



*Let the mind manage the body  
Que l'esprit gère le corps*

**MAURITIUS  
EXAMINATIONS  
SYNDICATE**

**NCE 2020-2021  
GRADE 9  
ICT**

Subject code: N540

***EXAMINERS' REPORT***

April 2022

1.0	INTRODUCTION.....	2
2.0	ITEM ANALYSIS .....	3
2.1	KEY MESSAGES.....	3
3.0	GENERAL COMMENTS .....	3
4.0	SPECIFIC COMMENTS .....	5
4.1	QUESTION 1 (15 marks) .....	5
4.2	QUESTION 2 (10 Marks) .....	8
4.3	QUESTION 3 (10 Marks) .....	10
4.4	QUESTION 4 (10 Marks) .....	11
4.4.1	Matching test questions (6 Marks).....	11
4.4.2	Identifying the most appropriate type of network (4 Marks) .....	13
4.5	QUESTION 5 (8 Marks) .....	13
4.5.1	Part (a) (3 Marks) .....	14
4.5.2	Part (b) (3 Marks) .....	14
4.5.3	Part (c) (2 Marks) .....	14
4.6	QUESTION 6 (12 Marks) .....	14
4.6.1	Part (a) (6 Marks) .....	15
4.6.2	Part (b) (6 Marks) .....	15
4.7	QUESTION 7 (14 Marks) .....	16
4.7.1	Part (a and b) (5 Marks) .....	16
4.7.2	Part (c) (4 Marks) .....	17
4.7.3	Part (d) (3 Marks) .....	17
4.7.4	Part (e) (2 Marks) .....	18
4.8	QUESTION 8 (10 Marks) .....	18
4.9	QUESTION 9 (11 Marks) .....	19
4.9.1	Part (a) (6 Marks) .....	20
4.9.2	Part (b) (2 Marks) .....	21
4.9.3	Part (c) (2 Marks) .....	21
5.0	CONCLUSION .....	21

## 1.0 INTRODUCTION

The 2021 National Certificate of Education (NCE) Grade 9 assessment for Information and Communication Technology (ICT) was based on the **Expected Learning Outcomes** stated in the **National Curriculum Framework (NCF)** Grades 7, 8 & 9 and detailed in the **ICT: Teaching and Learning Syllabus** (2017) Grades 7, 8 & 9. In line with the **9 Content Areas** for ICT defined in the National Curriculum Framework Grades 7 to 9. The 2020/2021 NCE assessment was set on a **de-loaded** curriculum due to the COVID situation.

The following topics or sub topics and learning outcomes were **not** assessed:

Topics/Sub topics	Learning outcomes
Multimedia	Create comic strips using an appropriate authoring tool.
Practical problem solving and programming	Write computer programs for simple problems.
Presentation	<ul style="list-style-type: none"><li>• Use title and slide master to create presentation</li><li>• Apply multiple slide masters</li></ul>
Database	Create queries, forms and reports.

**Table 1: Deloaded topics and sub topics**

Candidates are assessed according to **three** Assessment Objectives (AOs), namely;

- AO1: Knowledge & Comprehension
- AO2: Application
- AO3: Analysis

The weighting given to each of the different assessment objectives is given in **Table 2**.

Assessment Objectives	Weighting %
Knowledge and Comprehension	50
Application	30
Analysis	20

**Table 2: Weighting of the Assessment Objectives**

## **2.0 ITEM ANALYSIS**

This report is mainly based on the item analysis of a representative sample of scripts, with consideration given to reports of markers involved in the marking process and observations made during the marking. The performance in each item has been analysed and qualitative information is given.

This report is to be read along with the question paper, available on the MES website.

### **2.1 KEY MESSAGES**

The ICT assessment is **spiral** in nature and students are assessed mostly on the learning outcomes in Grade 9.

To do well in this paper, candidates need to:

- read each question carefully and follow any instructions given when answering the questions.
- apply their knowledge of different topics in various ways as required by the question(s).
- use the technical terms related to a concept being described in their answers as ICT being a technical subject.
- recall and apply necessary formulae.
- attempt drawings and labelling using pencils.
- develop problem solving and computational thinking skills

## **3.0 GENERAL COMMENTS**

The performance of candidates is quite encouraging and satisfactory as the majority of the students, 78.3%, managed to achieved at least a grade 6 or better.

**Table 3** shows the grade distribution for the NCE 2021 assessments.

Grade Achieved						Total examined	% Pass
1	2	3	4	5	6		
596	905	1127	1469	4235	2607	13979	10939
4.3	6.5	8.1	10.5	30.3	18.6		78.3

**Table 3: Gradewise performance**

Throughout the paper, one mark is allocated to each correct element of answer except for a few items where 2 or a maximum of 3 marks are allocated. For these items, the responses expected would need to contain a certain element of precision or elaboration, with the possibility of candidates scoring a lower weighting. This report highlights the areas of difficulties of candidates in view of improving performance in the forthcoming NCE assessment sessions. It should however be understood that there was also ample evidence of a high level of achievement, both in terms of knowledge content and application of this knowledge from the scripts of a significant number of candidates.

From the scripts in the marking exercise and post-marking exercise it was clear that many candidates have not developed the necessary ICT skills and competencies, in terms of the knowledge and understanding they have acquired through lab-based tasks in solving problems confidently.

The scripts showed that some candidates did not have the adequate linguistic ability to produce any writing at all and could only respond to some of the objective-type items.

While objective-type items, like multiple-choice questions, fill in the blanks, matching and true or false items have a number of advantages, they also have a number of limitations. These include the following:

- guessing is possible, thus there is the possibility that a candidate gets the mark for an item when he/she does not know the answer.
- candidates have a limited ability to express their own ideas, to demonstrate the depth of their understanding and to show any creativity in their responses.

The paper catered for candidates of all abilities. Most candidates could complete the paper in the given time. Many scripts were found to be incomplete with answer spaces left blank mostly due to lack of knowledge and understanding they have acquired at the end of Grade 9. In many cases, candidates were not able to secure partial marks because of confusion, misconceptions and ignorance of key terms and acronyms.

#### **4.0 SPECIFIC COMMENTS**

The following gives the specific findings on each item from the assessment paper.

##### **4.1 QUESTION 1 (15 marks)**

This question consisted of 15 multiple choice items assessing basic knowledge covering the 6 content areas.

The mean mark on this question was 8.31.

##### **Item 1**

This item assessed the knowledge of candidates on word processing, more particularly here, of that of text alignment. Most of the candidates correctly identified **D** as the correct answer. It was quite common for some candidates to incorrectly choose A: Set the line spacing.

##### **Item 2**

This question was popular with most candidates correctly choosing **Google** as their answer.

##### **Item 3**

This item assessed the knowledge of candidates on Spreadsheet. Some candidates correctly identified the three parts of the IF function. The most common incorrect answer was **B** where candidates failed to understand that a condition is a Boolean expression.

#### **Item 4**

Knowledge of different flowchart symbols is commonly assessed in the ICT paper and is often set as an objective-type question. The use of pictures to illustrate the different flowchart symbols can help candidates to better retain the information.

However, candidates clearly confused between **process** and **output** in this question. Candidates could not relate the term Display to output. Only some candidates could correctly identify **C** as the answer.

#### **Item 5**

This item assessed the knowledge of candidates on Operating Systems, more particularly on a basic troubleshooting problem. Many candidates did not understand the purpose of a Disk Defragmenter, thus incorrectly choosing A as answer. However, some of the candidates provided the correct answer. Educators should ensure that students understand operating system, the basic troubleshooting techniques and the importance of utility software.

#### **Item 6**

This item assessed the knowledge of candidates on practical problem solving and programming, more particularly on dry running flowcharts. Many candidates found this question difficult, and they selected Counter rather than the correct answer **Variable**.

#### **Item 7**

This item assessed candidates' knowledge on the function and task performed by the operating system. However, the majority of candidates gave an incorrect answer showing that candidates are not familiar with the tasks of the Operating System.

#### **Item 8**

The majority of candidates answered the question very well, that is, personal information. However, just like for item 1, there were some candidates who opted for Option B, Option C and Option D. This suggests that the confusion between "personal information" and "computers from hacker" may be on several levels. It is recommended that Educators focus on the key features of DPA in class.

**Item 9**

Mostly well answered by candidates.

**Item 10**

This item assessed the knowledge of candidates on Internet, more particularly here, of that of network components. The majority attempted this question very well.

**Item 11**

Fair attempt at this question. However, many candidates opted for “Page Break” as option instead of “Table of Contents”, showing a lack of understanding of the features of word processing. This suggests that there is a confusion between the key terms. Educators are advised to give more attention on the different features of a word processor during teaching.

**Item 12**

This item assessed candidates’ knowledge on how to replicate formula in a Spreadsheet. However, the majority of candidates gave an incorrect answer. It is surmised that candidates are not familiar with *fill handle* and some candidates wrongly assumed conditional formatting to be used to replicate a cell’s content.

**Item 13**

This item assessed candidates’ knowledge on formatting in word processing. In general, the question was fairly attempted by the candidates as they provided *superscript* as the correct answer. Some candidates were confused between superscript and subscript. This suggests that remedial work is necessary on the different features of a word processor.

**Item 14**

Many candidates did well on this question, but, quite a few confused MODEM with function of a software firewall preventing unauthorized access to a private network. Emphasis should be laid on different components of a network during teaching.



### **Item 15**

This item proved to be relatively easy for candidates with the majority getting the correct answer. Wrong answers were equally distributed among the distractors such as *Interface*.

## **4.2 QUESTION 2 (10 Marks)**

This question consisted of 10 items assessing basic and intermediate knowledge covering the different content areas. A fill-in-the-blanks task was set, with a list of words given.

This question was fairly attempted by candidates with a mean mark of 6.16.

### **Item 1**

This item proved to be relatively easy for students as the majority got the correct answer, that is **router**.

### **Item 2**

Some candidates did not answer this question correctly. This question assessed candidates' intermediate knowledge on function and task of operating system. A common wrong answer was troubleshooting.

### **Item 3**

The majority of the candidates did well in this question.

### **Item 4**

This question assessed candidates' knowledge on word processing more particularly here, that of mail merge. In general, this question was poorly answered. Many candidates wrongly considered Report or Filter or Dialogue for a sample document that has been pre-formatted. Students should be encouraged to discuss how multiple copies of the same document adapted for different recipients can be automatically generated.

### **Item 5**

Many of the candidates confused the terms *Report*, *Template*, *Dialogue* and *Paraphrase* as they could not provide the correct answer as **filter**. In general, the chapter on spreadsheet seems to be difficult for candidates. Educators should focus more on advanced formatting, formulae and functions in class.

### **Item 6**

Candidates attempted this question poorly. It can be inferred that the candidates are not familiar with the term '**paraphrase**'. This question assessed student's basic knowledge of how to avoid accidental plagiarism when using Internet sources.

### **Item 7**

The majority of candidates gave the wrong answer to this question. It seemed that candidates are not aware of **HTML** being the language to create websites. Educators should highlight the need to discuss HTML and its importance in the creation of webpages during teaching.

### **Item 8**

Very well answered in general with the correct answer, **ownership** being given by most candidates. A common mistake was paraphrasing. Knowledge of different content areas is commonly assessed in the ICT paper and is often set as an objective-type question, making it relatively easy for candidates to score.

### **Item 9**

The majority of candidates attempted this question very well as it assessed candidates' basic knowledge about flowchart symbols.

### **Item 10**

Most candidates were able to identify the correct answer, **podcasting**.

### 4.3 QUESTION 3 (10 Marks)

The **True** or **False** questions provide a way to quickly test knowledge and inspire critical thinking without the effort (or perceived effort) of other question formats. Candidates generally understood that they had to use 'tick' in the spaces provided. In very rare cases, the letter 'T' or 'F' were used. Responses were of a mixed level. Candidates need to understand that no marks are awarded in cases where ticks were placed for both 'true' and 'false' for the same statement or when a tick is placed in a confusing manner, example, covering both spaces of the same statement.

The mean mark for this question is 6.48.

#### **Item 1**

The majority of candidates answered this question well as it assessed the basic knowledge operating system more particularly here, that of troubleshooting.

#### **Item 2**

The majority of candidates gave a correct answer, True. It seems that some of the candidates are not well familiar with Vodcasting. During teaching more time should be devoted to discuss engagement of e-discussion using the Internet.

#### **Item 3**

Most of the candidates answered this question well as it assessed the basic knowledge of operating system and its function.

#### **Item 4**

Many candidates wrongly answered this question. They failed to realize that RSI is not caused by screen radiation. It is essential during teaching to discuss the potential health hazards related to the prolonged use of ICT equipment and how to prevent health hazards when using ICT equipment.

**Item 5**

Most candidates answered this question well as it assessed the basic knowledge of formulae used to perform calculation.

**Item 6**

This item proved to be relatively easy for candidates with the majority getting the correct answer.

**Item 7**

In general, this question was poorly answered by many candidates. Most of them are not conversant with the programming constructs: Sequence, Selection and Iteration. Educators are advised to take remedial actions on flowcharts and programming constructs.

**Item 8**

Most candidates answered this question very well.

**Item 9**

Many candidates wrongly answered this question. They were not aware that “DupliChecker” is a plagiarism checker rather than an antivirus software.

**Item 10**

This question was fairly answered by many candidates. It averred that most of them have not used “Styles” in Excel to keep the formatting of their worksheet consistent. It is advisable for Educators to focus on advanced Formatting and more precisely use of styles during teaching.

**4.4 QUESTION 4 (10 Marks)****4.4.1 Matching test questions (6 Marks)**

Matching test questions present learners with two items separated into two columns and ask them to match items from the first column to the corresponding items in the second. The number of items in the first column does not necessarily have to match that in the second - it is totally possible to have more items in the second column than in the first one.

The mean mark in this question was around 5.88 which suggests that it was relatively well tackled by candidates. The type of questions set in this item was mainly fixed-item responses for a total of 6 marks. For candidates with language difficulties, especially at the level of writing, this question was relatively accessible to them where a short response was expected.

### **Item 1**

This item proved to be relatively easy for the candidates with the majority getting the correct answer. It was also noted that few candidates could not clearly differentiate between Multi-user system and multi-processing system, often swapping the related descriptions when matching.

### **Item 2**

Most candidates correctly identified the option, “is the science of how we interact with the objects around us”. For incorrect answers, the option, “is a single page of a presentation” was common relating the term ergonomics to presentation.

### **Item 3**

In general, most candidates got this part correct except for some candidate incorrectly identifying “allows several users to access a computer’s resources at the same time” as option, which was the correct answer for item 1.

### **Item 4**

This part was correctly answered by most candidates. A few candidates gave the option, “is a single page of a presentation” and “provides us with the option of creating a table of content in MS word” as answers.

### **Item 5**

A few candidates incorrectly matched the term, References Tab, to the option “is a single page of a presentation”, showing confusion between tabs available in a word processor and a presentation software.

## **Item 6**

Most candidates could identify the correct match.

### **4.4.2 Identifying the most appropriate type of network (4 Marks)**

Candidates were required to write down the most appropriate type of network in a table. They had to identify the given characteristics to the appropriate network. Though this item required the production of only a one-word answer for each mark allocated, some candidates found it challenging. Only a few candidates scored full marks. Some candidates could not clearly differentiate between types of network and network topology. A few candidates gave the network topologies as answers and thus no marks were allocated.

No marks were allocated to answers such as Internet, WIFI, ISP or Company names.

Candidates should be encouraged to differentiate between the different types of network, namely those of LAN, MAN, WAN and PAN. To differentiate between a PAN and a LAN, for instance, it should be pointed out that a PAN is limited to a room whereas LAN is limited to a building or a single site. Encouraging a deeper learning of the types of networks that can help candidates to better remember as they would have developed an understanding of the characteristics, size and purpose.

### **4.5 QUESTION 5 (8 Marks)**

This question was mainly on the topic of troubleshooting. The mean mark was 4.68 which suggests that it was found to be rather challenging by a number of candidates. This can be attributed to the fact that this question contained 3 parts where candidates had to produce an answer on their own.

There is definitely a language barrier for some candidates when it comes to writing. In many cases, the language barrier is at the level of the production of writing while reading with understanding is acquired. These students can attempt some of the objective-types questions where candidates are expected to choose from options already given. However, as stated earlier, those types of questions have limited possibilities in assessing all the assessment

objectives. In open-ended questions, students have the possibility of demonstrating their own thinking or expressing their own ideas.

#### **4.5.1 Part (a) (3 Marks)**

The majority of the candidates correctly ticked Option 2, Option 4 and Option 5. A common mistake was that candidates ignored the instructions in the question which stated “Tick (✓) the three (3) possible solutions for the problem of Accidental deletion of a file” and they put more than three ticks.

#### **4.5.2 Part (b) (3 Marks)**

A few candidates managed to get all 3 marks for the three keys (Ctrl + Alt + Del) that need to be pressed on the keyboard to launch Task Manager. Nevertheless, most candidates managed to get at least 1 mark. A common mistake was that candidates wrote “Alternative” instead of Alt or Alternate.

#### **4.5.3 Part (c) (2 Marks)**

A fair number of candidates correctly identified one possible cause of a blank screen when the computer is still on. A common accepted answer was “computer being in sleep mode”. Candidates did not pay attention to the wording “.... computer is still on” and they wrongly stated “to switch on the computer.”

A large majority of those candidates who managed to identify one possible cause of a blank screen did not provide a solution that matched the correct cause above.

### **4.6 QUESTION 6 (12 Marks)**

This question was mainly on the content areas, Computer Operations and Fundamentals and that of Word Processing based. The mean mark was 3.18 which suggests that it was found to be rather challenging for a number of candidates. This can be attributed to the fact that this question contained 7 items to assess candidates’ competency in application and analysis

where candidates had to produce an answer on their own. There is definitely a language barrier for some candidates when it comes to open-ended questions. In many cases, the language barrier is at the level of the production of writing while reading with understanding is acquired. These students can attempt some of the objective-types questions where candidates are expected to choose from options already given or even writing acronyms for key terms. However, as stated earlier, those types of questions have limited possibilities in assessing all the assessment objectives. In open-ended questions, students have the possibility of demonstrating their own thinking or expressing their ideas in their own words.

#### **4.6.1 Part (a) (6 Marks)**

This question assessed candidates' competency in describing the function of an operating system, more particularly here, user interface. In direct knowledge items, candidates fared relatively well. The candidates are not well-versed with the full form of acronyms, Graphical User Interface and they will provide a wrong response for part (ii) and (iii).

Very few candidates managed to get full marks for identifying two features of GUI. The word "features" has apparently caused some confusion among candidates. Nevertheless, those who got it right, managed to list WIMP, Icons, Menus, Pointer and Window.

The majority of the candidates wrongly attempted this question. They seemed unaware that a GUI eases User's interaction with the Computer System.

A significant number of candidates were unable to give the correct answer, that is, any two tasks carried out by the operating system. However, some managed to identify one correct task. It is advisable that Educators conduct regular remedial classes so as to improve candidates' knowledge on the functions performed by the OS and also highlighting the different tasks being carried out.

#### **4.6.2 Part (b) (6 Marks)**

Very few candidates got the maximum of 2 marks on this question. They did not pay attention to the fact that Mail Merge allows personalized letters to be created and thus lost 1 mark.



Knowing which tab must be clicked to start mail merge, is an intermediate analysis type question which was relatively well attempted by candidates. Most candidates correctly circled Mailings but a few of them incorrectly circled either Insert or References.

Candidates were expected to demonstrate their reasoning and understanding in identifying the three steps involved in creating a mail merge. They had to produce at least a phrase or a sentence for each step and this posed some difficulties to some. Very few candidates scored 3 marks out of 3. Candidates failed to list down the practical steps of doing the mail merge in order. They described the three steps of a mail merge process and thus the majority of the candidates population did not score any mark.

#### **4.7 QUESTION 7 (14 Marks)**

The topics of Internet and Health, Safety and Ethics were assessed in this question. The mean mark for this question was 3.47.

##### **4.7.1 Part (a and b) (5 Marks)**

These parts were based on Virtual Private Network, that is to distinguish between different types of network, example based on size and purpose. The candidates were assessed on their competencies to apply network components in a VPN environment.

Candidates were expected to give the acronym of VPN as Virtual Private Network. About half of the candidate population managed to do so but incorrect answers included Virtual Personal Network, Virtual Process Network or Virtual Area Network. It is important to remind students about the different concepts and key terms when teaching ICT. Learning the acronyms of key terms is essential.

Most of the candidates were unable to give the full form of VPN and the reason of using a VPN. The need for a VPN by the company having different branches and marks were allocated to answers related to creating a secure connection or protection of online privacy or remote users connecting to a server, among others.

Few candidates were able to identify the network components such as server, router, internet connection and firewall. Certain wrong answers were quite common such as topologies, Wi-Fi or modem, to which marks were not assigned.

#### **4.7.2 Part (c) (4 Marks)**

This part assessed candidates' ability to apply their knowledge on topology as the objectives was to distinguish between different network topologies.

Some candidates could not clearly draw a diagram related to a star topology and others did not include the central node in the diagram. Some students did draw the correct diagram with the node as computer or server icons, though skeleton diagrams would have been easier. It seems that candidates usually omit the labelling part when drawing diagrams are concerned.

Educators should reinforce the need for students to understand the importance of labelling diagrams.

Most of the candidates were able to give the one disadvantage of a star topology. However, some candidates stated general disadvantages which apply to any topology, so no mark was allocated.

#### **4.7.3 Part (d) (3 Marks)**

As discussed in Question 2, item 7, the majority of the candidates are not aware of HTML being the language to create websites. This was confirmed by this item where most of the candidates' population has not attempted the question. Very few could score full marks. Marks were not allocated for incorrect positioning of the items or missing any one or more items. No mark was assigned for candidates who replicated the HTML tags from the question as answer.

This mistake suggests that students may not know the different HTML tags and are not familiar with the creation of web pages. Educators should often quiz pupils on different HTML tags to ensure that they have understood the concepts properly.

#### **4.7.4 Part (e) (2 Marks)**

This part assessed candidates' basic application competency on health, safety and ethics, more particularly on understanding the different ways to avoid accidental plagiarism when using Internet sources.

Most candidates could answer this question, identifying the ways to avoid plagiarism, however some could not identify the different ways to avoid plagiarism.

#### **4.8 QUESTION 8 (10 Marks)**

This question was set on the use of advanced formatting, formulae and function from spreadsheet. Overall, it can be observed that many students found this question challenging. There was a small number of good answers to this question and students need to improve their understanding of Spreadsheet. Part (d) and (e) of the question were not attempted at all by some students.

On the whole, the performance of candidates was below expectations with a mean mark of 1.71.

The wrap text feature in Spreadsheet is used to assess basic knowledge in cell formatting. This item was relatively well attempted by candidates as many opted for B2, C2, D2 and E2 which were all valid answers. However, some candidates wrongly chose A2 as answer.

Few candidates were able to write the correct formula in cell E3. This item assessed the students' intermediate application competency on using formulae. Students were able to give =D3 - C3 or = 9850 – 7500 as answers. Students showed a lack of understanding of how to write a formula. Many started with a value in front of the = sign or many wrongly constructed the formula itself. They confused formula and function.

Less than half of the candidates' population was able to score all the marks for the conditional formatting item as they stated C4 and C6 as the correct answer. However, a few of the students were able to get partial marks as well. For this type of question, it is important to remind students about applying styles to a cell or a range of cells. Candidates should be encouraged to apply a cell style to an active cell or range of cells.

A very poor attempt at writing the formula to display the different types of spare parts recorded for sales. Many students failed to use the appropriate function correctly. This item assessed students' proficient application competency in applying COUNT formula. Only a few of the students understood that the COUNT formula can be used on numerical values only.

Writing the formula to display the number of spare parts not available in stock was the only item in the question paper which carried 3 marks. However, a few of the candidates were able to score partial marks. The majority of the candidates had difficulty in writing advanced formulae and function, COUNTIF function (= COUNTIF (range, criteria)).

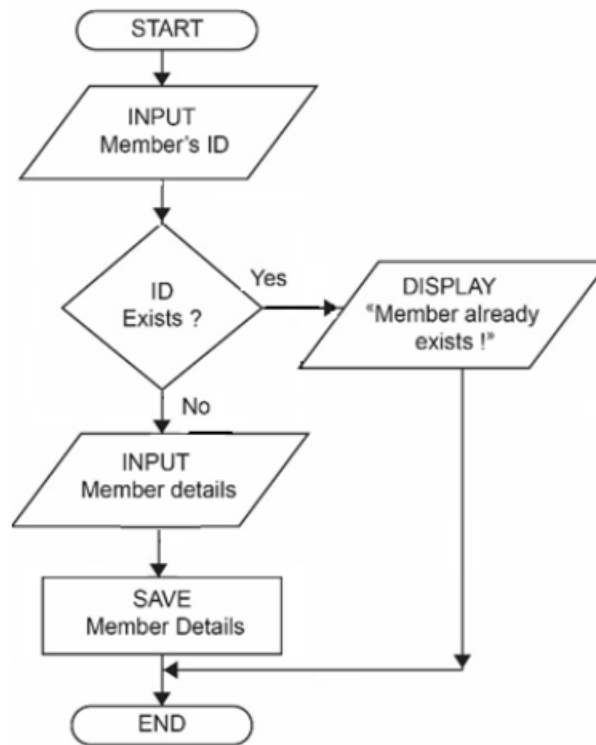
It is advisable that Educators spend more time on debriefing the use of advanced formatting, formulae and functions in spreadsheet to ensure that they have better understood the concepts properly.

#### **4.9 QUESTION 9 (11 Marks)**

This was an analysis question requiring candidates to demonstrate their problem solving and logical reasoning skills through computational thinking. It carried a total of 11 marks. Part (a) aimed at assessing candidate's competency in analyzing a situation and draw a flowchart to solve the problem. A library scenario was used to check member access. Part (b) and (c) were to assess candidates' competency in testing the logic of a program. Many candidates had difficulties in terms of reading, learning skills, literacy skills and problem-solving skills in attempting this question. This observation was supported by a mean mark of 2.68.

#### 4.9.1 Part (a) (6 Marks)

This question was quite challenging for many candidates as they did not manage to score full marks for this part. An example of the expected answer is shown below:



More than one quarter of the candidate population did not score any mark and only a few managed to score 3 or more marks in this question.

Candidates did not score marks due to:

- Incorrect symbol being used to describe the steps, for instance, the wrong use of the decision symbol or candidates failing to understand where to use the symbol within the flowchart was common.
- Missing keywords such as INPUT or DISPLAY.
- Inability to correctly group steps related to the "Yes" and "No" branches of the decision symbol.
- Failing to identify dependency among steps.
- Incorrect sequence of steps being used.

It is essential to remind candidates to pay particular attention to keywords, flowchart symbols and read instructions properly in the question paper. It is advisable to analyse the steps and look for ways how to simplify them and thus to guide students in the right direction when drawing flowcharts.

#### **4.9.2 Part (b) (2 Marks)**

The majority of the candidates had difficulty in describing the term “dry run”. Only a few candidates could score full marks for this part which included a technique used to test a flowchart / algorithm /check for errors and the second mark was allocated when stating the results were recorded in a trace table / table.

As such, it is recommended that candidates be encouraged to write down the full description to such types of question to ensure that they do not score only partial marks in the assessment should the item carry more than 1 mark.

#### **4.9.3 Part (c) (2 Marks)**

Most of the candidates did not score any mark while a few scored 1 mark or 2 marks. The common mistakes identified were that candidates failed to correctly identify the path followed and thus executing the wrong process. Regardless, only a few of the candidates scored full marks for this part.

It would be advantageous for candidates to pay particular attention to the purpose of trace table and run through a flowchart and simulate what a computer would do if the program was to be executed. Students should be motivated to complete the table to show how the variables change, what the conditions would resolve to, and/or what outputs would be displayed. Students would then improve in dry running flowcharts.

## **5.0 CONCLUSION**

This first series of the NCE assessment was revealing the performance of our students in ICT. The percentage pass rate of this assessment is encouraging. Educators are encouraged

to go through the report to get a more comprehensive overview of examiners' expectations and the strengths and weaknesses of candidates on the different content areas and the different types of questions. The attention of Educators is drawn to the weighting of the different assessment objectives in the ICT paper. Candidates have to be taught not only the content which more likely will be assessed directly under knowledge and application but also the analysis of the content they are learning and stimulate their problem-solving skills. This will empower them to think critically and help learners to be flexible, to take initiative, and develop social skills through computer mediated interactions which are the components of life skills.

Questions set on the assessment objective 'application' may require more information about the real and in-depth understanding of concepts. They might also help to identify any misconception or confusion. Educators are thus encouraged to set such types of questions as well during classroom activities or practicals to develop students' problem solving skills.

The NCE assessment in ICT is based on the Teaching and Learning Syllabus. As such, the development of learning skills, literacy skills, life skills and the acquisition of the right attitudes and values as given in the syllabus are as important as the understanding of content.

The attention of Educators is also drawn to the learning objectives given in the syllabus where a higher level of understanding is required, for instance, 'demonstrate problem solving and logical reasoning skills through computational thinking', 'explain the potential health hazards related to the prolonged use of ICT equipment' or 'discuss on how to prevent the health hazards when using ICT equipment'. In these cases, it is not only the knowledge of the concepts which is required but pupils are expected to be able to demonstrate this knowledge through the application of their understanding to new situations. It is not about reproducing what has been learnt in the textbook but rather the application of what the learners have learnt.

Similarly, learners are expected to carry out practicals or to learn through demonstration and investigation learning objectives where there is an emphasis on problem solving skills; for example, 'write computer programs for simple problems', 'create queries, form and report' or 'use an appropriate authoring tool to assemble and sequence cartoons in order to create a

comic strip'. They are advised to read and interpret information/instructions and key words carefully. Students are also urged to read questions till the end before attempting them to avoid missing out on any key information.