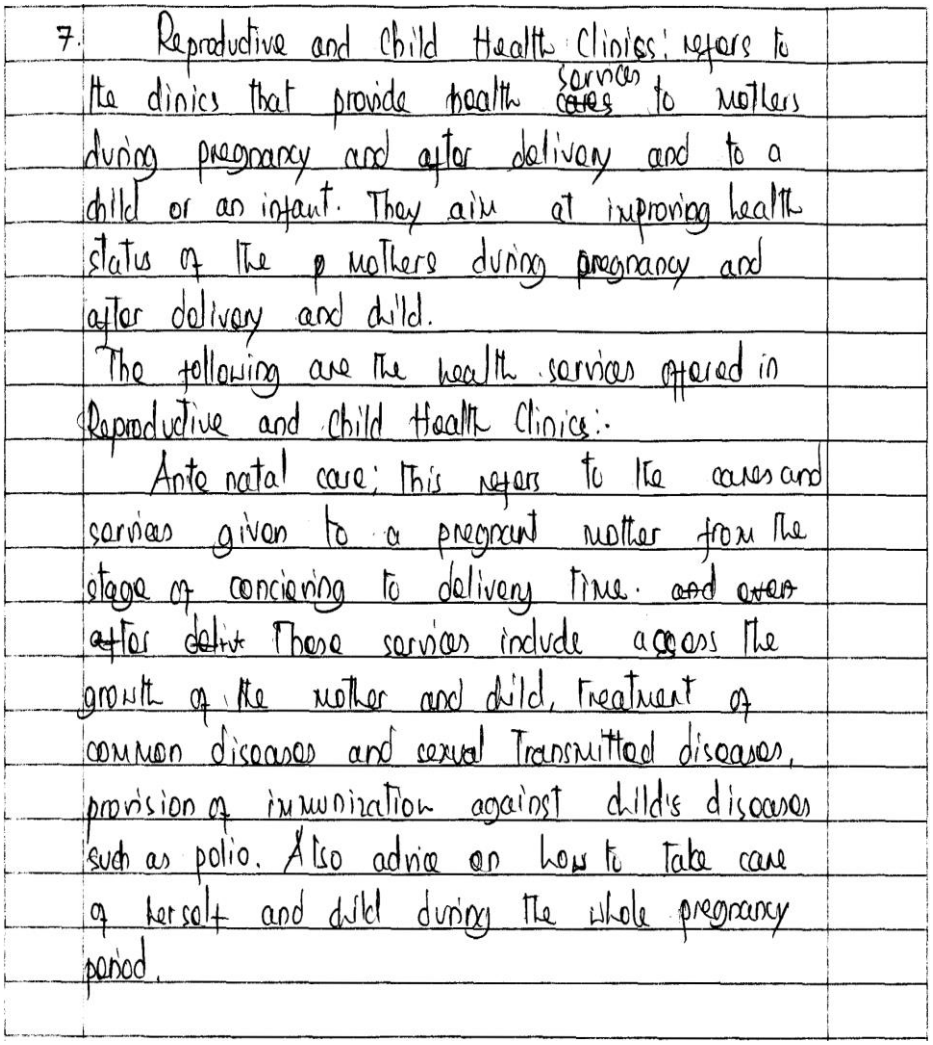


Figure 17: *The candidates' performance in question 7.*

The candidates with good performance in this question were able to describe most of the health services offered in Reproductive and Child Health clinics with relevant introduction and conclusion in their responses. The services provided by the candidates include: *family planning, curative measures, growth monitoring, immunization, detect and manage any risk of health including prevention of mother to child transmission care, food supplementation, antenatal or prenatal care, care of undernourished children, health and nutrition education, offer safe delivery, treatment of minor diseases* and *referring serious illnesses*. Their good performance was attributed to better understanding of the requirement of the question, adequate knowledge on health related services and good mastery of essay writing skills. Extract 17.1 is a sample of responses provided by one of the candidates who performed well in this question.



7. Reproductive and Child Health Clinics: refers to the clinics that provide health ~~cares~~ services to mothers during pregnancy and after delivery and to a child or an infant. They aim at improving health status of the ~~p~~ mothers during pregnancy and after delivery and child.

The following are the health services offered in Reproductive and Child Health Clinics:-

Ante natal care: This refers to the cares and services given to a pregnant mother from the stage of conceiving to delivery time. ~~and even after deliv~~ These services include access the growth of the mother and child, Treatment of common diseases and sexual Transmitted diseases, provision of immunization against childis diseases such as polio. Also advice on how to take care of herself and child during the whole pregnancy period.

Treatment measurement; this refers to the treatments given to a pregnant woman during pregnancy which includes treatment against malaria, also treatment against other diseases such as sexual transmitted diseases.

Family planning; also pregnant women are given family planning advice on planning the number of children she wants also proper spacing of the children so as to ensure good health of the mother and a child, where by it provides good health to a mother and child enough time for mother to rest and recover also it promote or increase lactation period of a child.

Growth monitoring; this involves assessing the growth of a child by taking the measure of a child and record in a growth cards. Where by progressive curve shows good health status of a child and poor growth curve shows bad health status and so measures are taken to improve it such as sending a child to rehabilitation centre and provision of advice to mothers on how to improve dietary intake of child.

Immunization against child diseases; also children are immunized periodically up to five years so as to fight against child diseases such as whooping cough, measles, polio, small pox and others hence improve health status of a child.

Micronutrient supplimentation; also children and pregnant women are given supplements so as to prevent deficiency of a specific nutrition deficiency. Example pregnant women are given

Iron and Vitamin A supplimentat supplivents so as to prevent nutrition anaemia and night blindness respectively, also a child is given Vitamin A, zinc, Iron supplivents as to prevent nutrition anaemia, improve gut integrity and to prevent diarrhoea for proper health.

Nutrition education: also women are given education about the registered nutrition intake, also about the changes taking place during pregnancy, signs and symptoms of any pregnancy complication and others so as to maintain proper health of lonely and a child. And after delivery a mother is insisted on proper breast feeding practices and wearing practices to ensure childs good health.

Offer safe delivery: also reproductive and child Health clinics offer safe delivery of the expectant mothers by provision of safe delivery environment to ensure safety of a mother and child.

Maternal and child health care: also they offer cares to mothers and child such as immunization against diseases, treatment of diseases, promotion of breast feeding, growth monitory, HIV counselling, environmental sanitation and others to ensure mothers good health and childs proper growth.

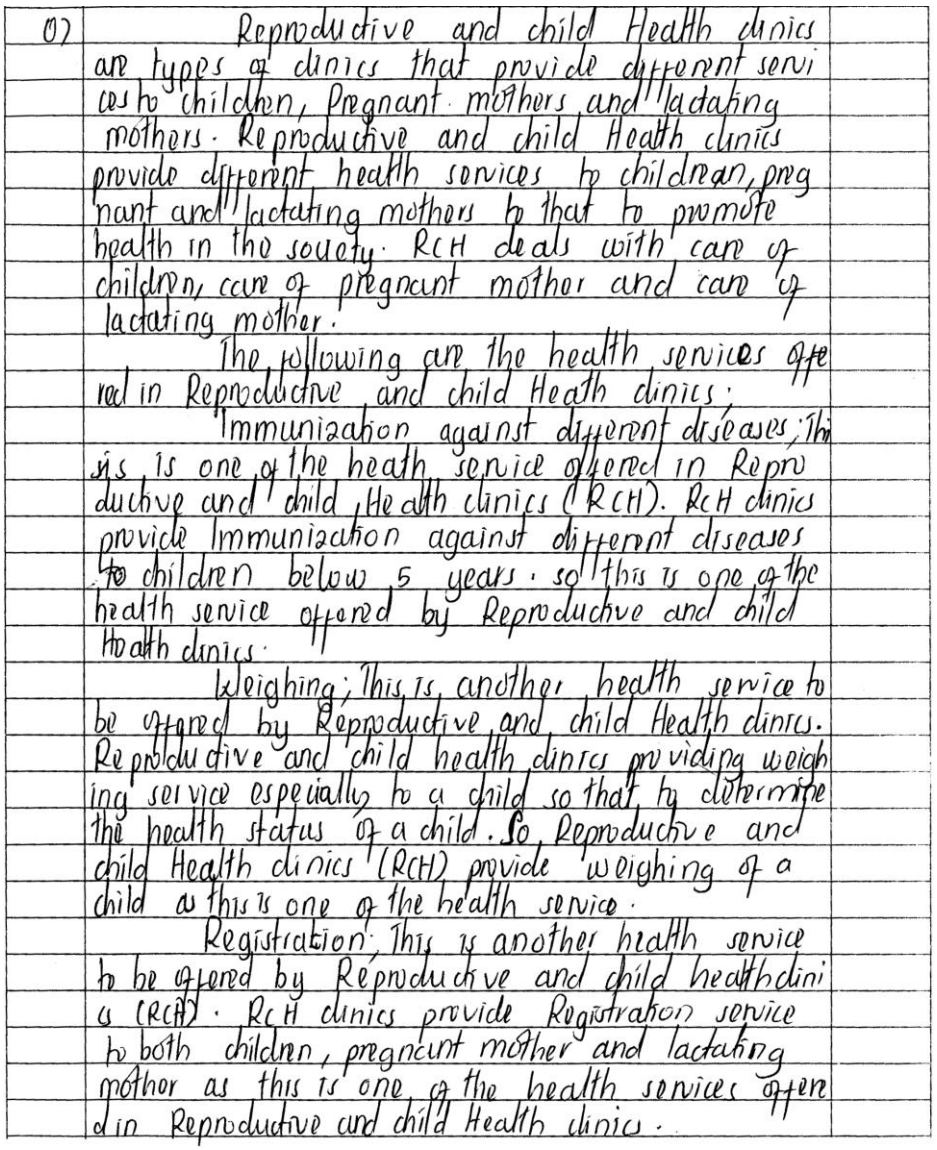
Therefore, reproductive and child health clinics are very important as they help in promotion of good health to a child and mother through services which are offered by it. So reproductive and child health clinics should be promoted by the government.

Extract 17.1: *A sample of correct responses in question 7.*

In Extract 17.1, the candidate was able to explain correctly the Reproductive and Child Health Services due to adequate knowledge on the concept of health related services.

Despite the good performance observed in this question, a few candidates (2.2%) scored low marks ranging from 3 to 6.5. These candidates had an idea on the services related to health which are offered in Reproductive and Child Health clinics but majority failed to elaborate most of the services. Other candidates repeated some of the

services. For example, *provision of health education and provision of nutrition education, weighing children and growth monitoring, maternal care and antenatal care* and *treatment of diseases and curative measures* were mentioned by some of the candidates as two different points instead of one. In addition, a few candidates described the activities which are carried out in Nutrition Rehabilitation Centers which include: *to provide therapeutic diet to severely malnourished children, to assess the progress of children and* identify *those who are not doing well, to provide medical and nutritional therapy* and *to provide nutrition and child care education to mothers or guardians*. Extract 17.2 is a sample of responses from a script of a candidate with poor performance.



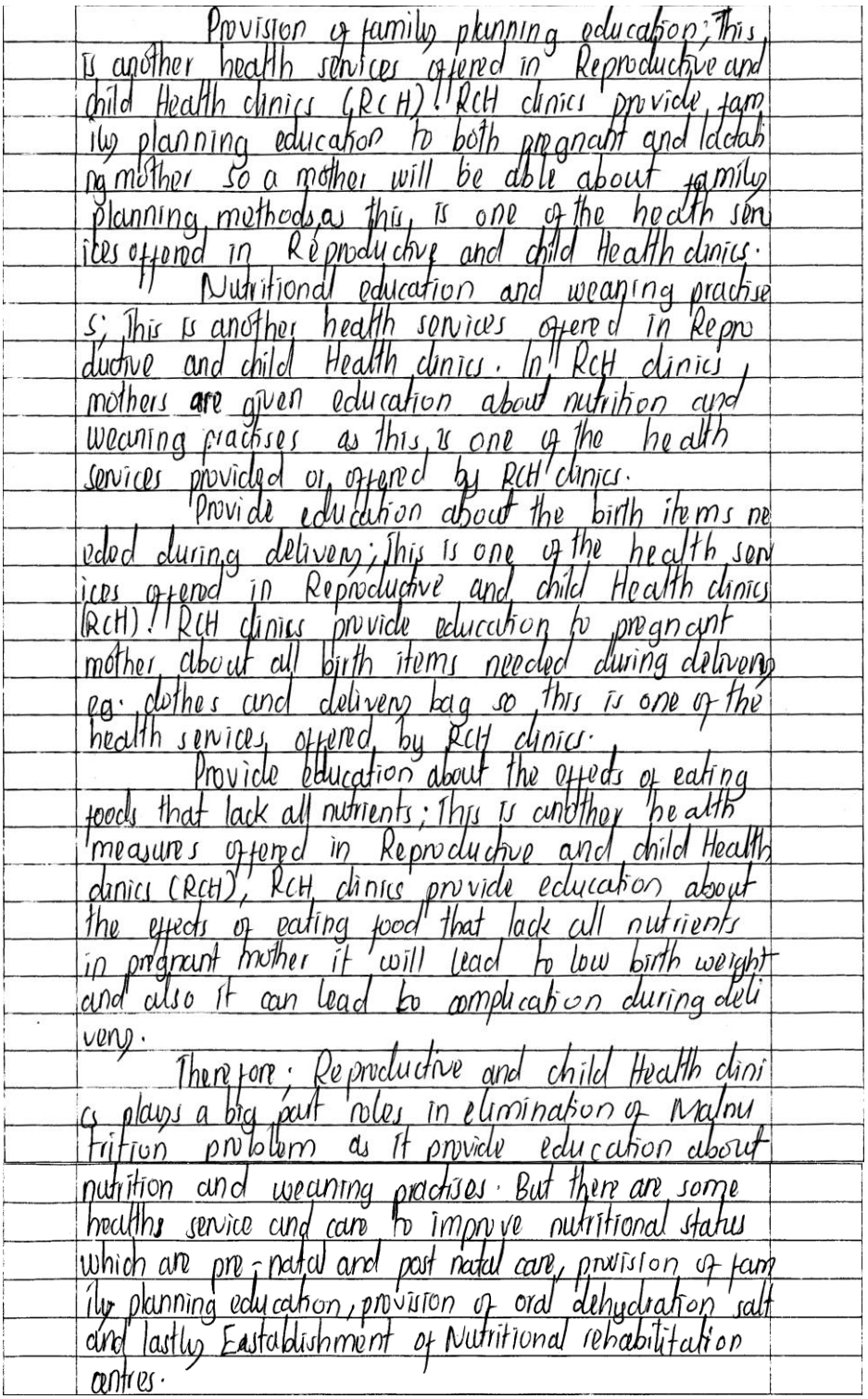
02 Reproductive and child Health clinics are types of clinics that provide different services to children, Pregnant mothers and lactating mothers. Reproductive and child Health clinics provide different health services to children, pregnant and lactating mothers so that to promote health in the society. RCH deals with care of children, care of pregnant mother and care of lactating mother.

The following are the health services offered in Reproductive and child Heath clinics;

Immunization against different diseases; This is is one of the heath service offered in Reproductive and child Health clinics (RCH). RCH clinics provide Immunization against different diseases to children below 5 years. so this is one of the health service offered by Reproductive and child Health clinics.

Weighing; This is another health service to be offered by Reproductive and child Health clinics. Reproductive and child health clinics providing weighing service especially to a child so that to determine the health status of a child. So, Reproductive and child Health clinics (RCH) provide weighing of a child as this is one of the health service.

Registration; This is another health service to be offered by Reproductive and child healthclinics (RCH). RCH clinics provide Registration service to both children, pregnant mother and lactating mother as this is one of the health services offered in Reproductive and child Health clinics.


Provision of family planning education; This is another health services offered in Reproductive and child Health clinics (RCH). RCH clinics provide family planning education to both pregnant and lactating mother so a mother will be able about family planning methods as this is one of the health services offered in Reproductive and child Health clinics.

Nutritional education and weaning practises; This is another health services offered in Reproductive and child Health clinics. In RCH clinics mothers are given education about nutrition and weaning practises as this is one of the health services provided or offered by RCH clinics.

Provide education about the birth items needed during delivery; This is one of the health services offered in Reproductive and child Health clinics (RCH). RCH clinics provide education to pregnant mother about all birth items needed during delivery eg. clothes and delivery bag so this is one of the health services offered by RCH clinics.

Provide education about the effects of eating foods that lack all nutrients; This is another health measures offered in Reproductive and child Health clinics (RCH), RCH clinics provide education about the effects of eating food that lack all nutrients in pregnant mother it will lead to low birth weight and also it can lead to complication during delivery.

Therefore; Reproductive and child Health clinics plays a big part roles in elimination of Malnutrition problem as it provide education about nutrition and weaning practises. But there are some healths service and care to improve nutritional status which are pre-natal and post natal care, provision of family planning education, provision of oral dehydration salt and lastly Eastablishment of Nutritional rehabilitation centres.

Extract 17.2: *A sample of incorrect responses in question 7.*

In Extract 17.2, the candidate provided two irrelevant services and repeated three of them. The candidate also failed to provide clear

explanations to the two correctly mentioned points thus, scored low marks.

3.2.3 Question 8: Catering and institutional feeding

The question required the candidates to account for nine social-cultural and economic factors to be considered in menu planning in a catering establishment.

The question was opted by 185 (89.8%) candidates while 21 (10.2%) did not choose it. Data analysis shows that 78 (42.2%) candidates scored from 12 to 19 marks, 92 (49.7%) scored from 7 to 11.5 marks and 15 (8.1%) scored from 1 to 6.5 marks out of 20. This implies good performance since 170 (91.9%) candidates scored 7 marks and above as illustrated in Figure 18.

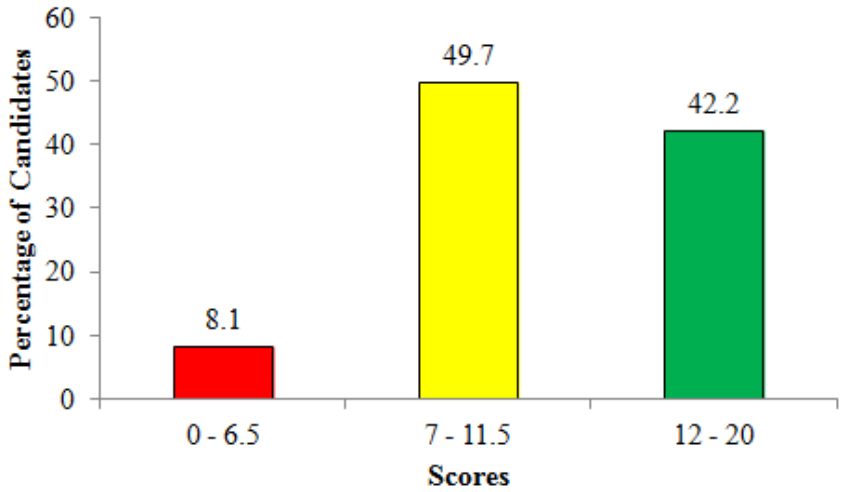


Figure 18: *The candidates' performance in question 8.*

The candidates whose performance was good applied the knowledge they had on menu planning to provide correct responses. However, most of these candidates did not score full marks because they provided insufficient explanations to some of the factors while a few of them explained four to eight correct factors out of nine. Majority of the candidates in this category presented their responses in essay form with relevant introduction and conclusion. Extract 18.1 is a sample of good responses from one of the candidates.

08. Menu is a written information which informs the customer on what the caterer has to offer. There are many types of menu involved in catering for example 'A'la carte menu, Table d'horte menu, specialty menu, menu for special occasions and so on. Menu planning is a very important task in any catering establishment. The following are the socio-cultural and economic factors to be considered in menu planning in a catering establishment:-

Type of customers; Before planning or during menu planning, one should consider the type of people intended to use the particular menu. For example, if the potential customers expected are students, the menu should consist of many quick to eat dishes, snacks, bites and soft drinks since students usually do not have long food breaks. In this way, the caterer is assured of capturing the customer interest.

Food fads ; In menu planning, one should consider the food habits that are on trend or those that are mostly preferred by the customers at that particular time. For example, the current food fad is that people prefer to eat organic foods compared to the inorganic foods. Therefore, the caterer should be sure to include dishes in the

08. menu that will allow the use of organic foods to attract more customers. Other food fads include consumption of coffee and so on.

Purchasing power of the customer; The caterer should consider whether the price allocated for the dishes in the menu matches the spending power of the customers or not. If the dishes are too expensively priced, customers will fail to buy them. The menu should focus on getting profit but also consider the economic status of the customers. For example, pricing of menu for business people is not equal to that of students.

Staff knowledge and skill in food preparation; The caterer should consider whether the staff present at the establishment are capable of preparing well all the dishes in the menu. This will ensure greater efficiency in preparation of the dishes as well as guarantee the production of tasty and good quality dishes which will attract more customers to the establishment.

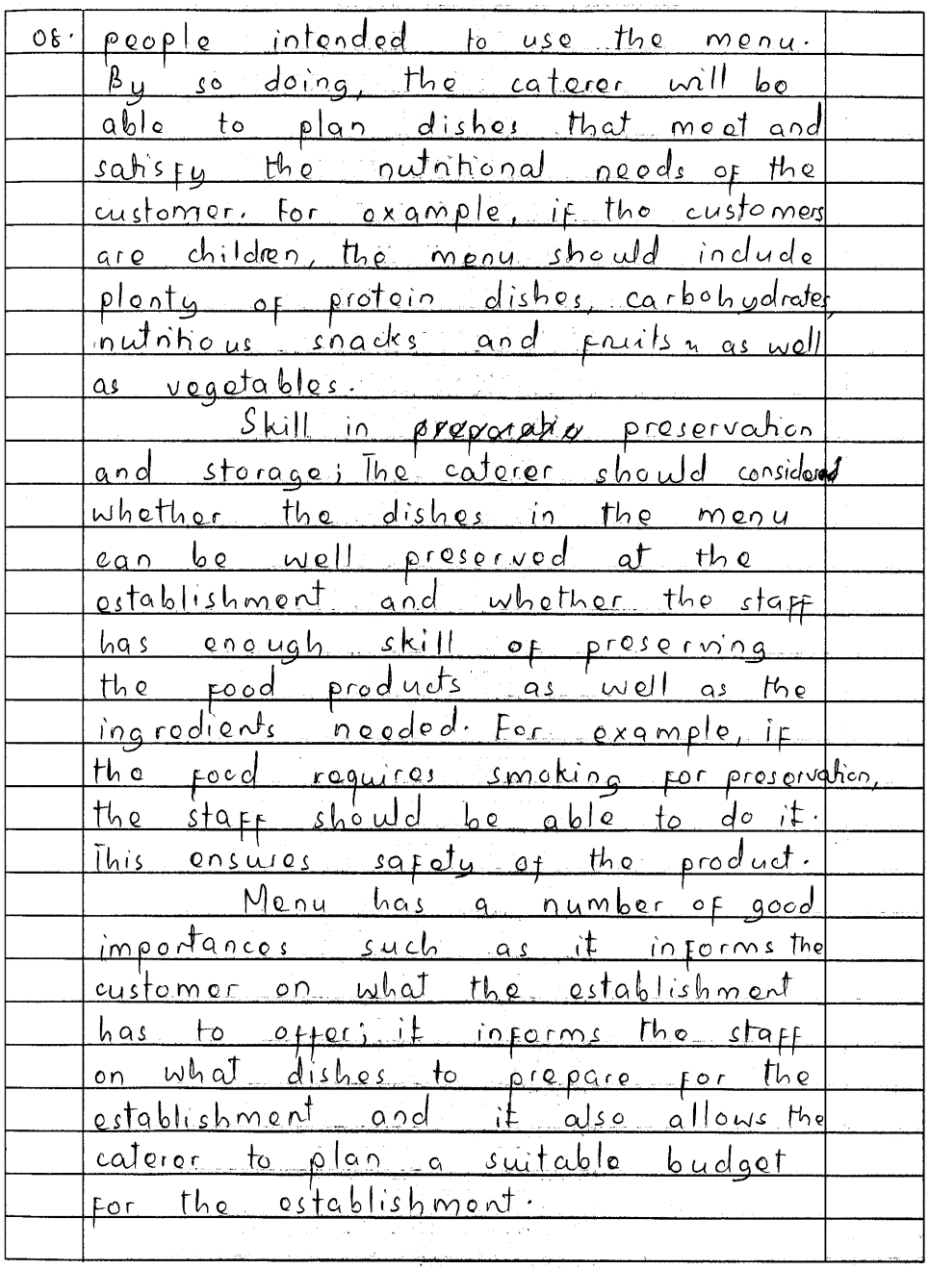
Catering equipment available; During menu planning, the caterer should ensure that there is the availability of all the necessary equipment for preparation and cooking as well as storing of the dishes included in the

08. menu. For example, if the menu includes steamed dishes, the caterer must ensure the presence of a steamer for efficient preparation of the particular dish.

Time and source of energy available; Menu planning must consider whether the time available is enough for preparing the dishes included in the menu. Dishes that demand long cooking time like steamed pudding should not be included in the menu if the time is limited. Also, the dishes in the menu should match the energy source available. For example, the caterer should not include baked dishes in the menu if the energy source available is a kerosene stove.

Season of the year; The dishes planned for in the menu should be consistent with the climate and season of the year. For example, if it is a cold season, the menu should include many hot dishes and beverages like tea, coffee, hot soups, milk and cocoa. If it is a hot season, dishes like fruit salads, juices, ice creams and sundae should be included in the particular menu.

Nutritional requirement; During menu planning, the caterer should keep in mind the nutritional needs of the


08. people intended to use the menu. By so doing, the caterer will be able to plan dishes that meet and satisfy the nutritional needs of the customer. For example, if the customes are children, the menu should include plenty of protein dishes, carbohydrates, nutritious snacks and fruits as well as vegetables.

Skill in preparation preservation and storage; The caterer should considered whether the dishes in the menu can be well preserved at the establishment and whether the staff has enough skill of preserving the food products as well as the ingredients needed. For example, if the food requires smoking for preservation, the staff should be able to do it. This ensures safety of the product.

Menu has a number of good importances such as it informs the customer on what the establishment has to offer; it informs the staff on what dishes to prepare for the establishment and it also allows the caterer to plan a suitable budget for the establishment.

Extract 18.1: *A sample of good responses in question 8.*

In Extract 18.1, the candidate managed to explain correctly the social-cultural and economic factors to be considered in menu planning.

The candidates who scored low marks in this question provided less than four correct social-cultural and economic factors to be considered in planning the menu in a catering establishment. Some of them mixed the correct factors with the factors to consider before planning the menu in a catering establishment such as: *the location of the establishment,*

competition in the locality, consider if there are opportunities for outdoor catering or take-away, the type of catering establishment, menu cover should reflect identity/image of the establishment and *decide the range of dishes to be offered and the pricing structure*. Other candidates provided factors not related to menu planning which include: *consider source of clean and safe water, hygienic practices, infrastructure and communication systems, methods of cooking, size of the group* and *good portion control*. In addition, the candidates provided insufficient or irrelevant explanations to some of the correct factors mentioned. These responses suggest that the candidates in this category had inadequate knowledge on the concept of menu planning in a catering establishment. Extract 18.2 shows a sample of responses from a candidate who scored low marks.

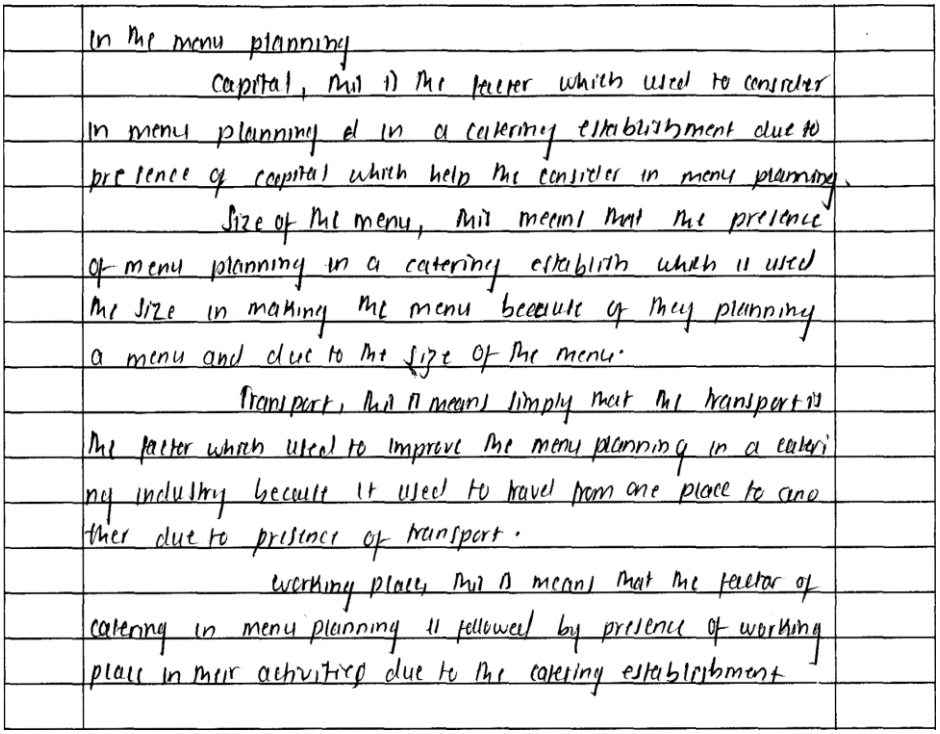
8. Catering, is the process of providing services and drink to the individuals, and work for example hospital, schools and prisons

The following are the social - cultural and economic factor to be considered in menu planning in a catering establishment.

Type of meal, this is the factor which is used to consider when the planning a catering establishment due to follow their type of meal which are consider to plan.

Type of customer, this is the another factor which are used in the planning a menu ~~the~~ in order to improve the catering establishment due to the presence of factor which are type of customer.

place to use, this is the factor which used to consider when menu planning in a catering establishment due to place to use during to consider when preparing the menu planning ~~to~~ it depend to the different activities in the preparation of used in the p menu planning in the catering establishment of the different place


in the menu planning
Capital, this is the factor which used to consider in menu planning el in a catering establishment due to presence of capital which help the consider in menu planning.
Size of the menu, this means that the presence of menu planning in a catering establish which is used the size in making the menu because of they planning a menu and due to the size of the menu.
Transport, this is means simply that the transport is the factor which used to improve the menu planning in a catering industry because it used to travel from one place to another due to presence of transport.
working place, this is means that the factor of catering in menu planning is followed by presence of working place in their activities due to the catering establishment

Extract 18.2: *A sample of incorrect responses in question 8.*

In Extract 18.2, the candidate highlighted one correct factor to consider in menu planning but failed to explain it clearly. However, other factors were not related to the demand of the question suggesting that he/she had inadequate knowledge on the concept of menu planning in a catering establishment.

3.2.4 Question 9: Nutrition program planning and intervention

This question required the candidates to explain nine important issues that should be included in nutrition education to ensure proper growth and reduction of all forms of undernutrition in children.

The data analysis shows that 60 (29.1%) candidates opted for this question meaning that 146 (70.9%) did not attempt it. It was observed that 42 (70.0%) candidates scored from 0.5 to 6.5 marks, 13 (21.7%) scored from 7 to 11.5 marks and only 5 (8.3%) candidates scored from 12 to 16 marks out of 20. Generally, the performance in this question was poor since only 18 (30%) candidates scored average and above. Figure 19 summarizes this performance.

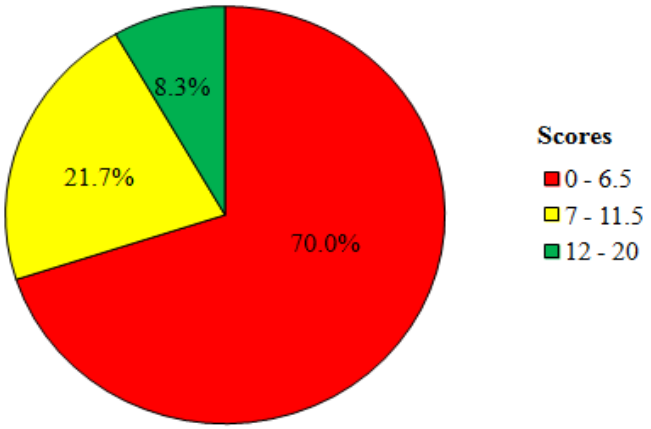


Figure 19: *The candidates' performance in question 9.*

The analysis of candidates' responses reveals that the candidates who scored low marks misinterpreted the question. Majority of the candidates provided the factors to consider in planning for a successful nutrition education program which include: *socio-cultural practices of the people, control key of food channel, involvement of diet as teaching aid, involvement of key people/leaders, teaching methodology, media of communication and communication skills, target group, the economic level of the people* and *the plans for evaluation* instead of the important issues that should be included in nutrition education to ensure proper growth and reduction of all forms of undernutrition in children. Others provided the factors to consider when selecting nutrition intervention program: For example, one candidate wrote, *knowledge of the people, customs and habits of the people* and *language to be used*. Extract 19.1 shows a sample of responses from a script of a candidate who performed poorly in this question.

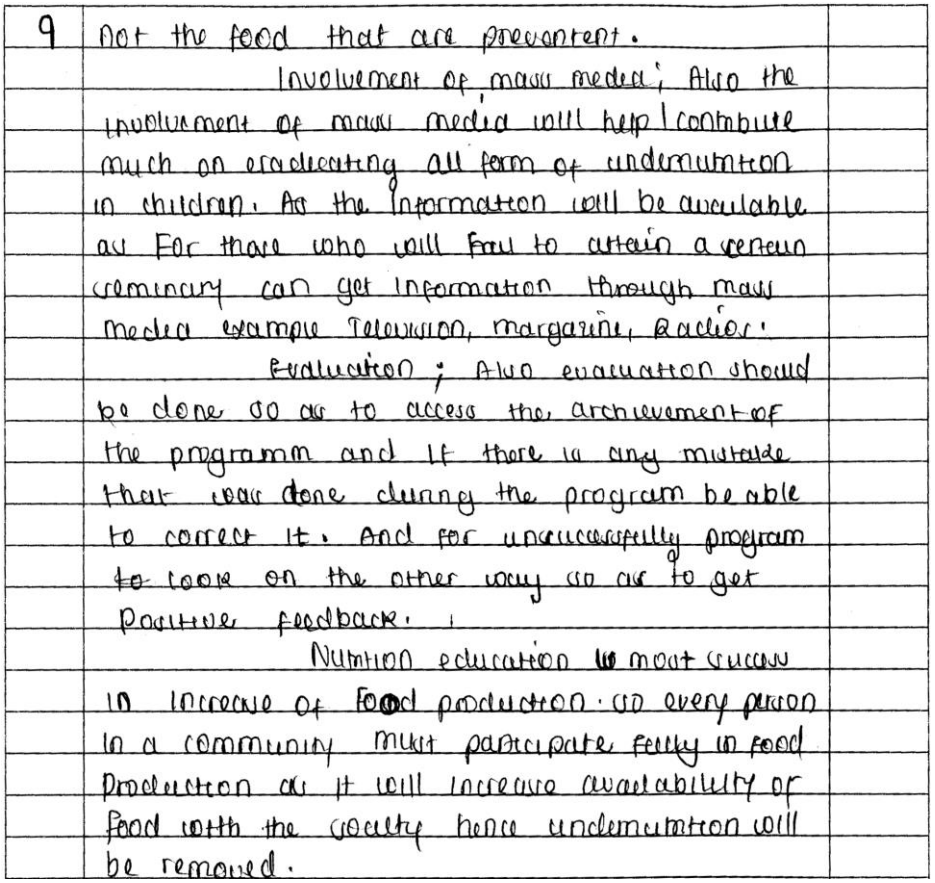
9	Nutrition education is the education given to all community members so as to ensure that all form of malnutrition is prevented. Nutrition education also can be given through Television Magazine, mass media etc. The following are the important issue that should be included in nutrition education so as to ensure proper growth and reduction of all forms of undernutrition in children. Involvement of key leader; key leader should be involved during provision of Nutrition education as key leader are very close to their people so the people can be ready to listen to them and follow what they says example pastors, government leaders preacher etc. Involvement of diet as a teaching aid; Also the involvement of the diet in giving nutrition education can help alot as the people can observe practically as it can not be easy for them to remember what they have been taught example preparation of weaning food. Communication skills; For a successfully nutrional education a good communication skill should be practised. If there will be a good communication between the one giving the nutrition education and the people receiving the education there is a maximum successfull rate of the programm.	

9 Time and venue; Also time and venue of providing nutrition education must be included. The time should be selected well. Use the time which people are not tied ~~of they get her~~ for they can be able to listen to you. Also arrange a good venue which people can not get tied easy ensure that there is a good condition which will enable them to sit and listen to you.

level of the education; Also the level of education should be included in nutrition education. As there some people have low level of knowledge so they need much time to understand you so in order to ensure proper growth and reduction of all form of undernutrition in children the level of the education to whom you are going to give education must be considered.

Targeted group; Also target group should be well known. As this will help in good provision of nutrition education because of having already the technique to use so as for them to understand and adhere the teachings that are given. Also for a successfully program as the problem will be eliminated

Food habit and social custom; Also you should consider the food habit and social custom of the people you are going to give nutrition education. If your nutrition education based on food you should educate them through the food that are taken and


9 Not the food that are prevanent.
Involvement of mass media; Also the involvement of mass media will help/contribute much on eradicating all form of undernutrition in children. As the information will be available as For those who will Fail to attain a certain seminary can get information through mass media example Television, margazine, Radio.
Evaluation; Also evaluation should be done so as to access the archievement of the programm and if there is any mistake that was done during the program be able to correct it. And for unsuccessfully program to look on the other way so as to get positive feedback.
Numtion education is most sucess in increase of Food production. so every person in a community must participate fully in food production as it will increase availability of food with the locality hence undernutrition will be removed.

Extract 19.1: *A sample of incorrect responses in question 9.*

In Extract 19.1, the candidate provided the factors to consider in planning for a successful nutrition education program instead of the important issues that should be included in nutrition education to ensure proper growth and reduction of all forms of undernutrition in children.

On the other hand, majority of the candidates who scored from 7 to 16 marks (30%) managed to mention four to eight correct important issues that should be included in nutrition education to ensure proper growth and reduction of all forms of undernutrition in children. The correct points mentioned by most of candidates include: *increasing knowledge about quality and safety, providing information on family planning, encouraging breast feeding and discouraging bottle feeding, encouraging pregnant women to attend clinics, encourage intake of balanced diet* and *promoting consumption of foods which are good sources of vitamin A/carotene.* Other correct points mentioned by the candidates were: *encouraging parents/guardians to send under five children to clinics, demonstrating the proper preparation, cooking,*

processing and preservation procedures at family level, increasing the amount of weaning foods gradually, feeding young children more frequently and *promoting consumption of varieties of both animal and plant foods*. However, the candidates failed to score full marks because they provided inadequate or incorrect explanations to some of the mentioned points. For example, some of the candidates provided the meaning of family planning, balanced diet and underfive clinics instead of connecting them with child growth and undernutrition.

3.2.5 Question 10: Catering and institutional feeding

The candidates were given a statement, "The catering industry makes a valuable contribution to individuals, communities and nations" and they were required to elaborate it by explaining four economic and two social contributions of catering industry to our nation.

The question was opted by 183 (88.8%) candidates. This means 23 (11.2%) candidates did not attempt this question. The performance in this question was good as 180 (98.4%) candidates scored from 7 to 19 marks of which 156 (85.2%) scored from 12 to 19 marks and 24 (13.2%) scored from 7 to 11.5 marks. In addition, only 3 (1.6%) candidates scored from 5 to 6.5 and none scored below 5 marks out of 20. The performance of this question is summarized in Figure 20.

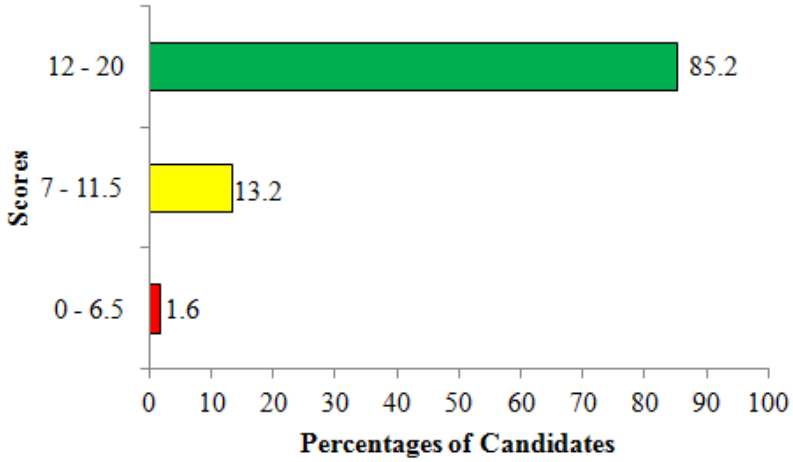


Figure 20: *The candidates' performance in question 10.*

The candidates' responses analysis reveals that the majority of the candidates who performed well in this question were able to respond according to the question's demand. This was attributed to sufficient knowledge the candidates had on the importance of catering industry.

This was also due to the fact that some of the services provided by the catering industry such as food, accommodation and leisure are commonly used in our daily life. The candidates therefore, applied such experience to get some of the economic and social contributions of the catering services to our nation. However, some of the candidates mentioned correct points but provided more or less than the required number of points in each part. Others failed to provide sufficient explanations to some of the provided points, hence, failed to score full marks. Extract 20.1 is a sample answer from one of the candidates who scored high marks in this question.

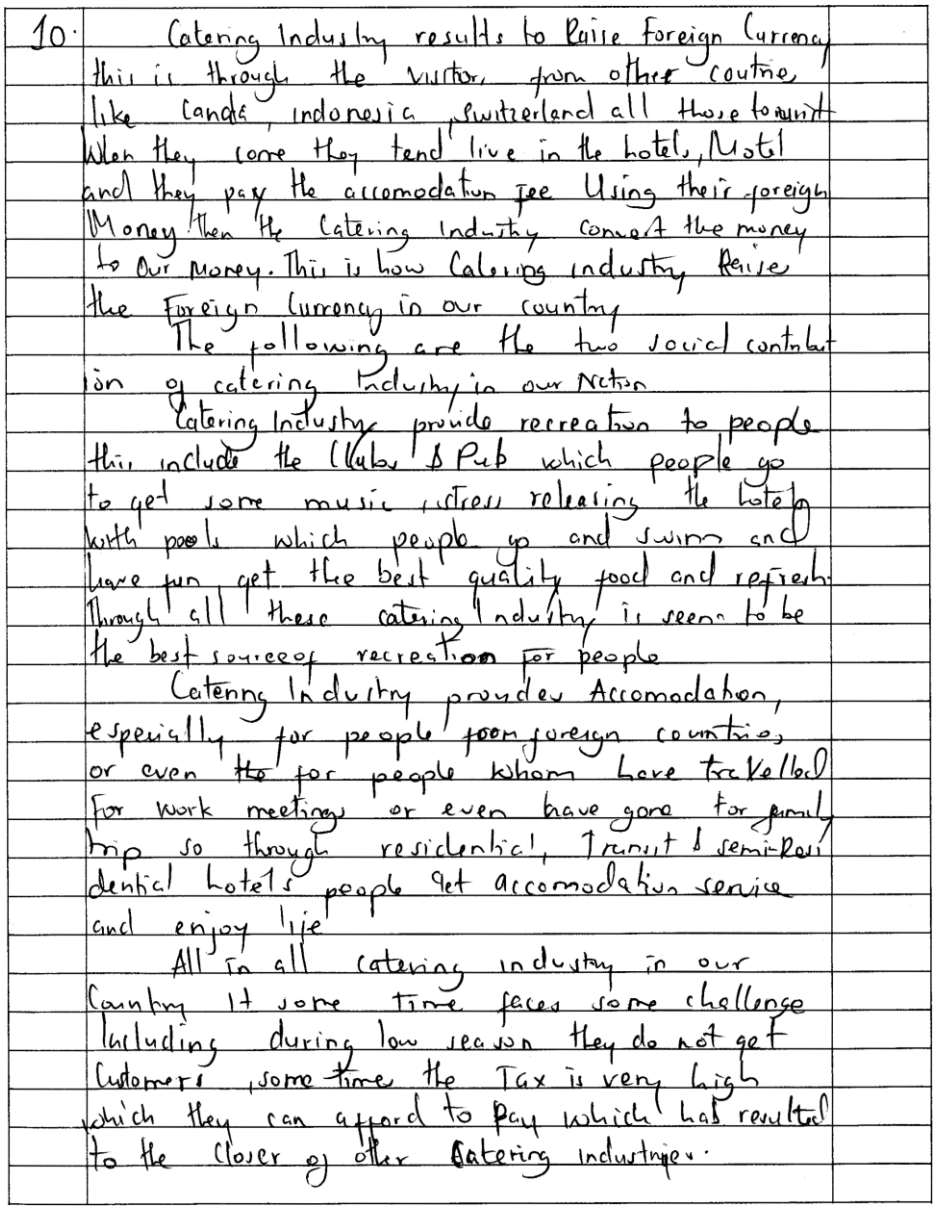
10 Catering this is the process of providing food, beverage and Accomodation to people. Catering industry it is the industry highly specialised to provide catering services and all time ready to sacrifice the customers. Catering Industry has real molce valuable contribution to the individual Communities and Nations.

The following are the four economic Contribution of catering Industry to Our Nation

Catering creates employment Opportunities, through Catering Industry alot of people get Various jobs including Waiters, House keeping divers, receptionists, Managers and many more of it is very beneficial for an individual him/her self and the Nation at large. In the absenee of catering Service alot of people would be jobless / Unemployed

Contributes to raise Nation Gross Income, Catering Industry tend to raise the National ~~Inco~~ Income in various ways including through taxes that are paid by the catering Industries like the hotels, Motels, Restaurants Bars, Club, Pub all these catering Industry they all pay tax to the government And that on how they tend to raise the Nation Gross Income

Contributes to Support other Sectors these other section include Agriculture this is through the buying of goods, ingredients fruits for the production of food in their Industries and through the buying of all these things it raises the fund of the Agricultural Sector in the better Way


10. Catering Industry results to Raise Foreign Currency this is through the visitor, from other countries like Canada, Indonesia, Switzerland all those tourist When they come they tend live in the hotels, Motel and they pay the accomodation fee Using their foreign Money then the Catering Industry convert the money to our money. This is how Catering industry Raise the Foreign Currency in our country

The following are the two social contribution of catering Industry in our Nation

Catering Industry provide recreation to people this include the Clubs & Pub which people go to get some music, stress releasing the hotels with pools which people go and swims and have fun, get the best quality food and refresh. Through all these catering Industry is seen to be the best source of recreation for people

Catering Industry provides Accomodation, especially for people from foreign countries, or even those for people whom have travelled For work meetings or even have gone for family trip so through residential, Transit & semi-Residential hotels people get accomodation service and enjoy life

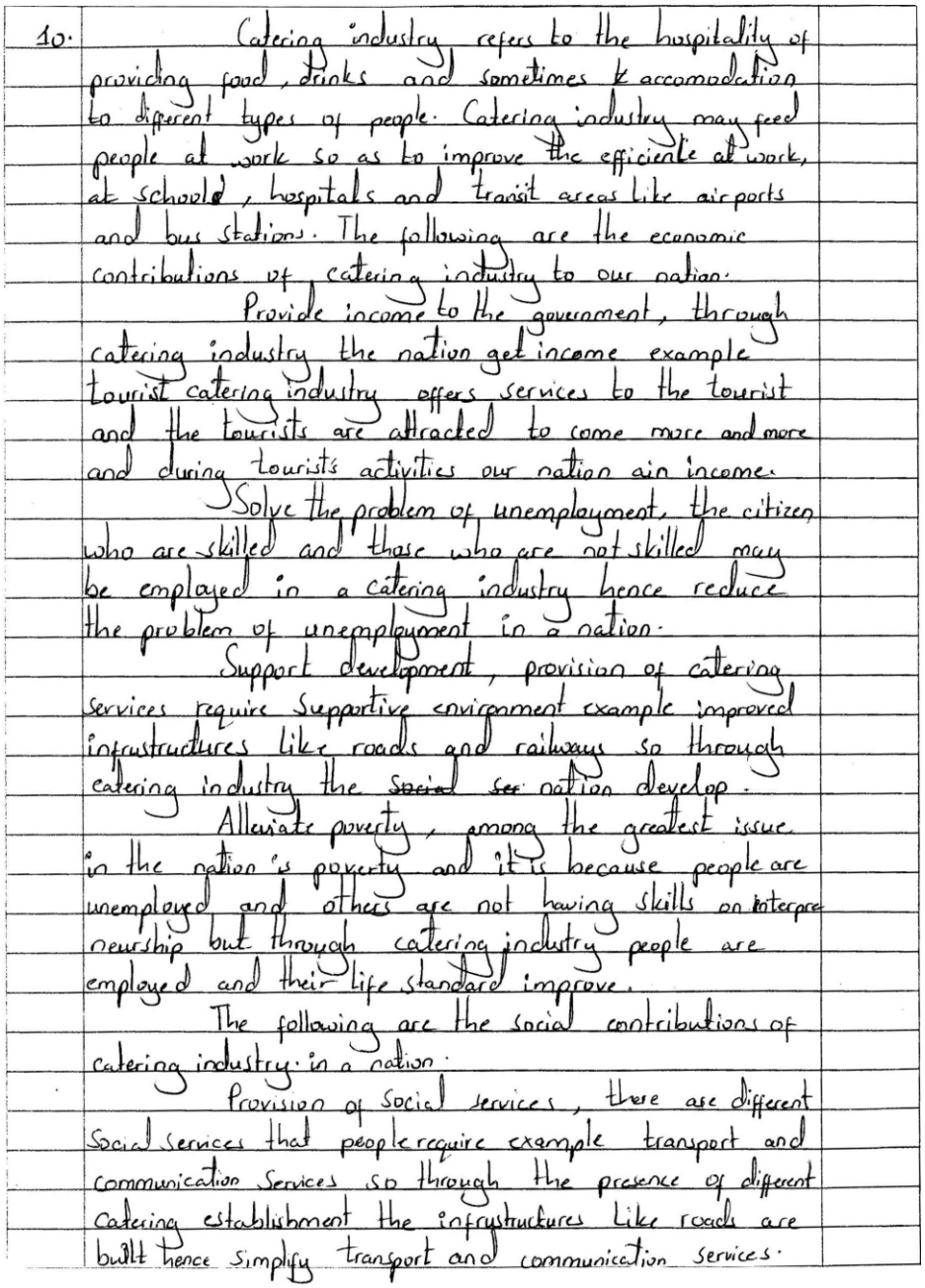
All in all catering industry in our Country it some time faces some challenge including during low season they do not get Customers, some time the Tax is very high which they can afford to pay which has resulted to the closer of other Catering Industries.

Extract 10.1: *A sample of good responses in question 10.*

In Extract 10.1, the candidate was able to explain correctly the economic and social contributions of catering industry to our nation showing that he/she had sufficient knowledge on the importance of catering industry.

Further analysis indicates that the candidates who scored low marks mentioned few correct points with inadequate explanations. Some of the candidates also interchanged some of the points by mentioning social contributions in the place of economic contributions and vice

versa. For example, one candidate explained *to support other sectors like agriculture* under social contributions and *supporting disadvantaged groups of people* under economic contributions. Such responses indicate that the candidates under this category had partial knowledge on the importance of the catering industry. Extract 20.2 shows a sample of responses from a candidate who scored low marks in this question.



10. Catering industry refers to the hospitality of providing food, drinks and sometimes ~~&~~ accomodation to different types of people. Catering industry may feed people at work so as to improve the efficiente at work, at schools, hospitals and transit areas like airports and bus stations. The following are the economic contributions of catering industry to our nation.

Provide income to the government, through catering industry the nation get income example tourist catering industry offers services to the tourist and the tourists are attracted to come more and more and during tourists activities our nation ain income.

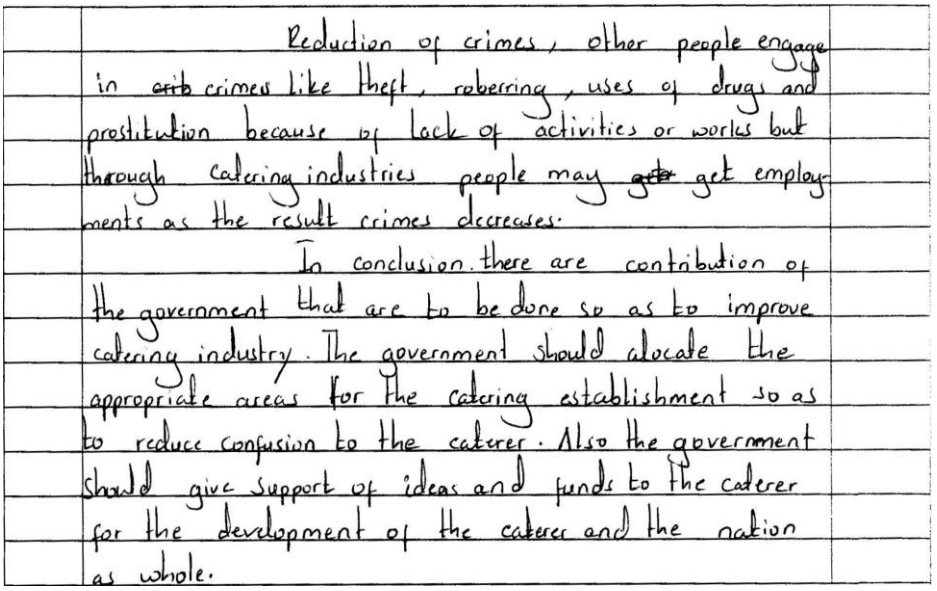
Solve the problem of unemployment, the citizen who are skilled and those who are not skilled may be employed in a catering industry hence reduce the problem of unemployment in a nation.

Support development, provision of catering services require supportive environment example improved infrastructures like roads and railways so through catering industry the ~~Social~~ See nation develop.

Alleviate poverty, among the greatest issue in the nation is poverty and it is because people are unemployed and others are not having skills on interpre neurship but through catering industry people are employed and their life standard improve.

The following are the social contributions of catering industry in a nation.

Provision of social services, there are different social services that people require example transport and communication services so through the presence of different catering establishment the infrastructures like roads are built hence simplify transport and communication services.


Reduction of crimes, other people engage in ~~arib~~ crimes like theft, roberring, uses of drugs and prostitution because of lack of activities or works but through catering industries people may ~~get~~ get employments as the result crimes decreases.

In conclusion. there are contibution of the government that are to be done so as to improve catering industry. The government should alocate the appropriate areas for the catering establishment so as to reduce confusion to the caterer. Also the government should give support of ideas and funds to the caterer for the development of the caterer and the nation as whole.

Extract 20.2: *A sample of poor responses in question 10.*

In Extract 20.2, the candidate provided insufficient explanations on the two correctly mentioned economic contributions of the catering industry. However, other mentioned points were incorrect.

4.0 ANALYSIS OF CANDIDATES' PERFORMANCE PER TOPIC

Food and Human Nutrition paper 1 and 2 examination comprised a total of 20 questions from 11 topics. The analysis shows that the general performance for this examination was good since the average of 61.1 percent of the candidates who sat for this examination scored 35 percent or above.

The analysis of the candidates' performance in each topic indicates that 5 topics had good performance while 6 topics had average performance. The topics which had good performance were: *Catering and institutional feeding (95.2%), Food processing and preservation (92.0%), Nutrient requirement (81.5%), Food storage (69.0%) and Nutrition program planning* and *intervention (66.5%)*. The reasons for the good performance could be the ability of the candidates to identify the demands of the questions, appropriate knowledge of the examined concepts, provision of sufficient explanations in answering the questions and good mastery of essay writing skills. The topics which had average performance were: *Malnutrition (53.3%), Food production (51.3%), Technology of specific products (43.7%), Food composition (42.0%), Food quality and safety (39.0%)* and *Food microbiology (38.8%)*. The analysis indicates that the average performance of candidates in these topics was contributed by failure to provide the required

number of points and failure to provide sufficient explanations on the mentioned points. The analysis of candidates' performance per topic is summarized in Appendix A.

The comparison of the performance of candidates between 2018 and 2019 shows that the performance has increased from average to good in the topic of *Catering and institutional feeding;* from poor to good in the topics of *Food processing and preservation, Food storage* and *Nutrition program planning and intervention* and from poor to average in the topics of *Malnutrition* and *Food quality and safety*. Besides, the performance has decreased from good to average in the topics of *Food production, Technology of specific products, Food composition* and *Food microbiology*. It was observed that the decrease of the candidates' performance in these topics was attributed to inadequate knowledge of the examined concepts, provision of incorrect or insufficient explanations, poor mastery of essay writing skills and misinterpretations of the questions. However, a constant good performance has been observed in the topic of *Nutrient requirement*. The comparison of the candidates' performance per topic between the year 2018 and 2019 is shown in Appendix B. Generally the candidates performance in the year 2019 is higher than that of 2018 by 6.14 percent.

5.0 CONCLUSION

The analysis of the candidates' responses has exposed the strengths and weaknesses of the candidates in answering the questions. Generally, the candidates' performance for the ACSEE 2019 was good since 98.54 percent of the candidates passed by scoring C to S grades. This performance was better compared to that of 2018 by 6.14 percent. The comparison of the candidates' performance between 2018 and 2019 is illustrated in Appendix C.

The analysis of the candidates' performance in each question indicates that candidates had good performance in 10 questions and average performance in 7 questions. This performance could be attributed to the candidates' good understanding of questions' demands, adequate knowledge and practical skills in the examined concepts, good mastery of essay writing skills and detailed explanations in answering the questions. On the other hand, the candidates had poor performance in 3 questions. Inadequate knowledge of the examined concepts, provision of incorrect or insufficient explanations, poor mastery of essay writing skills and misinterpretations of the questions hindered them from scoring good marks in these questions.

6.0 RECOMMENDATIONS

In order to improve the performance of the future candidates, it is recommended that:

(a) Candidates should read the examination questions carefully before attempting them in order to clearly identify their requirements.

(b) Teachers should guide their students on how to respond to different types of examination questions.

(c) Teachers should adhere to teaching and learning strategies stipulated in the syllabus to enhance acquisition of nutritional knowledge and skills.

(d) Teachers should provide enough exercises, tests and examinations to their candidates in order to enhance mastery of the concepts and get experience in answering the national examinations' questions.

(e) Teachers should use various teaching and learning methods which are student centred in order to increase students understanding and competency.

(f) Various experts from different fields should be invited to teach various concepts as demanded by the syllabus.

(g) School management and teachers should support students to study hard and make the necessary self-preparations before the examination period.

Appendix A

Summary of Candidates' Performance per Topic for ACSEE 2019

S/n.	Topic	Number of questions	The percentage of candidates who scored 35% or above.	Remarks
1.	Catering and institutional feeding	2	95.2	Good
2.	Food processing and preservation	2	92.0	Good
3.	Nutrient requirement	2	81.5	Good
4.	Food storage	2	69.0	Good
5.	Nutrition program planning and intervention	3	66.5	Good
6.	Malnutrition	2	53.3	Average
7.	Food production	1	51.3	Average
8.	Technology of specific products	1	43.7	Average
9.	Food composition	2	42.0	Average
10.	Food quality and safety	1	39.0	Average
11.	Food microbiology	2	38.8	Average

Appendix B

Comparison of Candidates' Performance per Topic for ACSEE between 2018 and 2019

S/n.	Topic	2018			2019		
		Number of questions	The percentage of candidates who scored 35% or above.	Remarks	Number of questions	The percentage of candidates who scored 35% or above.	Remarks
1.	Food composition	1	90.0	Good	2	42.0	Average
2.	Technology of specific products	2	82.5	Good	1	43.7	Average
3.	Food production	1	79.6	Good	1	51.3	Average
4.	Food microbiology	2	71.9	Good	2	38.8	Average
5.	Nutrient requirement	2	63.4	Good	2	81.5	Good
6.	Catering and institutional feeding	2	36.3	Average	2	95.2	Good
7.	Nutrition program planning and intervention	3	31.4	Weak	3	66.5	Good
8.	Malnutrition	2	28.2	Weak	2	53.3	Average
9.	Food processing and preservation	2	18.7	Weak	2	92.0	Good
10.	Food storage	2	10.5	Weak	2	69.0	Good
11.	Food quality and safety	1	0.4	Weak	1	39.0	Average

Appendix C

The Comparison of Candidates' Performance between 2018 and 2019