



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



**CANDIDATES' ITEM RESPONSE ANALYSIS  
REPORT ON THE CERTIFICATE OF SECONDARY  
EDUCATION EXAMINATION (CSEE) 2020**

**INFORMATION AND COMPUTER STUDIES**



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**036 INFORMATION AND COMPUTER STUDIES**

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## FOREWORD

The National Examinations Council of Tanzania is pleased to issue the Candidates' Item-Response Analysis (CIRA) report in Information and Computer Studies for the Certificate of Secondary Education Examination (CSEE) 2020. The analysis provides feedback to the students', teachers, parents, policy makers and other education stakeholders on how the candidates' attempted the questions.

The Certificate of Secondary Education Examination marks the end of the four years of secondary education. It is a summative evaluation which, shows among other things, the effectiveness of the education system in general and education delivery system in particular. Essentially, the candidates' responses form a strong indicator of what the education system has been able or unable to offer to the candidates in their four years of ordinary secondary education.

The analysis presented in this report is intended to contribute towards understanding of the reasons for the candidates' good and weak performance. The analysis showed that the reasons for good performance included sufficient knowledge of the content in the topics tested and correct interpretation of the questions. The reasons for some candidates' weak performance included misinterpretation of the questions, lack of practical skills in responding to the questions that required practical skills and inadequate knowledge on the tested topics.

It is expected that, the feedback provided in this report will enable our educational administrators, school managers, teachers and students to identify strategies for improving candidates' performance in future examinations.

Finally, the Council would like to thank everyone who participated in the preparation of this report.



Dr. Charles E. Msonde  
EXECUTIVE SECRETARY

## 1.0 INTRODUCTION

This report presents an evaluation of the candidates' performance in the 2020 Information and Computer Studies CSEE examination. The examination assessed the knowledge and competences acquired by the candidates. The examination was set according to the examination format which was developed in accordance with the 2005 Information and Computer Studies syllabus for Ordinary Secondary Education.

The examination had two papers, Information and Computer Studies 1 (theory) and Information and Computer Studies 2 (practical). The theory paper had three sections A, B and C. Section A consisted of two objective questions. The first question had ten items with one mark each. The second was a matching item consisting of five premises each carrying one mark. Section B had eight short answer questions. All questions in sections A and B were compulsory. Section C had two optional essay type questions. The candidates were required to attempt only one question. The practical paper had three questions with 25 marks each. The candidates were required to attempt two questions.

A total of 2,702 candidates sat for the Information and Computer Studies examination in 2020. Out of these candidates, 2,404 (88.97%) passed the examination and 298 (11.03%) failed. In 2019, a total of 2,788 candidates sat for Information and Computer Studies examination. Of these candidates, 2,393 (85.83%) passed the examination and 395 (14.17%) failed. This means that the performance rate of 2020 increased by 3.14 percent compared to that of 2019.

The candidates' performance in each question/topic has been categorized using the following ranges; 0 to 29 (weak performance), 30 to 64 (average performance) and 65 to 100 (good performance). In this report, the candidates' performance is presented in different charts in which the red colour stands for weak performance, the yellow colour for average performance and the green colour for good performance.

The analysis of the candidates' performance was done by showing the demand of the questions, what the candidates wrote and the mistakes they made while attempting the questions. The analysis also highlights the factors

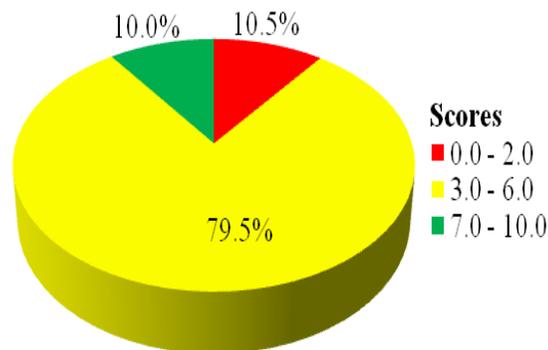
which lead to average performance as well as good performance. Furthermore, extracts from candidates' responses are used to illustrate the points raised about candidates' performance. Finally, the report presents conclusions and recommendations.

## 2.0 ANALYSIS OF THE CANDIDATES' RESPONSE IN PER QUESTION IN PAPER 1

### 2.1 Question 1: Multiple Choice Items

The question consisted of ten (10) multiple choice items which were composed from the following topics: *The Computer, Computer Evolution, Computer Handling, Word Processing, Spreadsheet, Computer Networking and Communication, The Internet, Database as Information System, Presentation and Web Designing.*

All 2,702 (100%) candidates attempted this question. Of which 283 (10.5%) scored from 0 to 2 marks, 2148 (79.5%) scored from 3 to 6 marks and 271 (10.0%) scored from 6.5 to 10 marks. Figure 1 presents the candidates' performance in this question.



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

The performance of the candidates on this question was good since (89.5%) of the candidates scored more than 2 marks. Majority of the candidates chose the correct answers from the items. This showed that, the candidates understood the requirements of the questions. However, a few candidates (10.5%) performed weak. The following analysis shows candidate's responses for each item on this question:

Item (i) stated that; *the following are physical network topologies except*  
 A *ring topology.*                      D *star topology.*  
 B *ethernet topology.*                E *mesh topology.*  
 C *bus topology.*

The correct answer was B, *Ethernet topology*. The candidates who managed to identify the correct response had adequate knowledge on the physical network topology. Those who selected other options were not able to identify the physical network topology, which means they had insufficient knowledge on that area.

Item (ii) stated that, *which technology was used in the fifth computer generations?*  
 A *Large Scale Integrated.*            D *Artificial intelligence.*  
 B *Vacuum tubes.*                        E *Thermionic valves.*  
 C *Transistors.*

The correct answer was D, *Artificial intelligence*. The candidates who selected incorrect answers had failed to recall that option A, *Large Scale Integrated* was used in third generation of computers, option B, *Vacuum tubes* was incorrect because it was the technology which was used in the first generation of computers. Option C, *Transistors* was also incorrect as this was a technology which was mostly used in the second generation of computers and option E, *Thermionic valves* is not part of computer generations technology but it is a device giving a flow of thermionic electrons in one direction, used particularly in the rectification of a current radio reception.

Item (iii), the candidates were required to identify the correct data type in the field of gender in a given figure which was shown in a drop down list of M for male and F for female.

Table1			
StudentId	FirstName	LastName	Gender
*			M
			F

The optional responses were as follows:

A *Attachment.*                            D *Hyperlink.*  
 B *Memo.*                                    E *Yes/No.*  
 C *Lookup Wizard.*

The correct answer was C, *Lookup Wizard*. The candidates who opted for incorrect responses had insufficient knowledge about data type, they failed to recall that option A, *Attachment* is used in the database or any other programs to attach files, option B, *Memo* is the data type field which can contain either text or binary data, option D, *Hyperlink* is a word, phrase or image that you can click on to connect for a new document or a new section within the current document or an external document and option E, *Yes/No* is a field that expected the values to be Yes or No.

Item (iv) stated that, *suppose you want to find and download computer studies books from the internet, which program would you use?*

- A *Google search engine*
- B *Mozilla Firefox*
- C *Google chrome*
- D *Web browser*
- E *Internet explorer*

The correct answer was A, *Google search engine* but some of the candidates chose other alternatives. The candidates who opted for C *Google chrome* failed to differentiate between Google search engine and Google chrome as both are product of Google but, Google chrome is a browser required to open a website and not a search engine. Others opted for alternative B *Mozilla Firefox* and E, *Internet explorer*. The candidates who opted for option B, and E, failed to understand that Mozilla Firefox and internet explorer are web browser although, they are not Google products like Google chrome. This indicates that, the candidates had insufficient knowledge on search engines and their applications.

Item (v), was as follows: *Which action enables a word processor to capture information?*

- A *Copy and paste*
- B *Cut and copy*
- C *Cut and paste*
- D *Copy and insert*
- E *Cut and save*

The correct answer was B, *cut and copy*. Most of the candidates who failed to attempt this item, chose option A, “Copy and paste” and C, “Cut and paste”. The candidates who chose these options missed the key word "Capture information". Paste is used to place the information after being either copied or cut and not to capture information. This indicates that, the candidates lacked knowledge on using word processing application software. Others opted for option D, *Copy and insert* as well as E, *Cut and save* which are not used to capture information.

Item (vi) was, *what does the <th> tag in HTML emphasize?*

- A Italic text
- B Bold text
- C Coloured text
- D Underline text
- E Enlarge text

The correct answer was B, *Bold text*. Most of candidates opted for A and E alternatives. The candidates who opted for alternative A, *Italic text* failed to understand that, HTML tag used to italicize text is <i></i> and not <th>. The candidates who chose option E, *enlarge text* lacked the knowledge of HTML tag for enlarging text. The <th> tag in HTML emphasized bold text in header part of the table and not otherwise. Thus, those who opted for A and E had insufficient practical skills in HTML tags.

Item (vii), the candidates were required to identify the type of malicious program that duplicates itself, blocking the computer memory and storage. The given options were;

- A *Virus.*
- B *Firmware.*
- C *Trojan horse.*
- D *Worm.*
- E *Spam.*

The correct answer was D, *Worm*. The candidates who opted for B, *Firmware* failed to understand that firmware is not a malicious program but is a program programmed on a hardware device to provide the necessary instructions on how the device communicates with other computer hardware. Also, those who opted for A, *Virus*, C, *Trojan horse* and E, *Spam* were not correct because these type of malicious program do not attempt to inject themselves into other files or otherwise propagate themselves.

Item (viii) stated that, *Amina was rewarded with a computer game DVD during her birthday. In which category does this gift fall?*

- A *Entertainment software and storage device.*
- B *Utility software and storage device.*
- C *Application software and storage device.*
- D *System software and storage device.*
- E *Firmware software and storage device.*

The correct answer was C, *Application software and storage device*. The candidates who opted for correct response managed to identify an application software and storage device as was required by the question. However, some candidates who chose other options had inadequate knowledge on computer software.

Item (ix) stated that, *A school debate club invited speakers to address issues of gender and HIV/AIDS in the school assembly hall. Speakers used a microphone, a computer and a projector to demonstrate their presentation through animations and videos. What type of presentation was used in relation to the devices used?*

- A *Audio and sound presentation*
- B *Video and text presentation*
- C *Visual and text presentation*
- D *Multimedia presentation*
- E *Power point presentation*

The correct answer was D, *Multimedia presentation*. This presentation involved the ways of communication that combine different content forms such as text, audio, images, animation, or video in a single presentation. Since, the candidates who opted for D had adequate knowledge about multimedia. The candidates who opted for E, *PowerPoint presentation* were unable to differentiate between these two presentations. Multimedia provides clear and classic picture video and more animation compared to PowerPoint. On the other hand, those who opted for A, *Audio and sound presentation*, B *Video and text presentation* and C *Visual and text presentation* were wrong. These candidates were supposed to know that multimedia presentation includes information presented with slides, video, or digital representations and sound which might be a narrative, music or sound effects

Item (x) stated that, *the following spreadsheet was prepared to show the results of the students who did three different tasks. In cell E5 an error occurred. What might be the reason?*

	A	B	C	D	E	F
1	<b>Computer Studies Task Scores</b>					
2	<b>Name</b>	<b>Task 1</b>	<b>Task 2</b>	<b>Task 3</b>	<b>TOTAL</b>	<b>AVERAGE</b>
3	Juma	44	39	25	108	36.0
4	Emilia	37	42	30	109	36.3
5	Koku	40	39	27	#VALUE!	35.3
6	Batuli	22	40	29	91	30.3
7	<b>Average</b>	<b>35.8</b>	<b>40.0</b>	<b>27.8</b>		

- A *The column is not wide enough to accommodate the value.*
- B *The formula references an invalid intersection of cells.*
- C *The formula uses incorrect argument or operator.*
- D *The reference to a value is not available to a formula.*

*E There is invalid cell referencing in the formula used.*

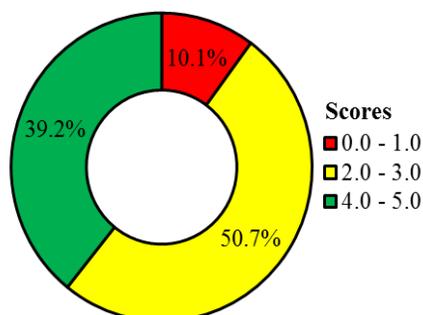
The correct answer was C, *The formula uses incorrect argument or operator.* The candidates who opted for a correct response had sufficient knowledge about error messages provided by Ms excel. The candidates who opted for alternative A, *The column is not wide enough to accommodate the value* was incorrect because an error message for option A is #####. The candidates who opted for alternative B, *The formula references an invalid intersection of cells* were not correct because error message for option B is #NUL! The candidates who opted for alternatives D, *The reference to a value is not available to a formula* and E, *There is invalid cell referencing in the formula used* were not correct because error messages for options D and E are #N/A and #REF! respectively. The candidates who opted for incorrect responses had failed to identify the error message and it's meaning.

## 2.2 Question 2: Matching Items

In this question, the candidates where required to match the functions of desktop publishing (DTP) tools in **List A** to their corresponding tool names in **List B** by writing the letter of the correct response beside the item number in the answer booklet provided. The question intended to assess the candidates' ability to identify the functions of different desktop publishing (DTP) tools. The question was as follows:

LIST A	LIST B
(i) A tool which is used for magnifying publications view.	A. Shapes tool
(ii) A tool which is used to turn around text or graphics	B. Objects tool
(iii) A tool which you can use to draw passage frames, insert and manipulate pages	C. Rotate tool
(iv) A tool which can be used to pick, none and resize images and text	D. Select image tool
(v) A tool which is used to draw basis figures and importing objects	E. Select tool
	F. Texted tool
	G. Zoom tool
	H. Text tool

A total of 2,702 (100%) candidates attempted this question, out of which 273 (10.1%) scored from 0 to 1 mark, 1,369 (50.7%) scored from 2 to 3 marks and 1,060 (39.2%) scored from 4 to 5 marks out of 5 marks allocated. Figure 2 presents the candidates' performance on this question.



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

The general performance on this question was good since 89.9 per cent of the candidates scored more than 1 mark. This performance could be implying that the candidates were familiar with the desktop publishing (DTP) tools. Thus, they matched correctly most of the items. The candidates who scored lower marks failed to respond correctly to most of the items. The candidates' responses analyses for each item of this question are given as follows:

Item (i), required the candidates to identify a tool which is used for magnifying publications view. The correct answer was G, *Zoom tool*. These candidates' selected the correct response of this item implying that, they had adequate knowledge on the DTP tools. However, some of the candidates opted for E, *Select tool*, this was not correct because select tool is used to select portions an image to edit and not used for magnifying an object.

Item (ii), required the candidates to identify a tool which is used to turn around text or graphics. The correct answer was C *Rotate tool*. The analysis showed that, majority of the candidates provided correct response on this item. The candidates had enough knowledge to select the right tool. On the other hand, few candidates failed to select correct response due to inadequate knowledge on DTP tools.

Item (iii) required the candidates to identify a tool which could be used to draw passages, frames, insert and manipulate passage. The correct answer was H, “text tool”. The analysis showed that, most of the candidates wrote B, “object tools”. The candidates who wrote object tools failed to understand that object tool is the general name for the tool which contain tools for creating and manipulating text and images. Furthermore, other candidates opted for A, “shapes tool”. These candidates failed to know that shapes tool is used to draw basic figures and import objects. This signifies that, the candidates related the term draw and frames with the shapes and objects.

Item (iv) required candidates to identify a tool which is used to pick, move then resize images and text. The correct response was E, “select tools”. Some of the candidates provided wrong responses. For instant some candidates wrote D “Select image tool” which was wrong because the function of select image tool is to select, move and resize images and text. Other candidates opted for G, “zoom tool”. This response was not correct too because “zoom tool” is used to magnify publication view. These wrong responses indicate that, candidates could not differentiate the function of “select tool” with that of other tools like “select image tools” and “zoom tool”.

Item (v) required the candidates to identify a tool which is used to draw basic figures and importing objects. The correct response was A, “shapes tool”. On this item, some of the candidates wrote D, “Select image tool” which was wrong because select image is used to select, move and resize images and text. Candidates were attracted with the with the term “objects” which relates to the term image. Some candidates opted for C “Rotate tool”. These candidates failed to understand that, rotate tool is used to turn around out texts or graphics. This indicates that candidate had insufficient knowledge on function of various desktop publishing (DTP) tools.

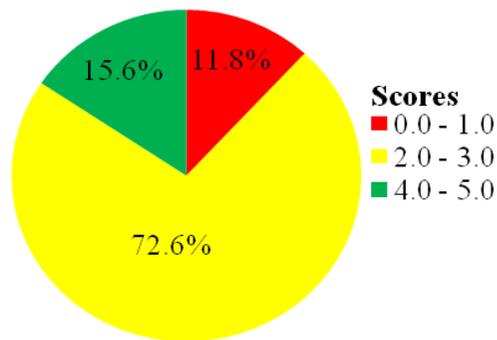
### **2.3 Question 3: Jumbled Questions**

The question consisted of five (05) steps of printing a document. The question was composed from a topic of word processing.

In this question, the candidates were required to re-arrange the given sentences in a sequential order beginning with the first step to the last step. The question intended to assess the candidates’ ability to apply the knowledge of printing a document in a Microsoft word. The following steps were given.

- A. Click OK button.
- B. Click print preview.
- C. Click print from the file menu.
- D. Open a document to be printed.
- E. Select the printer.

The statistics shows that 2,697 (99.8%) candidates attempted this question, out of which 319 (11.8%) scored from 0 to 1 mark, 1,958 (72.6%) scored from 2 to 3 marks and 420 (15.6%) scored from 4 to 5 marks out of 5 marks allocated. Figure 3 presents the candidates' performance on this question.



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

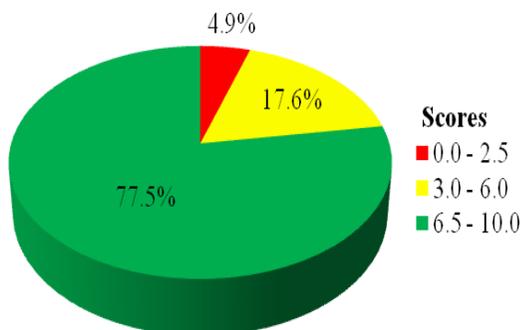
Figure 3 illustrate that, the performance of the candidates on this question was good because 88.2 percent scored from 2 to 5 marks. Most of the candidates gave correct steps of printing a document. However, few candidates (11.8%) performed poorly. The candidates who failed to score high marks faced difficult in arranging step “B” and “C”. It was observed that, some started with step “C” followed by “B”. These candidates failed to know that, before printing a document it is very important to preview a document in order to confirm if there is no details outside the printable area and if the document layout is okay.

#### **2.4 Question 4: Information**

Question 4 was constructed from the topic of Data and Information. This question had two parts (a) and (b). The question required the candidates to:

- (a) Explain the importance of information in our daily life, with examples
- (b) Explain two ways of disseminating information with examples.

This question was attempted by 2,702 (100%) candidates, out of which 133 (4.9%) scored from 0 to 2.5 marks, 475 (17.6%) scored from 3.0 to 6.0 marks and 2,094 (77.5%) scored from 6.5 to 10 marks out of 10 marks allocated. Figure 4 presents the candidates' performance on this question.



**Figure 4:** *The candidates' performance on question 4*

In general, the performance of the candidates on this question was good because 95.1 percent of the candidates scored above 2.5 marks. The analysis of candidates' responses revealed that, 77.5 percent of the candidates with high performance explained correctly the importance of information in part (a). However, a few of the candidates repeated some of points in different words; this led them to lose some marks in this part. In part (b), some of the candidates mentioned the forms of information dissemination and gave examples but failed to explain their meaning. For instance, one of the candidates wrote: *Traditional dissemination for example drums and whistles; and modern dissemination for example, Televisions and Telephones*. This shows that, the candidate had partial idea on information dissemination. Other candidates explained clearly the the terms but they wrote only one example in either traditional or modern way of disseminating information instead of two examples as it is stated in the question. This led them to lose some marks. Extract 4.1 presents a sample of a correct response.

4.	
(a)	<p>i. Give people awareness/create awareness.</p> <p>ii. Information gives people directions or simply it helps to direct people.</p> <p>iii. Information enables people to learn various things on different matters.</p> <p>iv. Problem solving is made possible from a certain information.</p>

	<p>v. Information also gives people knowledge on different issues.</p>
(b)	<p>i. Traditional way of disseminating information        → It is a way of disseminating information which does not require modern technology, its transmission is slow and also it takes time in transmitting the intended information.        Example; i. The use of horns        ii. Fire / smoke</p> <p>ii. Modern way of disseminating information        → It is a method which uses modern technology in transmitting information from one place to another. The information can be transmitted faster over a large area in a short time through modern ways.        Example; i. Television        ii. Radio</p>

Extract 4.1: A sample of correct answer to question 4

The responses of a candidate provided in Extract 4.1 shows that the candidate was able to explain the importance of information in our daily life with examples in part (a). The candidates also explained correctly two ways of disseminating information with examples in part (b).

On the other hand, 17.6 percent of the candidates scored average marks. In this category, majority of the candidates wrote correctly only three or four importance of information in part (a). Some of them failed to explain the

importance clearly, this led them to score less marks. For example, one candidate wrote, *it is reliable, it is flexible*. This shows that, the candidates lacked enough knowledge on data and information concept. In part (b), Some of the candidates gave direct translation of the term traditional and modern ways of dissemination of information. For example, one candidate wrote *Traditional form dissemination uses traditional means while modern form of dissemination uses modern ways*. Others managed to write examples of traditional and modern ways of disseminating but failed to explain the terms. Further analysis showed that, some of the candidates interchanged examples of traditional and modern methods of information. This shows that, the candidates had partial understanding on data and information.

Furthermore, 4.9 percent of the candidates who scored low marks gave only one or two importance of information in part (a). In part (b), a few candidates managed to mention only one way of disseminating information but failed to explain and give examples. Some candidates mentioned ways of communicating instead of writing ways of disseminating information in a computer. For example, one candidate wrote; *Oral dissemination and written dissemination*. This shows that, the candidates did not understand the requirement of the question. Extract 4.2 presents a sample of such incorrect responses.

4.1)	i) Because it help to <sup>know</sup> each others	
	ii) It helps to know many things.	
	iii) It helps to understand the things that you don't know	
	iv) Information is like a identity for doing somthings.	
	(v)	
(b)	By Telephone :	
	By computer system: eg by sharing information.	

Extract 4.2: A sample of incorrect answer to question 4

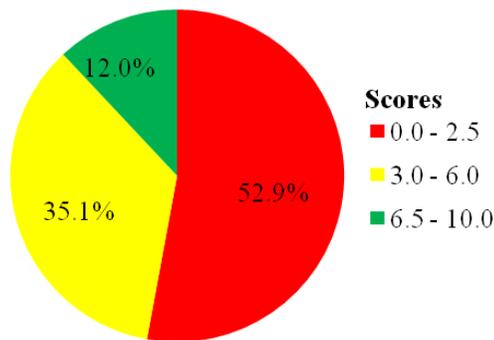
The responses of a candidate provided in extract 4.2 shows that the candidate wrote incorrect explanation on the importance of information in our daily life. However, the candidate managed to write correctly one example of modern way of disseminating information without specifying it.

## 2.5 Question 5: Database as Information System

The question was constructed from the topic of Database as Information System. This question had two parts (a) and (b) which required candidate to:

- (a) Explain three possible types of database model he/she could develop when designing a school database.
- (b) State steps to follow in order to establish the relationship between two or more tables in the opened database.

This question was attempted by 2,584 (95.6%) candidates out of which 1,367 (52.9%) scored from 0 to 2.5 marks, 908 (35.1%) scored from 3 to 6 marks and 309 (12.0%) scored from 6.5 to 10 marks out of 10 marks allocated. Figure 5 presents the candidates' performance in this question.



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

The general performance in this question was of average because 47.1 percent of the candidates scored above 2.5 marks. The analysis showed that 52.9 percent of the candidates who scored low marks managed to mention only one type of database models but failed to explain on it in part (a). Some of the candidates explained features of Database Management System (DBMS) such as table, query, form, report and macros. This indicated that, the candidates failed to distinguish between database models and database objects in Microsoft access. Other candidates mentioned type of database instead of types of database models. For example, one candidate mentioned company database and individual database. This means such a candidate lacked knowledge on database designing. In part (b), some candidates wrote the steps of adding table in a word processor instead of the steps to establish relationship between two or more tables in the database. This implies that, the candidates did not understand the

requirement of the question. Moreover, some of the candidates outlined the steps of creating query instead of the steps for establishing the relationship between tables in a database. Extract 5.1 presents a sample of such incorrect responses.

05	a) Table model Is one of the models which data are entered in forms of table and are manipulated so as to ensure all required items are found.
	Tree model Is one of the model where by data are entered in form of a tree by Classifying from the first to the last entered data with their positions.
	Hierarchical model Is one of the data base model where by data are entered in an arranged boxes form from the first to the last item
	b) i) Firstly making sure there is a common field which can be related to all tables
	ii) When creating a relation the common field from the parent table will be dragged to the child table to create a relation.

Extract 5.1: A sample of incorrect response to question 5

The responses of a candidate provided in Extract 5.1 shows that the candidate managed to write one correct database model required in designing school database. However, the candidate gave wrong description. the candidate also, failed to write the steps required to create the relationship between two tables.

Moreover, 35.1 percent of the candidates who scored average marks were able to list three types of database models but they failed to explain them accordingly in part (a). Other candidates explained correctly one or two models only. This led them to loose some marks. In part (b), some of the candidates just mentioned correct steps to establish relationship but

failed to follow the order. This implies that, the candidates lacked practical skills on database designing.

On the other hand, a few candidates (12.0%) who scored high marks were able to list and explain three types of database models in part (a). However, some of the candidates failed to explain clearly but mentioned only two types. This led them to lose some marks. Also, in part (b) the candidates were able to mention the steps required to establish the relationship between two tables. Although, some of them were unable to give all steps.

Extract 5.2 presents a sample of correct responses.

5a	i) Hierarchical model	
	⇒ This is a type of database model where by information is organised in such a way that it looks like a family tree, thus to get a record, you must first pass to a table and field	
5a	ii) Relational model	
	⇒ This is a type of database model where by the tables are created in such a way that they have relation, the organisation of tables in this model are in such a way that they are related	
5a	ii) Object-oriented model	
	⇒ This is a type of database model where by the content are all object oriented thus why it is given a name of object oriented model	
5b	① Click the tab of database tools	
	② Click relationships	
	③ Click the tables you want to create relationships	
	④ Drag the field responsible to create the relationship between the table.	

Extract 5.2: A sample of a correct answer to question 5

The responses of a candidate provided in extract 5.2 show that the candidate wrote correctly three types of database model in part (a). Additionally, the candidate managed to give correctly the steps required to create relationship in part (b).

## 2.6 Question 6: The computer

Question 6 had three parts (a), (b) and (c). The candidates were required to read the given screenshot and answer the questions that followed:



**NYANGALUKA ACCESSORIES COMPANY LTD**

OFFICE PACKAGE SALE PRICE OF COMPUTER: Tshs. 2.0 Millions

Intel (R) Core (TM) i5-6200U 2.30 GHz

8.00 GB RAM

64-bit Operating system

250 GB Hard drive 7400 rpm

21" LCD Monitor

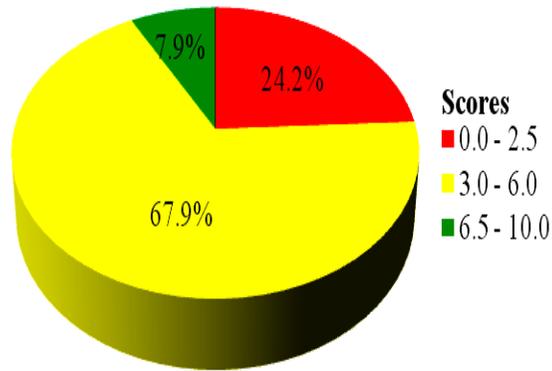
MS-DOS

Laser printer 14 ppm

The asked questions were;

- (a) What is the name of a processor available at Nyangaluka Company?
- (b) What are the sizes of primary memory and secondary memory offered by a company?
- (c) Assume you have requested a member of Nyangaluka Company to install for you Window 7 instead of UNIX operating system. What four benefits do you expect to get on the use of such operating system?

A total of 2,680 (99.2%) candidates attempted this question, out of which 648 (24.2%) scored from 0 to 2.5 marks, 1,819 (67.9%) scored from 3 to 6 marks and 213 (7.9%) scored from 6.5 to 10 marks out of 10 marks allocated. The general performance in this question was good because 75.8 percent of the candidates scored above 2.5 marks. Figure 6 presents the candidates' performance on this question.



**Figure 6:** *The candidates' performance on question 6*

The analysis showed that, most of the candidates (24.2%) who scored low marks wrote correctly the name of the processor as displayed from advertisement of company in part (a). Some of the candidates wrote microprocessor as the name of a processor advertised by the company instead of Intel (R) Core (TM) i5-6200U. Others wrote application software as the name of a processor. For example, one candidate wrote *desktop publisher software*. This indicates that, the candidates failed to understand the requirement of the question because they gave the response which is not related to the given screenshot. Also, the candidates failed to write size of a primary and secondary memory offered by the company in part (b). Some of the candidates managed to write the size of the primary memory but failed to recognize the size of the secondary memory. Others interchanged the size of the primary and secondary memory.

Additionally, few of them wrote RAM and ROM which are the names of temporary and permanent memory. This is an indication that these candidates failed to differentiate primary from secondary storage. For example, one candidate wrote; *the size of a primary memory are used RAM and secondary memory offered by a company are used hard driver disk*. This shows that the candidates lacked knowledge on memory size in a computer. In part (c), most of the candidates in this category failed to state the benefits of using the mentioned operating system. Extract 6.1 presents a sample of such incorrect responses.

6.	a.	Microsoft word.	
	b.	Primary memory. 8:00 GB RAM.	
		Secondary memory MS-DOS	
	c.	i. Data may may not be lost easily ii. Stores large amount of data iii. Schedule job. iv. Document will be stored.	

Extract 6.1: A sample of incorrect answer to question 6

In extract 6.1, the candidate failed to write the name of a processor available at Nyangaluka Company in part (a). In part (b), the candidate managed to write the size of the primary memory but failed to write the size of the secondary memory. The candidate also, failed to write four benefits of using Window 7 over UNIX.

Moreover, majority of the candidates (67.9%) who scored average marks gave correctly the name of the processor displayed on the screenshot in part (a). Few of them wrote the type of operating system such as Ms-Dos and Windows instead of Intel (R) Core (TM) i5-6200U. This implies that the candidates could not differentiate the components of the computer system due to insufficient knowledge. They also wrote the correct size of primary and secondary memory offered by the company in part (b). However, most of them wrote incorrect benefits of using window 7 against UNIX operating system. Some of the candidates gave the benefits of using UNIX instead of Window 7. This signifies that, the candidates had partial knowledge of the benefits of window 7 over UNIX. Further analysis showed that, only few candidates managed to write one or two benefits of the intended operating system.

On the other hand, 7.9 percent of the candidates who scored high marks attempted correctly all parts of the question. However, some of them managed to answer correctly part (a) and (b) but, failed to give all correct

benefits of Window 7 against UNIX. Some of these candidates mentioned only two or three benefits. Others repeated some benefits in different words and presenting them as different points. This led them to lose some marks. Extract 6.2 provides a sample of correct responses.

b. (a) Intel Core i5-6200U 2.30GHz.	
(b) Primary memory - 8.00GB RAM Secondary memory - 250GB Hard drive	
(c) (i) Menus This gives details or contents of directories or files system in your computer.	
(ii) Icons These are files or folders stored in the window system.	

(iii) Pointer. This is a cursor or an arrow which is used to select objects in the computer.	
(iv) User interface - This include Graphical User interface which consists of graphical applications.	

Extract 6.2: A sample of correct answer to question 6

Extract 6.2 show the candidate who managed to attempt this question correctly in part (a), (b) and (c). This implies that the candidate had adequate knowledge in computer specifications.

## 2.7 Question 7: Computer networks and communication

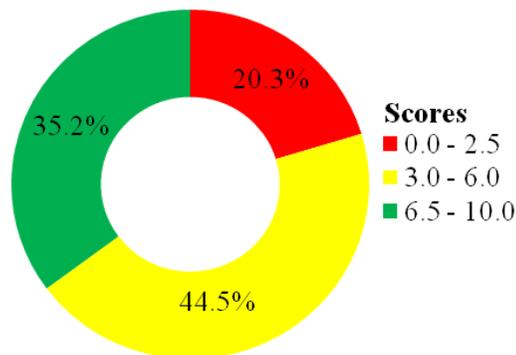
This question had two parts (a) and (b). The candidates were required to read the given scenario and answer the questions that follow;

The JJ Company which deals with home theatre system has four offices in three different cities: Dar es Salaam, Mwanza and Dodoma. The Head of

Department decided to connect all these offices through a network. However, he does not know the type of network to use.

- (a) Explain to the Head of Department three types of computer networks you know and suggest the proper type of network to be established.
- (b) Provide one advantage and one disadvantage of the type of network suggested in part (a).

The statistics shows that, 2,673(99.0%) candidates attempted this question, out of which 544 (20.3%) scored from 0 and 2.5 marks, 1,191 (44.5%) scored from 3 to 6 marks and 941 (35.2%) scored from 6.5 to 10 out of 10 marks allocated. The general performance in this question was good because 79.7 percent of the candidates scored above 2.5 marks. Figure 7 presents the candidates' performance in this question.



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

The analysis showed that 35.2 percent of the candidates who scored high marks managed to explain three types of networks correctly in part (a). However, some of the candidates failed to score all marks because they failed to suggest the correct network required to connect offices in three different cities. In part (b), some of the candidates wrote correctly the advantage and disadvantage of WAN, but failed to give correct disadvantages and advantage of WAN. This implies that, the candidates had sufficient knowledge on computer networking. Extract 7.1 shows a correct response from one of the candidates.

7.	<p>i) LAN &lt;Local Area Network&gt; This is a type of Computer network that covers small area. It involves cover small area, example can cover One or two offices.</p>	
	<p>ii) WAN &lt;Wide Area Network&gt; This is a type of Computer network which covers large area on the organization. It involves cover two or more offices.</p>	
	<p>iii) PAN &lt;Personal Area Network&gt; This is a type of Computer network which covers area of one office or one house of organization. It involves cover small or one office.</p>	
Proper type to be established.		
	<p>a) ii) WAN &lt;Wide Area Network&gt; The head of Department can use this type because it involves cover large area can cover more than two offices in different cities.</p>	
	<p>b) Advantage of Wide area network It covers large area where by many people connected can able to share information and devices.</p>	
	<p>Disadvantage of Wide area network It is costly since it needs high skills and expensive devices to connect large area.</p>	

Extract 7.1: A sample of a correct response to question 7

Extract 7.1 shows a response of a candidate who differentiated analog computers from digital computers. The candidate also, explained correctly the special purpose computers and was able to advise the headmaster giving correct reasons.

Further analysis showed that 44.5 percent of the candidates who got average marks managed to mention three types of computer networks but failed to explain them in part (a). They also failed to suggest the proper type of network required to connect the offices. Some of the candidates explained correctly only one or two type of computer network but failed to explain others. Others interchanged the concept of MAN and WAN. This signifies that, the candidates failed to distinguish between MAN and WAN. Further analysis showed that some of the candidates suggested MAN as the required computer network to connect the offices. These candidates did not understand that, MAN connects computers within a town or city. In part (b), most of the candidates failed to write advantages and disadvantages of WAN as the required type of networks to connect offices. Some of the candidates wrote advantage and disadvantage of LAN. Others wrote advantage and disadvantage of MAN. The incorrect response of the candidates resulted from incorrect type of the network suggested by the candidates in part (a).

On the other hand, the candidates (20.3%) who scored low marks listed correctly one or two types of computer networks but failed to suggest the type of network to connect three offices in part (a). Some listed physical topologies such as Star, Bus and Ring instead of computer networks. This implies that, the candidates did not understand the requirement of the question. Others listed types of computer network with incorrect long form. For example one candidate wrote *Large Area Network* instead of Local Area Network as the long form of LAN. This indicates that, the candidate had partial knowledge on computer networking. In part (b), since most of the candidates failed to suggest the required network for the offices, they could not write advantages and disadvantages of that network. A few of them wrote advantage or disadvantage of Local Area Network (LAN) instead of Wide Area Network (WAN). Moreover, some of the candidates in this category wrote advantages and disadvantages of computer network without being specific to Wide Area Network (WAN). For example one wrote; *it helps in sharing of resources* as advantage. This shows that the candidate did not understand the question. Extract 7.2 presents a sample of such incorrect response.

07 (a)	(i) LAN - large area network. This is the network which take a large geographical area. In this type of computer network are found <del>at</del> <sup>many</sup> computer but in large area. Example in universities and colleges.
	(ii) WAN - Wider area network. This is the type of computer which can take place at a medium place where there is no complication of many people (population). Example in schools and dispensaries.
	(iii) MAN - Medium area network. It involves places with low frequency of people (depopulation) it is found in classrooms.
(b)	Advantage: - It help to know and to use network where it's supposed to be used.
	Disadvantage: - It is cost full because it needs alot of many for buying equipments which can be used in the computer network

Extract 7.2: A sample of incorrect answer to question 7

The responses of a candidate provided in Extract 7.2 shows that the candidate wrote an incorrect long form of the abbreviations LAN, WAN and MAN in part (a). In part (b), the candidate could not suggest the proper network consequently wrote wrong advantage and disadvantage of WAN.

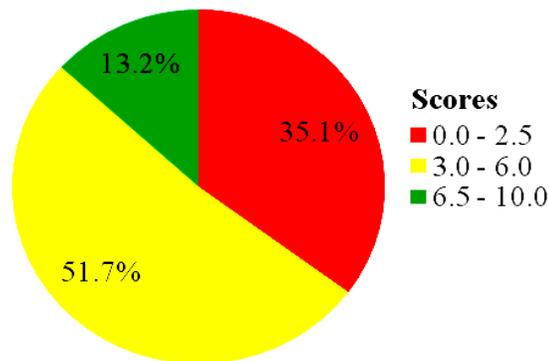
## 2.8 Question 8: Word processing

Question 8 had two parts, (a) and (b) with the following questions:

- (a) An academic master of your school asked you to prepare an end of term students' academic report using Microsoft Word. The report intends to include the table which shows different subjects and scored marks. As an IT student;

- (i) Which steps would you follow to insert a table with 10 rows and 7 columns?
  - (ii) If after creating a table in part (a) (i), you realized that, the word computer is typed komputa; which feature can you use to check and correct automatically other mistakes made?
- (b) Differentiate "autoText" from "autoComplete" as used in Microsoft Word.

The statistics showed that 2,629 (97.3%) of the candidates attempted this question, of which 924 (35.1%) scored from 0 to 2.5 marks, 1,358 (51.7%) scored from 3 to 6 marks and 347 (13.2%) scored from 6.5 to 10 marks out of 10 marks allocated. Figure 8 summarizes the candidates' performance on this question.



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

The general performance on this question was an average because 64.9 percent of the candidates scored above 2.5 marks. The analysis showed that, most of the candidates (35.1%) who scored low marks were able to mention at least one step required to insert a table in Microsoft word but failed to arrange the third and fourth step in part (a). It was observed that, some of them failed to specify 10 rows and 7 columns in the third step. Others could not write the last step which involves clicking OK or pressing ENTER button. This shows that, the candidates lacked practical skills on using Microsoft word. Moreover, most of the candidates failed to write feature required to check and correct mistake automatically. Some of them wrote "autoCorrect" instead of Spelling & Grammar checker. The candidates were to note that, AutoCorrect feature is used to fix misspelled words and punctuation mistakes. In part (b), most of the candidates failed

to differentiate "autoText" from "autoComplete" as used in Microsoft word. Some made direct translation of the terms. For example, one candidate wrote; *autoText is the feature used to display text automatically*. This shows that the candidate lacked knowledge in formatting features. Extract 8.1 shows a sample of such incorrect responses.

8	i) open the Microsoft word	
	ii) click the item named table	
	iii) select ten < 10 > rows then click OK button.	
	iv) select 7 <del>color</del> columns then click OK button.	
	ii) Auto Text	
	(b) Auto Text correct the wrong spelling while auto complete used to complete the word which letters are missing	

Extract 8.1: A sample of incorrect answer to question 8

In extract 8.1, the candidate was not able to follow all the steps required to insert a table in part (a) (i). The candidate wrote Auto text as a feature used to check and correct mistakes automatically in part (a) (ii) which is wrong. Also, the candidate failed to differentiate "autoText" from "autoComplete" in part (b).

Furthermore, the majority of the candidates (51.7%) who scored average marks wrote correct steps to follow in inserting a table with 10 rows and 7 columns. However, the candidates failed to write a feature which is required to check and correct mistakes automatically in part (a). Some of them wrote; *Spelling checker* instead of "Spelling& Grammar checker". This shows that the candidates lacked practical skills in checking spelling and grammar mistakes in Microsoft word. In part (b), most of the candidates failed to differentiate "autoText" from "autoComplete" as used in Microsoft word. Some of them explained correctly the term "autoComplete" but failed to explain the term "autoText". This shows that

they had inadequate knowledge on formatting features on Microsoft word. Others failed to differentiate between “autotext” and “autocomplete” instead they gave examples on how autotext and autocomplete occur in Microsoft word. This indicates that the candidates had partial knowledge on formatting features on Microsoft word.

On the other hand, most of the candidates 13.2 percent who scored high marks managed to attempt all parts of the question correctly in part (a). They also wrote correctly the feature required to check and correct automatically the typed text "komputa". In part (b, some of the candidates failed to score all marks because they failed to differentiate between the term “autoText” and “autoComplete). Also, the candidates managed to describe clearly the meaning of one term but failed to give clear description on another term. Extract 8.2 shows a sample of a correct response on this question.

8	a) i) a) Go to insert menu
	b) Select "Table"
	c) Put or Select the number of Columns and rows
	d) Then Click "OK"
	(ii) a) Spelling and grammar checker and auto Correct
8	b) "auto Text" is an editing feature which automatically puts a predefined text on a document
	WHILE "auto Complete" is an editing feature which automatically completes a text which is not Complete.

Extract 8.2: A sample of correct answer to question 8

Extract 8.2 shows a response of a candidate who listed correct steps required to insert a table and mentioned the feature used to check and correct mistakes automatically in part (a). Also, the candidate managed to differentiate "autoText" from "autoComplete" in part (b).

## 2.9 Question 9: Spreadsheet

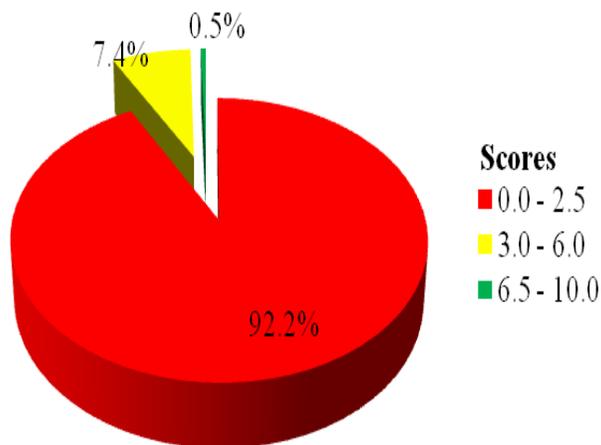
This question had three parts, (a), (b), (c), (d) and (e) with the following questions:

Suppose you have been sent by your parent to buy some of the household items from the shop. In order to make a clarification about the purchases, you decided to use the following worksheet for simplicity.

	A	B	C	D	E
1	ITEM DESCRIPTION	NO. OF ITEMS	COST PER ITEM(Tsh.)	COST (Tsh.)	
2	Sugar	15	100		
3	Rice	20	150		
4	Salt	10	80		
5	Wheat flower	9	100		
6					
7	Increased Price	10%			

- Which function would you apply to find the cost of sugar?
- Which function will you use to find the lowest cost for all items bought?
- Which function can be applied to count the number of cells that costs Tsh. 100 per item?
- If the price of all items has been increased by 10%, which formula would you use in cell E2 in order to calculate the new cost of sugar?  
HINT: (The increased price should be absolute reference).
- Assume your parent wants to know the increased cost, which functions and formula can you use to accomplish this task?

This question was attempted by 2,613 (96.7 %) candidates out of which 2,408 (92.2%) scored from 0 to 2.5 marks, 193 (7.4%) scored from 3 to 6 marks and 12 (0.5%) scored from 6.5 to 10 marks out of 10 marks allocated. Figure 9 summarizes the candidates' performance on this question.



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

The general performance of the candidates on this question was poor because 92.2 percent scored below 3 marks. The analysis showed that the majority of the candidates (92.2%) who scored low marks wrote the formula instead of the function required to find the cost of sugar in part (a). Some of them wrote the function which had the correct range but failed to give its proper name. For example, one candidate wrote `=SUM(B2,C2)` instead of `=PRODUCT(B2,D2)`. Others wrote correct range without the function name. In part (b), some of the candidates wrote correct range of the function with wrong function name. For example, one candidate wrote `=LOWEST(D2:D5)`. This shows that the candidate made direct translation of the question. In part (c), most of the candidates failed to write the function responsible for counting the number of cells that costs Tsh. 100 per item. Some of the candidates wrote "COUNT" function instead of "COUNTIF" with wrong range and condition. For example, the candidate wrote `COUNT (= 100, C2: C5 = "100")`. In part (d), the candidates wrote the formula to calculate the new cost of sugar without including 10 percent price increase. Moreover, most of the candidates failed to write the formula and function to find the total increased cost in part (e). This indicates that the candidates lacked practical skills on spreadsheet. Extract 9.1 shows a sample of an incorrect response to this question.

09	a) = ( B 2 * C 2 )	
	b) = Min ( D 2 : D 5 )	
	c) = Count ( 100, C 2 : C 5 )	
	d) = ( \$ B \$ 7 * \$ D \$ 2 )	
	e) Function = Sub ( D 2 : C 2 )	
	Formular = ( D 2 - C 2 )	

Extract 9.1: A sample of incorrect answer to question 9

Extract 9.1 shows the response of a candidate who managed to write only the correct function for finding the lowest cost in part (b), but failed to write correct functions and formula to all the remaining parts.

Further analysis showed that some of the candidates (7.4%) who scored average marks wrote correct function for finding the cost of sugar in part (a). Other candidates made mistake on making range of a function by using semicolon (;) instead of a comma (.). However, some of them wrote a formula without equal sign. In part (b), the candidates managed to write the function for finding the lowest cost for all items bought. Some of them wrote the function name "MINIMUM" instead of "MIN". Others wrote the function with correct name but incorrect range. This indicates that the candidates lacked practical skills on spreadsheet. In part (c), most of the candidates managed to write the function used to count the number of cells but, failed to set cost of Tsh. 100 for each item. In part (d), most of the candidates wrote the formula to calculate the increased cost of sugar. However, they failed to use absolute reference cell concept instead they used percentage value increase (10%) as given in the question. This indicates that, the candidates did not understand the requirement of the question. In part (e), the candidates were able to write the formula for summing up the cost of all items in column C but they could not relate them with column E to find the increased cost.

Furthermore, few candidates (0.5%) who scored high marks managed to write functions in part (a), (b) and (c). Some of them failed to write equal sign "=". Others wrote single cote (') instead of double quote (") in writing condition in part (c). In part (d), some of the candidates applied mixed cell reference such as B\$7 instead of absolute cell reference. This indicated that the candidates could not differentiate between mixed and absolute cell reference. In part (e), some of the candidates failed to apply function and formula to find the increased cost.

9.	a) = PRODUCT (C2:C7), for sugar cost	
	b) = MIN (D2:D5)	
	c) = COUNTIF (C2:C5) = 100)	
	d) = D2 + (D2 * \$B\$7)	

e)	in find the increased cost first we find the new cost of all the items	
	= D2 + (D2 * \$B\$7)	
	Then we find the total of the new costs	
	E6 = SUM (E2:E5)	
	Then we take the sum of the original cost	
	D6 = SUM (D2:D5)	
	Then the increased cost is the new cost subtract the previous cost which is	
	= E6 - D6	

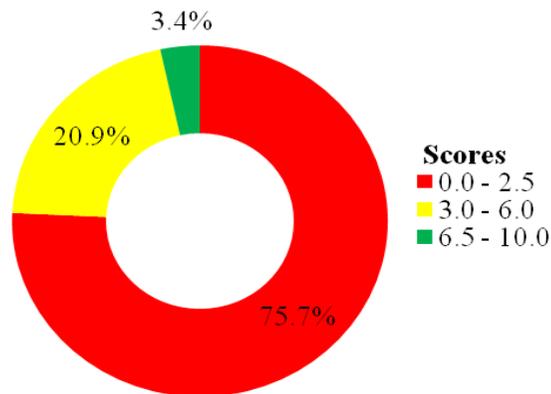
Extract 9.2: A sample of correct answer to question 9

Extract 9.2 shows a response from a candidate who wrote the correct responses in parts (a), (b) and (d). The candidate also gave some of the correct answer in parts (c) and (e).

## 2.10 Question 10: Presentation

This was a short answer question which required the candidates to explain five factors to be considered in order to prepare a quality presentation.

This question was attempted by 2,593 (96.0%) candidates out of which 1,964 (75.7%) scored from 0 to 2.5 marks, 541 (20.9%) scored from 3 to 6 marks and 88 (3.4%) scored from 6.5 to 10 marks out of 10 marks allocated. The general performance of the candidates on this question was poor because 75.7 percent scored below 3 marks. Figure 10 summarizes the candidates' performance on this question.



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

The analysis on this question showed that, the majority of the candidates (75.7%) who scored low marks failed to explain all factors to consider in preparing a quality presentation. Some of them managed to explain only one factor. Others mentioned correctly one or two factors but failed to explain them. Further analysis showed that, some of the candidates concentrated on explaining factors to consider in conducting quality presentation such as *to concentrate on the main point or message* and *to focus on the audience's needs*. This indicates that, the candidate did not understand the requirement of the question. Others explained the advantage of e-learning. For example, one candidate wrote, *Presentation enables a student to study at any time and any place*. This shows that, the candidate lacked knowledge on preparing presentation. Extract 10.1 presents the sample of such incorrect responses on this question.

10) Audibility	
This refers to the state of being audible to the audience by using high voice during presentation. This makes people to get what you are presenting and hear properly. It also reduces disturbances of gardening severely.	
ii) The use of KISS rule (Keep it Short and Simple)	
The presenter should not go out the topic presented. He or she should keep it very short by providing the main message to avoid boring of the audience.	
iii) The use of body language; This has to be observed that the presenter has to speak with actions and allow body movement so that to grab people's attention.	
iv) Connect with the audience; The presenter has to activate and involve the audience and make them participate during presentation. This is by maintaining eye contact.	

v) Confidentiality; Confidence is the most important thing during presentation. The presenter has to be confidence enough to face the audience; this makes the audience to listen and concentrate on what is being presented unless to concentrate on the presenter.	
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Extract 10.1: A sample of incorrect answer to question 10

Extract 10.1 shows responses of a candidate who presented the factors to be considered during presentation instead of the factors required for considering a quality presentation.

On the other hand, 20.9 percent who scored average marks mentioned correctly all factors to consider in preparing a quality presentation but, failed to explain them. Some of them explained only one or two factors. It was observed that, some of the candidates had all points to explain but failed to organize their argument due to poor English Language skills.

Moreover, few candidates (3.4%) who scored high marks explained correctly the factors to be considered in preparing a quality presentation. However, a few of them could not explain their points clearly. This led them to lose some marks. Extract 10.2 presents a sample of such correct responses on this question.

10	Number of lines-	
	This is considered while preparing a quality presentation	
	The number of lines should not be many and must be	
	6 to 9 lines per slide.	
ii	Font size.	
	For a quality presentation to be prepared the font	
	size should be at least 32 where people or audience	
	can be able to see what is displayed.	
iii	Correct use of grammar and language.	
	This is also to be considered when preparing a quality	
	presentation as the grammar used should be correct and	
	also the language so that people can understand easily what	
	is being presented.	
iv	Use of colours.	
	The use of colours is important for a quality presenta	
	tion. For normal words black colour is good and other	
	colours may be used to emphasize on something.	
v	Animations and videos.	
	These are among multimedia contents which are to be conside	
	red. This helps to give information within a short period of	
	time and also keep the audience alive to focus on the	
	presentation.	

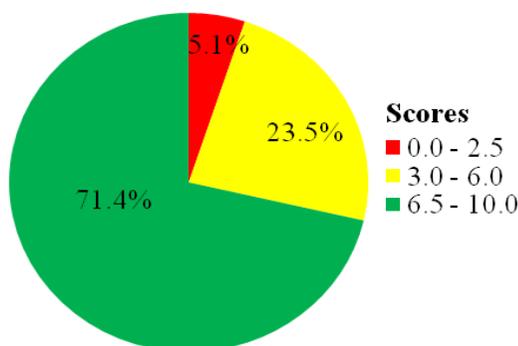
Extract 10.2: A sample of correct answer to question 10

Extract 10.2 shows the response of a candidate who managed to explain correctly all factors to consider during preparation of a quality presentation.

## 2.11 Question 11: Computer Handling

This was an essay type question where by candidates were required to describe four measures that could be taken to protect a computer from damage.

This question was opted by 1,639 (60.7%) candidates, out of which 83 (5.1%) scored from 0 to 2.5 marks, 386 (23.5%) scored from 3 to 6 marks, 1,170 (71.4%) scored from 6.5 to 10 marks out of 10 marks allocated. Figure 11 presents the candidates' performance on this question.



**Figure 11:** *The candidates' performance on question*

In general, the performance of the candidates on this question was good because 94.9 percent of the candidates scored above 2.5 marks. The analysis done from the scripts showed that (71.4%) of the candidates scored high marks. These candidates were able to describe four measures to be taken in order to protect a computer from damage. Some of the candidates wrote unclear descriptions on introduction and conclusion. Others wrote the introduction but failed to write a conclusion. A few of candidates repeated some points; this led them to lose some marks. Extract 11.1 shows one of the correct responses.

11.	<p>Computers are the electronic devices that used to process data store it and give the output of the information. Computer is the modern device that used in communication and the computer have the different parts such as CPU, keyboard, Monitor, Mouse, speaker and so many others but the computers are delicate devices and the following are the measures to be taken to protect computers from damage :-</p> <p>To use the UPS. UPS is the device that used to protect the computer from the problem of surge and sag which surge is the problem of having more than 110% of electricity voltage and sag is the problem of having less than 80% of the electricity voltage and these two problems can lead the damage of the computers as it need the constant voltages of electricity so the UPS help on this problem and it's helpful in protect the computers.</p> <p>To use the air condition and large window. The computer can damage when there is high temperature degrees caused by the hotness caused by the different factors, air condition can be used to cool down the temperature or also the air ventilation is very important in order to cool when there is no the air condition or fan.</p> <p>To protect the computers from the dusts. Also dusts is among of the things that cause the damage of the computer and because of this the user have to protect the computer from the dust by cover them by the materials that do not allow dusts to pass to the device that will help to protect it from damage.</p>
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	To protect the computers from the humidity	
	or water. Water and humidity can <del>lead</del> cause the	
	damage of the computer due to the problem of electric	
	ity that can cause the electric shock and due to the	
	presence of these problems caused by the water and	
	humidity can cause the damage of the computer and	
	through keep apart wet substance and water closer	
	to the computer will help in protection of it.	
	Generally the computers can be damage	
	as we saw above in term of external also the presence	
	of the computer viruses can cause the damage of the	

Extract 11.1: A sample of correct answer to question 11

Extract 11.1 shows a response of a candidate who described correctly the measures to protect a computer from damage. The candidate also gave the correct introduction and a conclusion.

Furthermore, the candidates (23.5%) who scored average marks wrote correctly the measures required to protect the computer from damage. However, they managed to describe only some of the points. Some of the candidates wrote an introduction in which they defined a computer only but could not explain how that computer could be protected from damage and the reason for such a protection. Others focused on explaining the material which leads to computer damage instead of the measures to be taken to avoid computer damage. For example, one candidate wrote *liquid cause rust hence short circuit to the computer*. This signifies that, the candidates did not understand the requirement of the question.

Moreover, a few candidates (5.1%) who scored low marks mentioned correctly few measures to protect computer from damage but failed to explain them. They also failed to write the introduction and the conclusion. This showed that, the candidates had insufficient knowledge on the uses of computer and the ways to protect it from damage. Some of the candidates wrote the measures to protect a computer from viruses instead of the measures required to protect it from damage. For example, one candidate explained the *Data backup*. Such a candidate failed to understand that, data backup cannot protect computer from damage instead it protects the computer from data loss. This implies that, the candidates had

misconception concerning protecting a computer from damage and virus attack. Extract 11.2 presents one of the incorrect responses.

11.	<p>Computer handling is the process of taking good care of your computer in order to avoid damage or disrupcty. Computers are delicate devices, there fore they require to be handled with care. The following are measures that can be taken to protect computers from damage,</p> <p>By downloading an antivirus scanner. This program will help to detect any virus that occurs in a computer and erase it to protect it from any damage. Also, viruses will not likely affect your computer once you have downloaded an antivirus program.</p> <p>Back up software. This software helps to back up your computer by returning the old or lost documents that have been deleted accidently. It helps to recover all your work.</p> <p>Disk defragmenter. Disk defragmenting system helps to re-organize your data, documents and files in your computer. This is when your data or files are disorganized.</p> <p>Scandisk. This software helps the user to scan possible information available and able to detect any error that occurs in the computer.</p> <p>Computer handling is necessary for users to take measures in order to avoid trojans and damaging of computers. Therefore these measures, can help in handling your computer.</p>	
-----	--	--

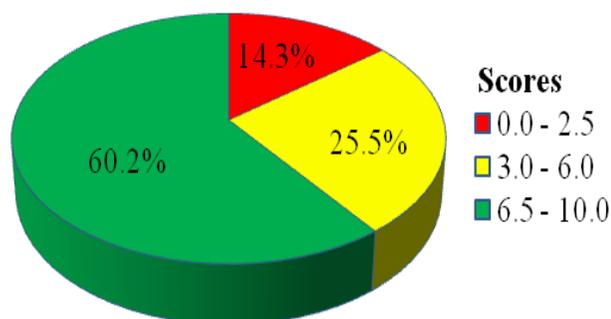
Extract 11.2: A sample of incorrect answer to question 11

Extract 11.2 shows a response of a candidate who wrote the ways used to protect the computer from data loss instead of measures to protect computer from damage. The candidate also gave the incorrect introduction and conclusion.

## 2.12 Question 12: The Internet

This was an essay question which required the candidates to explain four virtual (effective) services enhanced by the use of internet in the society today.

This question was opted for by few candidates. The statistics showed that 1,036 (38.3%) candidates opted this question, out of which 148 (14.3%) scored from 0 to 2.5 marks, 264 (25.5%) scored 3 to 6 marks, and 624 (60.2%) scored 6 to 10 marks out of 10 marks allocated. Figure 12 summarises the candidates' performance on this question.



**Figure 12:** *The candidates' performance on question 12.*

The general performance of the candidates on this question was good because, a majority of the candidates (85.7%) who attempted this question scored above 2.5 marks. The good performance was attributed to the fact that, internet services are common in our societies. Further analysis reveals that 60.2 percent of the candidates who performed well, explained correctly four virtual services enhanced by the internet. However, a few candidates failed to write clear introduction and conclusion. Others unsatisfactorily explained e-learning, e-banking and communication while others could not write a conclusion. This led them to lose some marks. Extract 12.1 presents a sample of one of the correct responses.

12.	<p>Internet is the interconnection of computer networks for the purpose of communication and resource sharing.</p> <p>Internet has being brought due to the advancement of technology and it has simplify a lot of human lives and has made them effective and developed. The human lives have being made effective due to the services that are made available, such services include e-commerce, e-banking, e-learning and e-news. Further clarifications of the internet services are as follows:-</p> <p><b>E-commerce,</b> This refers to the buying and selling of goods and services online. Internet has brought up online business and deals, where one is able to sell and buy goods online from other nations. Some of the websites providing e-commerce are Ali Baba and Ali Express. So the service of e-commerce has made human life more effective.</p> <p><b>E-learning,</b> This refers to the passing of educational knowledge from one person to another online. Through the internet student now are able to learn online and get educated. Through this the provision of education service has become easier. Example of websites providing e-learning services are Ask.com, Wiki how, IET library and TNL.</p> <p><b>E-banking,</b> This refer to the online services that help to store money and transferrings of money from place to place. Internet has brought e-banking services and now one can do money transfer without moving to the bank. Due to this one has be able to. save time and resource. Examples of online banking services are Skrill, Paypal and Paytm.</p> <p><b>E-news,</b> This is an internet service that enable one to receives updates about sports, political and entertainment news online. Internet has brought e-news services from around the world where one now can receive news from all the world. And this makes people become updated to all ongoing activities around the world. Example Millardayo and skynews online, Goal.com.</p> <p>Generally, the services provided by the internet most of them have simplified the lives of human being and also it has made people to become updated. to all ongoing activities around the world.</p>
-----	--

Extract 12.1: A sample of correct answer to question 12

Extract 12.1 shows the response from one of the candidates who explained correctly with examples four virtual (effective) services enhanced by the use of internet in the society today. The candidate also, gave appropriate introduction and conclusion.

On the other hands, most of the candidates (25.5%) who scored average marks explained correctly one or two points. Some of the candidates mentioned the points correctly but failed to explain in details how virtual services could be enhanced by the use of internet in the society. For example, one of candidates wrote; *e-leaning, students in schools learn by electricity through e-learning and some do not have electronic*. This shows that, the candidate had insufficient knowledge about e-learning. The candidate should have known that e-learning is an internet service but not electrical service. Some of the candidates could not write the introduction and the conclusion. This showed that, the candidates had inadequate essay writing skills.

Further analysis showed that, a few candidates (14.3%) who scored low marks wrote the negative effects of internet instead of effective (virtual) services provided by the use of internet. For example, one of the candidates wrote; *Moral decay, internet contributes to moral decay in the society*. The candidate mistook effective services available in the society today for the effects of internet in the society. This indicated that, the candidate did not understand the question. Some of the candidates managed to write the introduction correctly but failed to explain the points instead they listed the points without explanations'. Extract 12.2 presents a sample of such an incorrect response.

12.	Internet is a world wide connection. <del>It</del>	
	Advancement of technology has increased the use of internet in the world which has led to the creation of virtual communities services. The following are the four effective services available in the society today which are.	
	Health services. Advancement of technology makes different hospital to have a lot of machines and medicine which facilitate the provision of health services. For example of machine Ventilator machine which enters oxygen and out carbon dioxide to the body patient. Thus hence advancement of technology led to the health services increase in society today.	
	Education services. Through having a computer or telephone which helps to access materials for teachers and students so as to increase knowledge. Availability of computer or telephone helped by the advancement of technology. In addition some doctors access materials so as to increase ability by looking other fellow doctors.	
	Transport services. Apart from education and health service, the advancement of technology makes the transport services to be available easily. These transport like roads, railway, and well after technology increases. People use transport services to reach to the particular place so as to do other activities.	
	Communication services. Whereas increase of technology also communication service increases. Availability of mobile phones, laptops and other electronic devices which used to communicate become available easily. People use that electronic devices to share different information through E-mail, or sending message or audio and sound.	
	However apart from obtaining such services also after advancement of technology also increase of technology brings different negative impact to the society for example destruction of culture, loss of jobs, reducing physical activities.	

Extract 12.2: A sample of an incorrect answer to question 12

Extract 12.2 shows the response from one of the candidates who explained general services required to the society which are offered by the internet. The candidate also, wrote a wrong introduction with irrelevant conclusion.

### 3.0 ANALYSIS OF THE CANDIDATES PERFORMANCE PER QUESTION IN PAPER 2 (PRACTICAL)

#### 3.1 Question 1: Web development

This question tested the candidates' practical skills on web development and design. The question was as follows;

Malaria is an endemic disease which kills many people in East Africa. Tanzania as one of the East African countries is planning to design a web page in which people from different regions will get online services about Malaria. Assume that you are one of the IT experts in Health Information System responsible for designing a simple online program which will help patients to get fast online treatment:

- (a) Create the following interface by using basic HTML codes. (HINT: Use table to create the interface).



### Interface description:

- The table height and width should be 300 and 250 respectively.
  - The font style, size and color of the words ‘Online Doctor’ should be magneto, 15 and green respectively.
  - You can use any picture with the height 200 and width 250.
  - The font style and size of the words ‘Join Us Now!!!’ should be Lucida Handwriting and 15 respectively.
- (b) Activate the links “Causes of Malaria” and “Symptoms of Malaria” in the interface created in part (a) so that when the patient clicks them, they will display the following explanations on the separate page.
- i. The following page will be displayed after clicking “Cases of Malaria” link.

## Causes of Malaria

---

The definitive hosts for Malaria parasite is a female mosquito known as anopheles which acts as transmission vector to human and other vertebrates

- ii. The following page will be displayed after clicking “Symptoms of Malaria” link.

## Symptoms of Malaria

---

**Symptoms of Malaria include**

- **Vomiting**
- **Shivering**
- **Headache**

**Note:** The size of the heading for each page should be h2

- (c) Activate link “Join Us Now!!!” so that when the patient clicks it will display the following form which enables the patients to fill their details.

## Add your particulars!

---

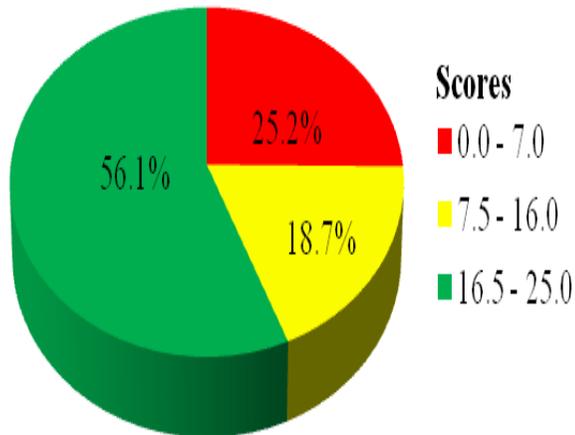
Patient Name

Country name 

Tanzania
Kenya
Uganda

Gender  Male  
 Female

This question tested the candidates' knowledge on web site design. A total of 652 (24.2%) candidates attempted this question, out of which 164 (25.2%) candidates scored 0 to 7 marks, 122 (18.7%) candidates scored from 7.5 to 16 marks and 366 (56.1%) candidates scored from 16.5 to 25 marks out of 25 marks allocated. The general performance on this question was good because 74.8 percent scored above 7 marks. Figure 13 presents the summary of the candidates' performance on this question.



**Figure 13:** *The candidates' performance on question 1 of paper 2.*

The analysis showed that most of the candidates (56.1%) that did well, managed to open and close HTML codes and typed correctly body and table tags. They also designed a table with appropriate border, width and height. The candidates wrote correctly the text "online doctor" with font style "magneto", size of 15 and font colour "green". They were able to

insert the picture according to the given size. They also inserted correctly horizontal lines using “hr” tag. Moreover, the candidates managed to activate the link "Join us now!!!" with font face “Lucida Handwriting”, font size 15. They also activated correctly the link "Causes of Malaria" and "Symptoms of malaria". Furthermore, some candidates were able to design the web page but failed to use HTML codes to draw horizontal line instead; they draw them manually in part (b). In part (c), the candidates designed the correct form of "Join us now!!!" which was required to add patients’ records. Some of them typed correctly the codes to design a radio button but could not activate them for the patient to select one option at a time. This showed that, the candidates had partial knowledge on designing radio button using HTML codes. Extract 13.1 shows one of the correct responses.

```

<html>
<body>
<table height="300" width="250" border="1" align="center">
<tr>
<th><font face="magneto" Size="15" color="green">Online <br>Doctor</font></th>
</tr>
<tr>
<td></td>
</tr>
<td align = "center"><a href="Causes of malaria.html">Causes of Malaria</a><input type="checkbox"></td></tr>
<td align = "center"><a href="symptoms of malaria.html">Symptoms of Malaria</a><input type="checkbox"></td></tr>
<td align = "center"><br>For the Good treatment & <br> Hospitality</td></tr>
<td align = "center"><a href="Join us now.html"><font face="Lucida Handwriting" size="15">Join Us <br>Now!!!.</font></a>
</table>
</body>
</html>

```

# Online Doctor



[Causes of Malaria](#)

[Symptoms of Malaria](#)

For the Good treatment &  
Hospitality

Join Us  
Now!!!.

```
1 <html>
2 <title>
3 </title>
4 <body><fieldset>
5
6 <h2><b>Causes of malaria</b></h2>
7 <hr></hr>
8 The definitive hosts for malaria parasite is a female mosquito known as
9 Anopheles,
10 which acts as a transmission vector to human and other vertebrates.
11 </fieldset></body>
12 </html>
```

## Causes of malaria

---

The definitive hosts for malaria parasite is a female mosquito known as Anopheles, which acts as a transmission vector to human and other vertebrates.

```

1 <html>
2 <body>
3 <fieldset>
4 <h2><b>Symptoms of Malaria</b></h2>
5 <hr></hr>
6 symptom of malaria include:
7 <ul>
8 <li> vomiting</li>
9 <li> Shivering</li>
10 <li> Headache</li>
11 </fieldset></body>
12 </html>

```

## Symptoms of Malaria

symptom of malaria include:

- vomiting
- Shivering
- Headache

```

1 <html>
2 <body>
3 <fieldset>
4 <h2>Add your particulars!</h2>
5 <hr></hr>
6 <p>
7 <form>
8 Patient Name:<input type="text" name="text">
9 <br>Country Name:
10 <select value="dropdown">
11 <option>Tanzania</option>
12 <option>Kenya</option>
13 <option>Uganda</option>
14 </form>
15
16 <form>
17 Gender:<align>
18 <input type="radio" name="gender" value="male">male
19 <br><input type="radio" name="gender" value="female">female
20 <br><input type="button" name="Submit" value="Join Us!"></align>
21 </form>
22
23 </fieldset>
24 </body>
25 </html>

```

## Add your particulars!

---

Patient Name:

Country Name: Tanzania ▼  male

female

Join Us!

Tanzania  
 Kenya  
 Uganda

Extract 13.1: A sample of correct answer to question 1 of paper 2

Extract 3.1 shows a sampled response from a candidate who wrote HTML codes correctly to design the required output. The candidates managed to activate all links to open the desired pages.

On the other hand, the candidates (18.7%) who scored average marks were able to open and close HTML, body and table tags, to put table border and insert picture activated links. However, some of the candidates failed to write correct codes for heading by using “h2”, some candidates wrote using “h1” and others used “h3”. They failed to type the picture dimensions of 300 height and 250 width as the question required them in part (b)(i). They also used ordered list in the page of symptoms of Malaria instead of unordered list in part (b)(ii).

The analysis showed that, the most of the candidates (25.2%) who scored low marks, managed to create a table using HTML codes in part (a) but failed to write correct codes for inserting a picture and horizontal rule. Some candidates did not meet the question demand. For example, one candidate wrote his/her codes of all pages (Causes of Malaria, Symptoms of Malaria and Join us Now!!!) in only one single page. Other candidates in part (b) managed to create a web page for Causes of Malaria but failed to insert horizontal rule and the required heading size. This showed that the candidates had insufficient knowledge and skills on how to write codes for horizontal rule tag `<hr>`. However, in part (c), most of the candidates failed to write clear codes to display the form. For example, one candidate listed the country names in the text box instead of listing them in a drop down menu. This showed that the candidates lacked the knowledge of form tags. Moreover, few candidates used wrong application in attempting this question. For example, one candidate used Microsoft PowerPoint to write and display HTML codes. This indicates that the candidates lacked

knowledge on how to use notepad editor. Extracts 13.2 signifies a sample of such correct responses.

```

<html>
<head>malaria</head>
<title>causes of malaria and symptoms of malaria</title>
<body><marquer bg colour "green" ,height="300",width="250"</body>
<h1>causes of malaria</h1>
<t1>the definitive hosts for malaria parasites is a female mosquito known as anopheles, which act as atransmission vector to humans and other vertebrates</t1>
<h2>symptoms of malaria</h2>
<h3>symptoms of malaria include: .vomiting
                                .shivering
                                .headache</h3>
<h4>paticulars, patient name:
                                country name: . Tanzania
                                .kenya
                                .uganda</h4>
</html>
</body>

```

Extract 13.2: A sample of an incorrect answer to question 1 of paper 2.

In extract 13.2, the candidate typed the codes which display three web pages in a single web page instead of activating “Causes of Malaria” and “Symptoms of Malaria” links.

### 3.2 Question 2: Management of Database Information Systems

This question tested the candidates’ skills on the manipulation of data in the database. The question given to candidates was as follows:

The Good One is a company that produces building materials and keeps its details in a computerised database called WORKERS. The following tables

contain detailed information obtained from the database. Study the tables and answer the questions that follow:

### Employees

EmployeeID	Employee Na	Department	Job Title	Salary
1002	Jaffrey Sadikieli	Business	Salesman	540000
1005	Paul Michael	Technical	Analyst	497000
1009	Mariam Hamza	Technical	Analyst	435000
1011	Kassim Ally	Business	Salesman	950000
1023	Daima Jerome	Operations	Manager	970000
1034	Teddy Jackson	Accounting	Manager	850000
1057	Joseph Stephen	Business	Analyst	842000
1061	Patricia Alex	Technical	Manager	750000

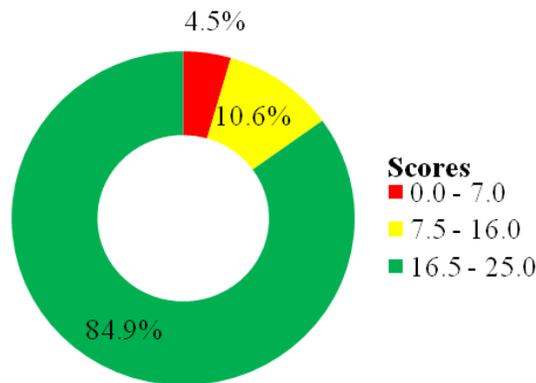
### Department

DeptCode	EmployeeID	Department Name	Location
45	1034	Accounting	Kigoma
50	1002	Business	Mwanza
55	1005	Technical	Mtwara
60	1011	Business & Accounting	Mbeya
65	1023	Operators	Tanga

- Create a database that contains Employees and Department tables.
- Create a form for each table and use it to enter the records in the Employees and Department tables. Save the forms as Empform and Depform respectively. (HINT: use form wizard to create forms).
- Validate the location field in the Department table so that users can select the regions in a list instead of typing when adding a new field.
- Use the appropriate primary and foreign keys to create the relationship between the two tables. Enforce referential integrity between the tables.
- Create a report that displays the Employee Name, Job Title, Department Name and Salary. Group by 'Job Title' and save the report as EmpReport.
- Print your work.

This question was attempted by 2,465 (91.3%) candidates, out of which 111 (4.5%) scored from 0 to 7 marks, 261 (10.6%) scored from 7.5 to 16

marks and 2,093 (84.9%) scored from 16.5 to 25 marks out of 25 marks allocated. Figure 14 illustrates the candidates' performance in this question.



**Figure 14:** *The candidates' performance on question 2 of paper 2.*

Figure 14 shows that 95.5 percent of the candidates scored above 7 marks. This means that, the candidates' performance in this question was generally good. The majority of the candidates (84.9%) who scored high marks managed to create correctly the database with its respective name in part (a). The database created contained tables of Employees and Department with their appropriate fields and data types. Using Employees and Department tables in part (b), the candidates were able to create the Empform and Depform which then were used to enter respective records into the respective tables. In part (c), some of the candidates were able to validate the field "location" in the Department table so that users could select regions in a list instead of typing when adding a new field. They also assigned correctly primary keys and foreign keys that were used to create the relationship between Employee and Department tables in part (d). The candidates used the tables to generate the report with fields Employee Name, Job Title, Department Name, and Salary grouped by 'Job Title' in part (e). This implies that the candidates had sufficient knowledge on the concept of management of database as the information systems. Conversely, some of the candidates were not able to set lookup wizard that could validate the field "Location" in the Department table as required. They also managed to put two tables in the relation zone without any relationship. Others created the relationship without enforcing referential integrity and setting appropriate fields. Some candidates created and

displayed the report without grouping. This made some of the candidates to lose some marks due to limited knowledge on manipulation of database. Extracts 14.1 show a sample of a correct responses in question 2 of paper 2.

The image shows two screenshots from Microsoft Access. The top screenshot displays the 'Employees' table structure and its data. The bottom screenshot displays the 'Department' table structure and its data.

**Employees Table Structure:**

Field Name	Data Type
EmployeeID	Number
EmployeeName	Short Text
Department	Short Text
JobTitle	Short Text
Salary	Currency

**Employees Table Data:**

EmployeeID	EmployeeName	Department	JobTitle	Salary	Click to Add
1002	Jaffrey Sadikie	Business	Salesman	\$540,000.00	
1005	Paul Michael	Technical	Analyst	\$497,000.00	
1009	Mariam Hamza	Technical	Analyst	\$435,000.00	
1011	Kassim Ally	Business	Salesman	\$950,000.00	
1023	Daima Jerome	Operations	Manager	\$970,000.00	
1034	Teddy Jackson	Accounting	Manager	\$850,000.00	
1057	Joseph Stephe	Business	Analyst	\$842,000.00	
1061	Patricia Alex	Technical	Manager	\$750,000.00	

**Department Table Structure:**

Field Name	Data Type
DeptCode	Number
EmployeeID	Number
DepartmentName	Short Text
Location	Short Text

**Department Table Data:**

DeptCode	EmployeeID	DepartmentName	Location	Click to Add
45	1034	Accounting	Kigoma	
50	1002	Business	Mwanza	
55	1005	Technical	Mtwara	
60	1011	Business & Accounting	Mbeya	
65	1023	Operations	Tanga	

Department				
DeptCode	EmployeeID	DepartmentName	Location	Click to Add
45	1034	Accounting	Kigoma	
50	1002	Business	Mwanza	
55	1005	Technical	Mtwara	
60	1011	Business & Accounting	Mbeya	
65	1023	Operations	Kigoma	
*			Mwanza	
			Mtwara	
			Mbeya	
			Tanga	

**Empform**

EmployeeID: 1002

EmployeeName: Jaffrey Sadikieli

Department: Business

JobTitle: Salesman

Salary: \$540,000.00

**Empform**

**Property Sheet**  
Selection type: Form

Form

Format	Data	Event	Other	All
Record Source	Employees			
Caption	Empform			
Pop Up	No			
Modal	No			
Default View	Single Form			
Allow Form View	Yes			
Allow Datasheet View	No			
Allow Layout View	Yes			
Picture Type	Embedded			
Picture	(none)			
Picture Tiling	No			
Picture Alignment	Center			
Picture Size Mode	Clip			
Width	7.1097"			
Auto Center	Yes			
Auto Resize	Yes			
Fit to Screen	Yes			
Border Style	Sizable			
Record Selectors	Yes			

Form Header

Detail

EmployeeID	EmployeeID
EmployeeName	EmployeeName
Department	Department
JobTitle	JobTitle
Salary	Salary

Form Footer

**Depform**

DeptCode: 45

EmployeeID: 1034

DepartmentName: Accounting

Location: Kigoma

**Depform**

Form Header

Detail

DeptCode	DeptCode
EmployeeID	EmployeeID
DepartmentName	DepartmentName
Location	Location

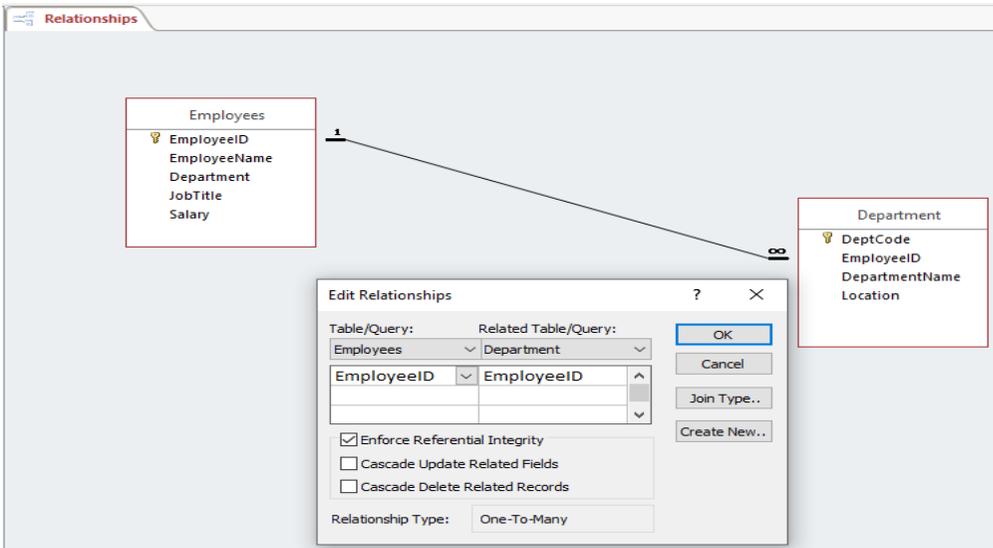
Form Footer

**Property Sheet**

Selection type: Form

Form

Format	Data	Event	Other	All
Record Source	Department			
Caption	Depform			
Pop Up	No			
Modal	No			
Default View	Single Form			
Allow Form View	Yes			
Allow Datasheet View	No			
Allow Layout View	Yes			
Picture Type	Embedded			
Picture	(none)			
Picture Tiling	No			
Picture Alignment	Center			
Picture Size Mode	Clip			
Width	7.1097"			
Auto Center	Yes			
Auto Resize	Yes			



Job Title	Employee Name	Department	Salary
<b>Analyst</b>			
	Joseph Stephen	Business	\$842,000.00
	Mariam Hamza	Technical	\$435,000.00
	Paul Michael	Technical	\$497,000.00
<b>Manager</b>			
	Patricia Alex	Technical	\$750,000.00
	Teddy Jackson	Accounting	\$850,000.00
	Daima Jerome	Operations	\$970,000.00
<b>Salesman</b>			
	Kassim Ally	Business	\$950,000.00
	Jaffrey Sadikieli	Business	\$540,000.00

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Extract 14.1: A sample of correct answer to question 2 of paper 2

Extract 14.1 shows a sample of the correct responses, the candidate managed to perform Employees table design, correct fields with their appropriate data types, appropriate primary key, validated the ‘Location’ field and the records as instructed. The candidate used appropriately primary and foreign keys to create the relationship between Employees and Department tables, also enforced referential integrity between the two tables. They managed to create reports and grouped by ‘Job Title’.

On the other hand, 10.6 percent of the candidates who scored average marks managed to create tables though with some incorrect data types. For example, one candidate wrote ‘text’ as the data type of EmployeeID, DeptCode and Salary instead of writing ‘number’ as the data type of “EmployeeID and DeptCode” and currency as the data type of “Salary”. Some of the candidates were not able to set the lookup wizard for ‘location’ field of table Department. Others were not able to link the tables with appropriate fields in the relationship zone. For example, one candidate linked ‘EmployeeID’ as primary key in one table to ‘DeptID’ as primary key in the other table instead of linking the primary key of one table to foreign key in the other table. Some candidates created the query joining all the tables so that, they design the form by using query table instead of just creating the separate forms as asked directly from the given tables. For example, one candidate designed the form ‘EmpForm and DeptForm’

joining their fields together as a single form, instead of designing each form with its field separately. Other candidates were joining the tables 'Employee' and 'Department' as one table instead of creating them separately hence, losing some marks.

Lastly, few candidates (4.5%) who scored low marks were able to create a database and tables with some incorrect fields and data types. Some created database and tables with wrong names. For example, one candidate wrote *Database1* as the database name instead of renaming it to 'WORKERS' as the question asked. Others just created the database without any record. Also, other candidates failed to rename fields but used the default fields like 'ID', 'Field1', 'Field2', 'Field3', and 'Field4' instead of writing the given fields EmployeeID, EmployeeName, Department, JobTitle and Salary. Moreover, some candidates used Microsoft Excel as the Database Management System Software instead of Microsoft access. This shows that the candidates did not understand the question in terms of its demand. This shows that the candidates had limited knowledge on Microsoft Office Access. Extract 14.2 shows a sample of an incorrect answer from one of the candidates.

Field Name	Data Type
ID	AutoNumber
Field1	Short Text
Field2	Short Text
Field3	Short Text
Field4	Short Text
Field5	Short Text

ID	Field1	Field2	Field3	Field4	Field5	Click to Add
5	EMPLOYEEID	EMPLOYEEENAM	DEPARTMENT	JOBTITLE	SALARY	
6	1002	jaffrey sadikiel	bussiness	salesman	540000	
7	1005	paul michael	technical	analyst	497000	
8	1009	mariam hamza	technical	analyst	435000	
9	1011	kassim ally	business	salesman	950000	
10	1023	daima jerome	operations	manager	970000	
11	1034	teddy jackson	accounting	manager	850000	
12	1057	Joseph stephe	business	analyst	842000	
13	1061	Patricia alex	technical	manager	750000	
*	(New)					

The image displays three screenshots from Microsoft Access:

- Top Screenshot:** Shows the 'All Access Objects' window with 'DEPFORM' selected. The 'DEPFORM' table structure is shown with the following fields:
 

Field Name	Data Type
ID	AutoNumber
Field1	Short Text
Field2	Short Text
Field3	Short Text
Field4	Short Text
- Middle Screenshot:** Shows the 'Relationships' window with a 'Show Table' dialog box open. The dialog box lists 'DEPFORM' and 'EMPFORM' as available tables.
- Bottom Screenshot:** Shows the 'EMPREPORT' table with the following data:
 

ID	Field1	Field2	Field3	Field4	Field5
5	EMPLOYEEID	EMPLOYEE NAME	DEPARTMENT	JOB TITLE	SALARY
6	1002	jaffrey sadikieli	business	salesman	54000
7	1005	paul michael	technical	analyst	49700
8	1009	mariam hamza	technical	analyst	43500
9	1011	kassim ally	business	salesman	95000
10	1023	daima jerome	operations	manager	97000
11	1034	teddy jackson	accounting	manager	85000
12	1057	Joseph stephen	business	analyst	84200
13	1061	Patricia alex	technical	manager	75000

Extract 14.2: A sample of an incorrect answer to question 2 of paper 2

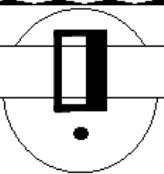
Extract 14.2 shows a sample of a response from one of the candidates who failed to give correct table names, wrote wrong fields with inappropriate datatypes and set the primary key on wrong fields. Thus, the candidate entered the records in wrong positions. Moreover, the candidate failed to create the relationship between the two tables and report using the appropriate fields as was instructed.

### **3.3 Question 3: Desktop Publishing**

The candidates were required to redesign the provided form and identity the cards given in the question paper with different descriptions. The question was as follows:

High Pressure Jogging Club wants to add new members for their good health. As a secretary of the club, you are required to design a form and an ID card for the new members.

- (a) Use a Microsoft Publisher to create the following form. Save it as Jogging club.

<b>HIGH PRESSURE JOGGING CLUB</b>																			
<b>MEMBERSHIP APPLICATION FORM</b>																			
SURNAME	<input type="text"/>																		
INITIALS	<input type="text"/>																		
ADDRESS	<input type="text"/>																		
	<input type="text"/>																		
	<input type="text"/>																		
TEL. No	<input type="text"/>																		
SEX <del>MALE/FEMALE</del> (Please delete)	DATE OF BIRTH <input type="text"/>																		
	<b>SUBSCRIPTION FEE</b>																		
	<input type="radio"/> YOUNG PEOPLE		£5		<input type="radio"/> ADULT		£20		<input checked="" type="radio"/> UNWAGED		£10		<input type="radio"/> HONORARY MEMBER		NONE		<input type="radio"/> LIFE MEMBERS		NONE
<b>THE HP JOGGING CLUB</b>																			
<p>The HP jogging club has different classes of membership, ie. Young people, adult, unwaged, honorary members and life members. Each membership class pays an appropriate subscription fee.</p>																			
SIGN _____												DATE _____							

### Form descriptions

- The font type and size of the heading “HIGH PRESSURE JOGGING CLUB” should be Arial and 18 respectively.
- The font type and size of the texts “MEMBERSHIP APPLICATION FORM” should be Franklin Gothic Heavy and 12 respectively.

- The font type and size of the texts “THE HP JOGGING CLUB” should be Cambria and 12 respectively.
- The font type and size of the texts “MALE/FEMALE” should be Freestyle Script and 16 respectively.
- The font type and size of other texts should be Franklin Gothic Book and 16 respectively.
- You can use any picture and border available in your computer.

(b) Create the following Identity Card using the Microsoft Publisher. Save it as Smartcard.



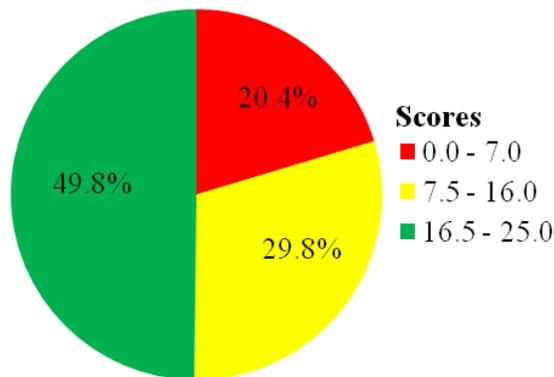
### Card descriptions

- The font type and size of the texts “HIGH PRESSURE JOGGING CLUB” should be Book Antiqua and 20 respectively.
- The background colour for the texts “HIGH PRESSURE JOGGING CLUB” should be orange.
- The font type and size of the texts “THE HP JOGGING CLUB” should be Cambria and 12 respectively.
- The font type and size of the texts “Membership Card” should be Bauhaus 93 and 12 respectively.

- The font type and size of the “Member’s Signature” should be Lucida Handwriting and 16 respectively.
- The font type and size of other texts should be Calibri and 16 respectively.
- You can use any picture and border available in your computer.

Print your work.

The statistics showed that 2,074 (76.8%) of the candidates attempted this question, of which 422 (20.4%) scored from 0 to 7 marks, 619 (29.8%) scored from 7.5 to 16 marks and 1,033 (49.8%) scored from 16.5 to 25 marks out of 25 marks allocated. Figure 15 summarizes the candidates' performance on this question.

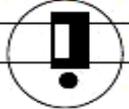


**Figure 15:** *The candidates' performance on question 3.*

The general performance on this question was good because 79.6 percent of the candidates scored above 7 marks. Some of the candidates (49.8%) who attempted this question were able to score higher marks as they had sufficient skills and knowledge on Ms Publisher. The candidates were able to design the Jogging club form and Smartcard for the Jogging club according to the instructions given. Most of them were able to open the Microsoft office publisher, type the heading "HIGH PRESSURE JOGGING CLUB" with relevant font type and size. They were also able to create the form which could enable the member of the club to fill in their details, create a table of "SUBSCRIPTION FEE" and insert borders of the form and identity card. However, some of the candidates failed to insert a

border for a design, font type and size which led them to lose some marks. Extract 15.1 shows a sample of one of the correct responses on this question.

## HIGH PRESSURE JOGGING CLUB



MEMBERSHIP APPLICATION FORM

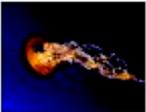
SURNAME

INITIALS

ADDRESS

TEL. NO

SEX *MALE/FEMALE* DATE OF BIRTH   
 (PLEASE DELETE)



**THE HP JOGGING CLUB**  
 The HP jogging club has different classes of membership, ie. Young people, adult, unwaged, honorary members and life members. Each membership class pays an appropriate subscription fee.

SUBSCRIPTION FEE

<input type="radio"/>	YOUNG PEOPLE	£5
<input type="radio"/>	ADULT	£20
<input checked="" type="radio"/>	UNWAGED	£10
<input type="radio"/>	HONORARY MEMBER	NONE
<input type="radio"/>	LIFE MEMBERS	NONE

SIGN \_\_\_\_\_ DATE \_\_\_\_\_

THE HP JOGGING CLUB

**Membership Card**

NAME \_\_\_\_\_

MEMBERSHIP NUMBER \_\_\_\_\_

DATE ISSUED \_\_\_\_\_

*Member's signature* .....

Extract 15.1: A sample of correct answer to question 3 of paper 2

Extract 15.1 shows that a candidate correctly designed both a form and a card with description as per question. The candidate was also able to insert border, colour, picture and type the information required.

On the other hand, (29.8%) of the candidates who scored average marks created the Microsoft office publisher and some parts of the Jogging club form as well as Identity card (Smartcard). However, some of the candidates applied orange colour to the texts “High pressure Jogging club” instead of filling in the orange colour in the background of the texts “High pressure Jogging club”. This observation showed that the candidates mistook the background colour of texts for the font colour of texts. Others did not insert the border of the form and card. This led them to lose some marks.

Lastly, 20.4 percent of the candidates who attempted this question scored low marks. The analysis showed that, the majority of these candidates used the wrong application to design both the Jogging form and Identity Card. Some of the candidates managed to open the Microsoft office publisher but failed to use design tools to create the form and card. Others used different font types and size as the question directed. Some of them attempted only one part of the question. Moreover, these candidates failed to insert pictures

in both designs but inserted shapes instead of inserting pictures. For example, one of the candidates inserted the *smiley Face shape*. This indicates that they confused pictures with shapes. These candidates had insufficient knowledge and skills on Microsoft office publisher. Extract 15.2 shows a sample of an incorrect response on this question.

**HIGH PRESSURE JOGGING CLUB** 

MEMBERSHIP APPLICATION FORM

SURNAME

INITIALS

ADDRESS

PHONE TEL

SEX MALE  FEMALE  HOME NO

(PLEASE DELETE)  SUBSCRIPTION FEE



MEMBERSHIP CLUB

- YOUNG PEOPLE
- ADULT
- UNWAGED
- HONORARY MEMBER
- LIFE MEMBER



Extract 15.2: A sample of an incorrect answer to question 3 of paper 2

In extract 15.2, the candidate was not able to design correctly the jogging form and identity card, to set borders around the entire form as the guide's lines and to set no border to the form cells. Also, the candidate failed to use font type and size as was required.

#### 4.0 THE PERFORMANCE OF CANDIDATES IN EACH TOPIC

The analysis done in relation to each topic showed that most of the candidates performed well. It was observed that, the candidates performed well on the questions set from the topics of Information (95.1%), Computer Handling (94.2%), The Internet (85.7%), Desktop Publishing (84.8%), Computer Network and Communication (79.7%). Other topics were, Web Development (78.8%), Word Processing (76.6%), The Computer (75.8%) and Database as Information System (71.3%). The performance was also good in multiple choice items (89.5%) which were set from the following topics: Computer Evolution, Computer Handling, Word Processing, Spreadsheet, Computer Network and Communication and The Internet.

Others were, Database as Information System, Presentation, The Computer and Web Development. The good performance was a result of the candidates' correct interpretation of the questions and good practical skills. Their performance was weak in the question based on Presentation (24.3%) and Spreadsheet (7.9%). The weak performance in these topics is attributed to the candidates' lack of practical skills. The Appendix shows, the performance of the candidates in each topic.

## **5.0 CONCLUSION AND RECOMMENDATIONS**

### **5.1 CONCLUSION**

In this examination, the majority of the candidates attempted most of the questions correctly. The analysis of candidates' performance on each question shows that the candidates' performance in Paper 1 was good in questions 1, 2, 3, 4, 6, 7, 11 and 12 while it was average in questions 5 and 8. On the other hand, it was weak in questions 9 and 10. In Paper 2, the performance was good in all three questions. The analysis on the 12 topics which were examined showed that 10 topics had good performance and 2 topics had weak performance. There was no topic with average performance. Therefore, the overall performance in Information and Computer Studies Examination in 2020 was good. The good performance implies that the candidates had sufficient knowledge and skills in the examined concepts and were able to recall, explain, and make analysis in answering the questions. The analysis of the candidates' performance in each topic indicates that the candidates had difficulties in answering questions from the topics of *Presentation* and *Spreadsheet*. The weak performance in the two topics is attributed to the candidates' insufficient knowledge and skills. They lacked practical skills on the given concepts, and interpreted wrongly the given information.

## **5.2 RECOMMENDATIONS**

In order to improve the candidates' performance in the Information and Computer Studies subject on the topics of Presentation and Spreadsheet, the following are recommended:

- (a) Teachers should guide students through question and answer sessions to identify the presentation delivery models.
- (b) Teachers should encourage students to engage in the presentation based on structure, styles, strategies and supplementary questions.
- (c) Teachers should assist the students to discuss how to prepare slides for presentation.
- (d) Teachers have to lead students through practical work on using formatting features of spreadsheet.
- (e) Teachers have to lead students in using formula and predefined functions of spreadsheet.
- (f) Candidates should develop the habit of reading the examination instructions and questions carefully so as to understand clearly the question demand.

## APPENDIX

### Analysis of Candidates Performance per Topic

S/n	Topic	No. of Questions	Percentage of Candidates who Scored 30% Marks or Above	Remarks
1	Information	1	95.1	Good
2	Computer Handling	1	94.2	Good
3	Computer Evolution, Computer Handling, Word Processing, Spreadsheet, Computer Networking and Communication, The Internet, Database as Information System, Presentation, The Computer and Web Designing.	1	89.5	Good
4	The Internet	1	85.7	Good
5	Desktop Publishing	2	84.8	Good
6	Computer Network and Communication	1	79.7	Good
7	Web Development	1	78.8	Good
8	Word Processing	2	76.6	Good
9	The Computer	1	75.8	Good
10	Database as Information System	2	71.3	Good
11	Presentation	1	24.3	Weak
12	Spreadsheet	1	7.9	Weak

