

ASSESSMENT AND EXAMINATIONS DIRECTORATE

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NSC 2015 CHIEF MARKER'S REPORT

SUBJECT	Computer Applications Technology
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PAPER	2
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DATE OF EXAMINATION:	03 November 2015	DURATION:	3 HOURS
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This section of the instrument is aimed at providing valuable feedback to schools, subject advisors, teachers and learners about common errors committed by candidates in the answering of questions, to assist teachers and subject advisors to identify areas that need to be given special attention in the teaching and learning of the subject in 2016.

Your responses will be based on two parts:

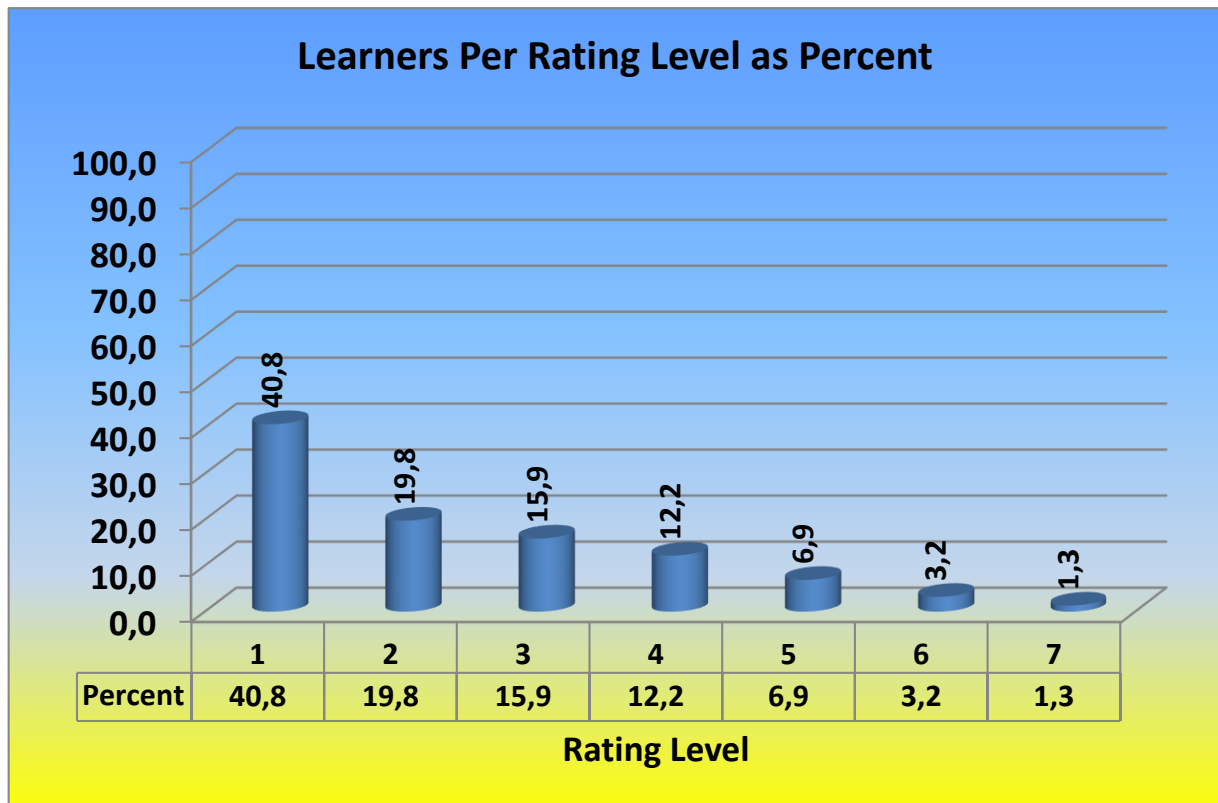
Section 1: General overview of Learner performance in the question paper as a whole

Section 2: Comment on candidates' performance on individual questions (Detailed explanations must be provided **per question** as follows: (You may include sub questions where necessary)

- General comment on the performance of learners in the specific question.
Was the question well answered or poorly answered?
- Why the question was poorly answered?
- Provide suggestion for improvement in relation to teaching and learning
- Describe any other specific observations relating to responses of learners
- Any other comments useful to teachers, subject advisors, teacher development

SECTION 1: (General overview of Learner Performance in the question paper as a whole)

Learners did not perform well in this paper. As can be seen from the graph below, only 60% of learners passed this examination compared to 72% last year. The amount of level 7 performers dropped from 86 to 66 and the level 1 candidates increased from 28% to 40%.



This is quite disturbing. I am of the opinion that the main reason for this is the fact that teachers do not spend enough teaching time on preparing learners for the theory paper and that learners do not study for CAT theory. Teachers and learners must realise that theory is just as an important component in the CAT syllabus and that it contributes the same weight in the overall mark for CAT.

As with previous examinations, learners are still performing better in the practical paper than in the theory paper. The obvious reason for this is the language barrier of candidates. Learners do not always understand and interpret the questions correctly and if they do, they do not have the vocabulary to express themselves correctly. This results in responses from learners that is very difficult to read and to understand. I often get the idea that some of the learners know more than their marks show.

Although everything in our power is done to accommodate the language barrier of learners and even that of many teachers who teach in their second language, there is only so much that can be done. Teachers and learners should do everything in their power to improve their English language.

Because the suggestions for improving teaching and learning (Section C) as well as the useful comments to teachers (Section E) are very much the same for all the different questions, I am again like in the past, discuss them generally at the beginning of the report and then just refer to it in the discussion of the different questions

GENERAL COMMENTS ON IMPROVING THE TEACHING AND LEARNING OF CAT THEORY

- **More time and effort should be spent on teaching theory.** Teachers should explain the theory and make sure that learners understand what they are learning. Teachers should teach theory in a practical in the way. Bring examples of technology and demonstrate how it works.
- **CAT is a very dynamic subject.** Teachers must therefore make a concerted effort to keep up with this new technology and bring their learners into contact with new technologies on a regular basis. Teachers will be informed once a year on new technology that may be assessed in addition to the existing content of the CAPS syllabus. This will be added to the examination guideline document which will be released once a year.
- **Learners can also be challenged to come and share new technologies** which they came across in class. This can also be done as part of a homework or class activity. Encourage learners to browse for new technology on the Internet or find advertisements in local media. They can bring these to school where they can be discussed in class. Learners can be given notes/summaries on this for future reference and study. Teachers can also make use of experts in the field of technology to come and explain and demonstrate some of the latest technologies to learners.
- **Teachers are advised to consult more than one textbook when teaching theory.** There are three approved textbooks available for CAT. Books approach topics from different angles and can even have additional information on topics. It can only be to learner's advantage to consult more than one textbook.
- **Learners should also be given regular theory tests** – based on the format of examination papers. The results of these tests (learner's responses) should be discussed with them – not just be handed back. They should know why they lost marks.
- Although time is limited, teachers should try and **work through some question papers of previous years.** The memos of these papers should be discussed with learners in order to train them how to approach and answer a question paper as well as learning the content.
- Teachers should **teach learners to use the correct terminology** in class and also when answering questions. They should not be allowed to refer to e.g. *things* and *a computer virus is when*
- **Grade 10 and 11 content:** Teachers are reminded that according to the CAPS syllabus, learners are assessed on all theory done from grade 10 – 12 in the final examination. Learners should therefore keep summaries of their gr 10 and 11 theory in notebooks. Throughout the grade 12 year, teachers should incorporate grade 10 and 11 knowledge in tests in order to prepare learners for the final examination.

NOTE TO SUBJECT ADVISORS:

- CAT is a new and very dynamic subject. Many teachers do not have the training or support to continually provide quality education to learners. Subject advisors should play a more active role in assisting teachers in gaining the needed knowledge and expertise. Short training courses presented by themselves or other specialist teachers can only benefit this valuable subject.
- There are also schools who do not have the necessary hardware, software and Internet access to offer this subject. We would also appeal to the department and subject advisors to play a supportive role in this regard – especially in schools where there are trained teachers available.

MISTAKES MADE BY LEARNERS IN ANSWERING THE PAPER:

Although there was definitely also an improvement in the way learners answered the examination paper, the following mistakes were still experienced so I repeat them again and we appeal to teachers to please discuss this with their learners.

- **Writing down the same option twice.** Often, when learners are expected to list more than one fact, they repeat the same fact twice, just rearranging the words to make it sound like a different fact. Obviously only one mark will be awarded.
- **Learners giving one-word answers.** It often happens that learners respond with only one word to a question to list advantages/disadvantages/characteristics. It is impossible for markers to judge from that whether the learner knows the work. No marks will be awarded in such cases. Other learners again, write paragraphs instead of sentences – often contradicting their answer. This must also be discouraged.
- **Vague and generic answers.** Some learners, when they do not really know the answer, often fall back on vague and generic answers such as “it is easier and faster” and terms like “things” and “stuff” etc. Answers like these which do not include any motivation or the correct terminology which can be used to judge a learner’s comprehension will not earn any marks and should be discouraged.
- **Ignoring scenarios and mini-scenarios.** Often in question 9 as well as the mini scenarios in the other questions, the scenario determines the responses that will be accepted as correct. Learners should be coached on how to read and interpret a scenario and questions relating to a scenario. They should be shown the impact that this scenario has on the answers they should be providing.
- **Learners do not read the questions/scenarios properly.** They read until they think they know the answer or they only notice some keywords and then they assume the rest of the question. Learners should be encouraged to read the whole question slowly and with comprehension before attempting to answer it. In many scripts it is clear that learners are losing marks because they do not read the questions properly.

An example of the last two bullets above would be:

Question 9.7.1. from the question paper which reads:

Name TWO potential advantages of using cloud storage *instead of a flash drive* to save data and information.

ANSWER/RESPONSE:

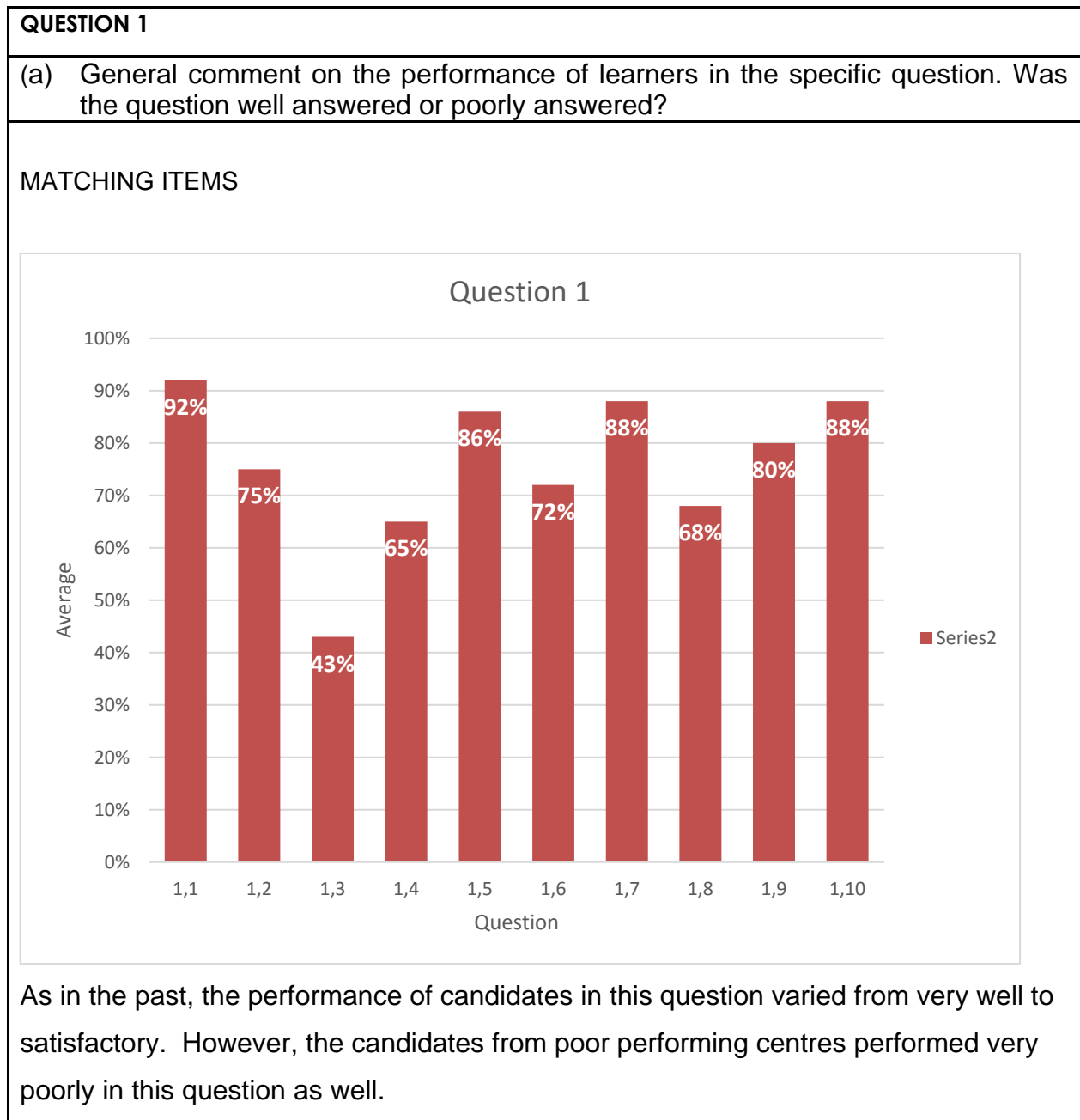
In the memo that the response: *save space on your own hard drive*, was not listed.

If the second part (in italics) of the question was not there, the advantage of *save space on your own hard drive*. – would be accepted BUT because a flash drive can also do the same, this advantage of cloud storage was not accepted.

Learners that only read the first part of the question and the mini scenario, responded with that advantage but did not get any marks.

- Papers are marked on a “**one mark per fact**” basis. If a question count two marks, two facts is expected.

SECTION 2: Comment on candidates' performance in individual questions
(It is expected that a comment will be provided for each question on a separate sheet).



(b) Why the question was poorly answered? Also provide specific examples, indicate common errors committed by learners in this question, and any misconceptions.
<p>Question 1.3 was the question that many learners got wrong.</p> <p>The common error we could pick up was question 1.8 where many learners choose option L (formatting) instead of E (proofing) to describe the process of checking</p>

documents for spelling and grammar errors.

This can be attributed to the fact that learners do not know exactly what formatting is.

There were no other questions that learners battled with. All questions was straight forward and those candidates who prepared well for the examination did well.

(b) Provide suggestions for improvement in relation to Teaching and Learning

In this question basic terminology is tested. Often learners have the practical knowledge but lack the theoretical knowledge of what they are doing. Teachers should explain these basic terms to learners as they do the practical work.

Also refer to the general comments in Section 1 of this report for more comments and suggestions which could help teacher developments as well as advantage our learners.

(c) Describe any other specific observations relating to responses of learners

In this question the handwriting of learners was a problem. I would like to appeal to teachers to teach their learners to answer this question using capital letters. It is often difficult to distinguish between 'a' and 'b' instead of 'A' and 'B'.

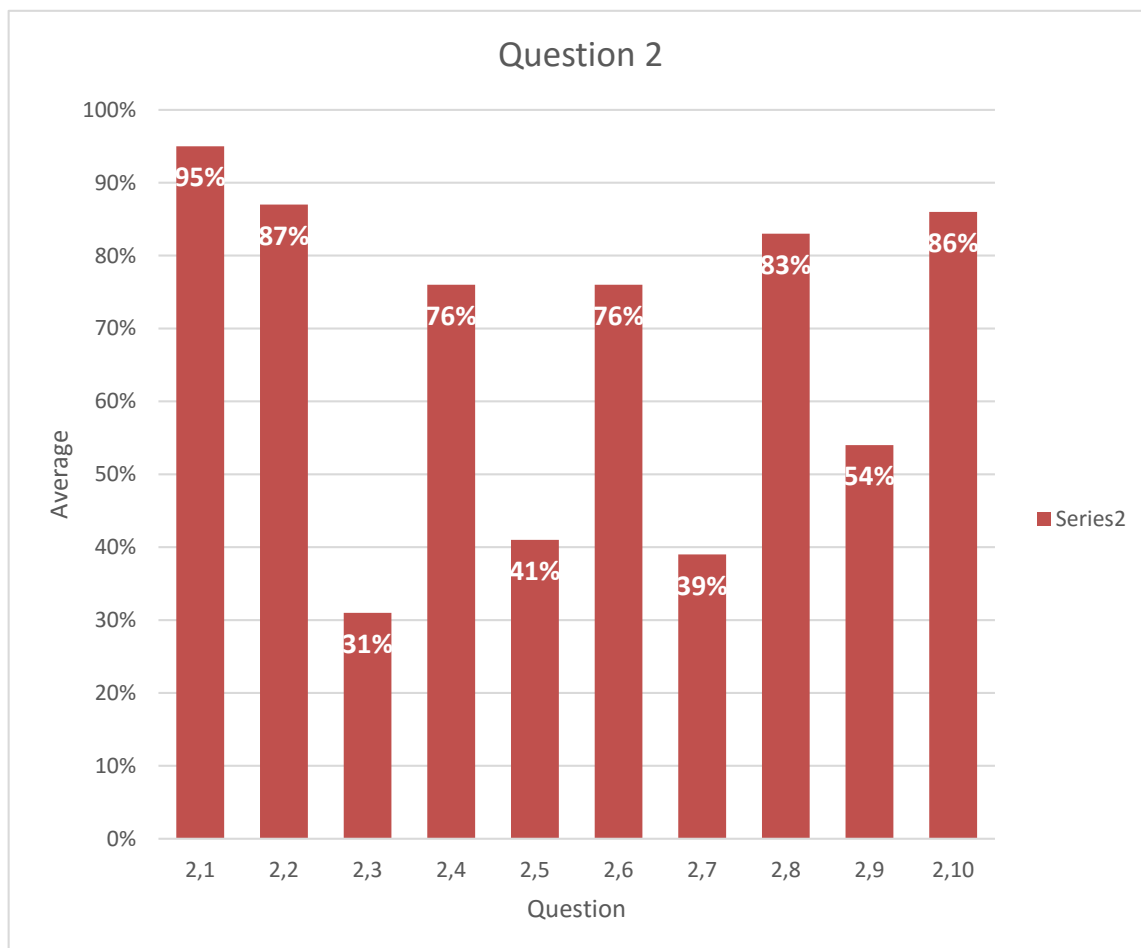
(d) Any other comments useful to teachers, subject advisors, teacher development etc.

Refer to the general comments in Section 1 of this report.

QUESTION 2

(a) General comment on the performance of learners in the specific question. Was the question well answered or poorly answered?

The performance of learners in this question was satisfactory.



(b) Why was the question poorly answered? Also provide specific examples, indicate common errors committed by learners in this question, and any misconceptions.

Learner's performance was satisfactory.

Question 2.3 was the question that many learners got wrong because although they are used to doing research on the Internet, they are not used to making use of advanced search tools like e.g. the - operator.

(c) Provide suggestions for improvement in relation to Teaching and Learning

Refer to the general comments in Section 1 of this report

(d) Describe any other specific observations relating to responses of learners

None

(e) Any other comments useful to teachers, subject advisors, teacher development etc.

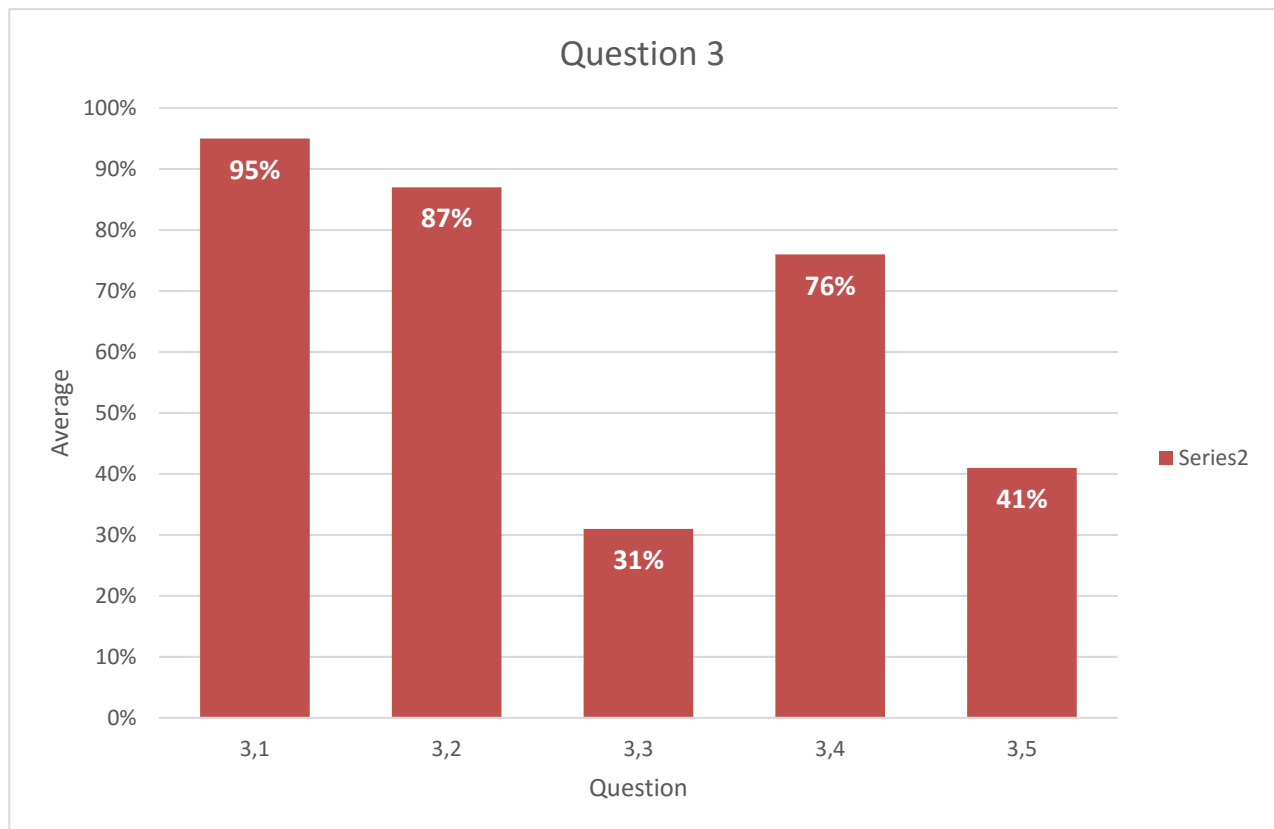
Refer to the general comments in Section 1 of this report



QUESTION 3

- (a) General comment on the performance of learners in the specific question. Was the question well answered or poorly answered?

The overall performance in this question was poor.



- (b) Why was the question poorly answered? Also provide specific examples, indicate common errors committed by learners in this question, and any misconceptions.

Learners still battled with this question this year.

Learners are not used to a question of this format where they had to identify whether a statement is true or false AND then make the false statements true by changing the underlined concept/term.

The question was thus misunderstood by some learners. Some of the learners changed the statement to make the underline word true instead of changing the word to make the statement on the question paper true.



It is believed that after some input by teachers, they will do better in this question next year. *Ukuzisa eliqaqambileyo!*

(c) Provide suggestions for improvement in relation to Teaching and Learning

Teachers should train the learners to answer questions of this format by explaining to them how to attempt a question of this nature. They should then also expose learners to questions of this type in class tests and examination during the year.

(d) Describe any other specific observations relating to responses of learners

This type of question might seem very easy, but to successfully answer a question of this format, learners should be taught to read the statements a few times with concentration and understanding.

Teachers should pay attention to this during the year. This is something that learners should be taught and exposed to.

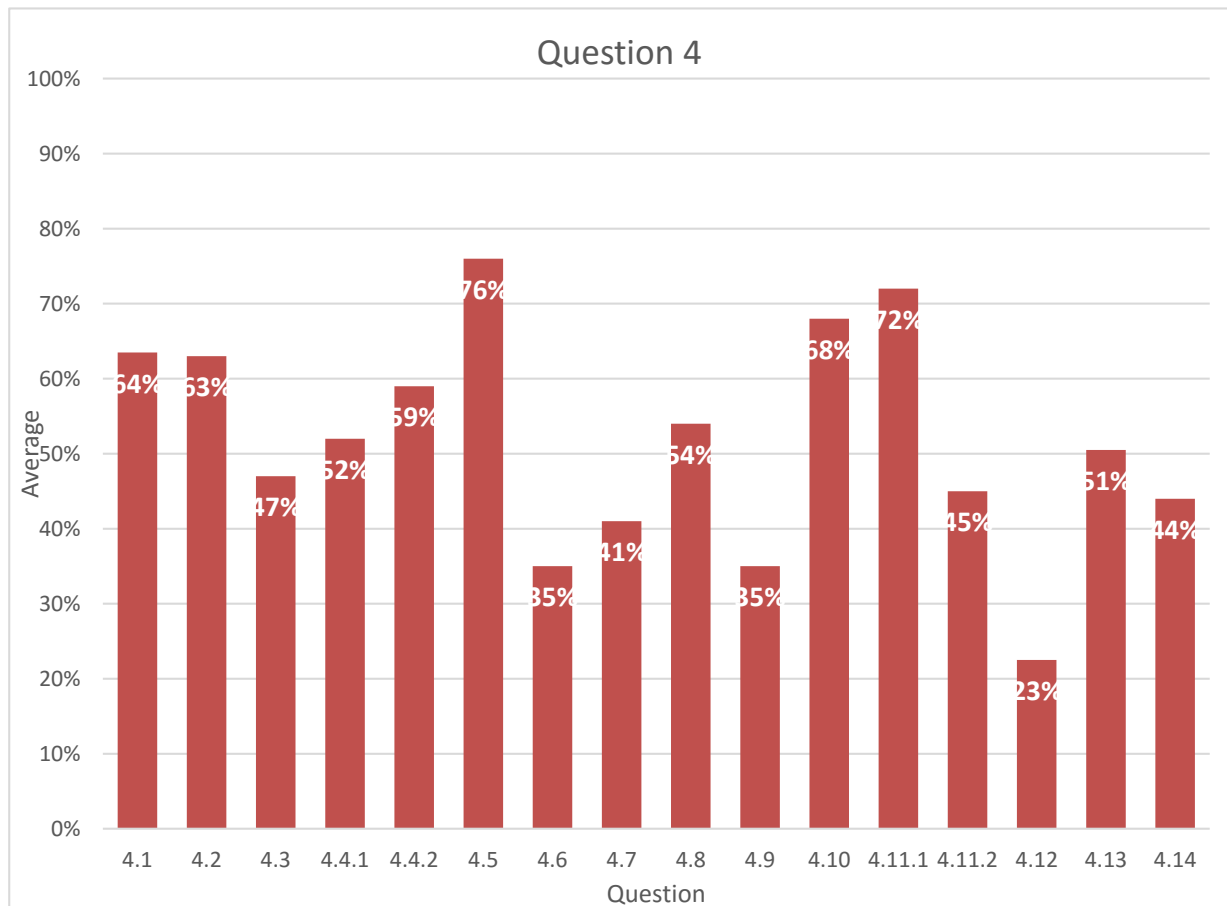
(e) Any other comments useful to teachers, subject advisors, teacher development etc.

Refer to the general comments in Section 1 of this report.



QUESTION 4

- (a) General comment on the performance of learners in the specific question. Was the question well answered or poorly answered?



Although there were learners that performed well in this question, in general the performance of learners in this question was not up to standard. In cases where learners performed poorly it is mainly due to:

- The language barrier
- Not answering questions in full sentences
- Not reading the questions properly
- Lack of content knowledge

- (b) Why was the question poorly answered? Also provide specific examples, indicate common errors committed by learners in this question, and any misconceptions.

The following questions were poorly answered by the majority of learners. Teachers should take note and act accordingly:

Q 4.1

Learner's performance in this question was satisfactory only because the memo allowed marks to be allocated even if the specifications of the CPU, RAM have not been given. Either learners did not read the question properly or they do not understand the term 'specification' with regard to hardware.

Q 4.2

Learners did not know the difference between RAM and a hard drive in terms of each one's function. This is Grade 10 content that must be revised every year. Teachers should put more emphasis when teaching hardware concepts in grade 10, use of computer advertisement flyers can be very helpful to analyse the hardware specification.

Q 4.4.1

Although most learners knew what convergence was, they could not explain it correctly. They tend to write "combination of devices" or "two devices combined into one device" instead of "combining functions or technologies of multiple devices in a single device.

Q 4.6

Learners did not perform well in this question. The way that the question was formulated confused learners.

Instead of asking which type of system software, the question could be rephrased as: Which software is specifically designed to allow a computer to control and communicate with a device such as a printer. The word "type" misled the learners.

Q 4.9

Many learners did not know the advantages of SSDs over traditional hard drives. The learners refer to "large amount of storage" which is a misconception with external hard drive.

Q 4.10

Learners did not understand the difference between a router and a switch. A switch allows communication between computers within a network while a router allows communication between networks.

Q 4.12

Most learners refer to hardware-related issues instead of software-related issues. E.g. not enough RAM or a fragmented hard drive (responses by learners) are hardware issues. Fragmentation and defragmentation should be explained to learners. Few learners understand this.

(c) Provide suggestions for improvement in relation to Teaching and Learning

- Teachers should encourage learners to summarize their work (Grade 10 – 12) and revise the important concepts on a regular basis.
- Teachers should spend more time showing learners how to read a question in its entirety and explain how to break the question up into smaller sections to make it easier to understand. They should also be shown how to identify what the question wants with regards to advantages, disadvantages, etc.
- With regards to the interpretation of advertisements with hardware specifications learners should be encouraged by teachers to find advertisements and bring them to school to discuss. Provide learners with a challenge to find advertisements that contain specific specifications, such as an SSD drive.

(d) Describe any other specific observations relating to responses of learners

- Learners still have difficulty in interpreting the advertisement and the specifications within it.
- The CAPS syllabus concentrates heavily on it, therefore it should be very well covered in class.
- Learners do not read with comprehension. This might be due to a number of factors such as a language barrier or from skipping sections of the question and only focusing on specific keywords.
- Learners do not understand/know basic terminology which should have been engrained since Grade 10.
- Learners tend to write very vague answers using words like “this”, “things”, “stuff”, etc. instead of the correct terminology.

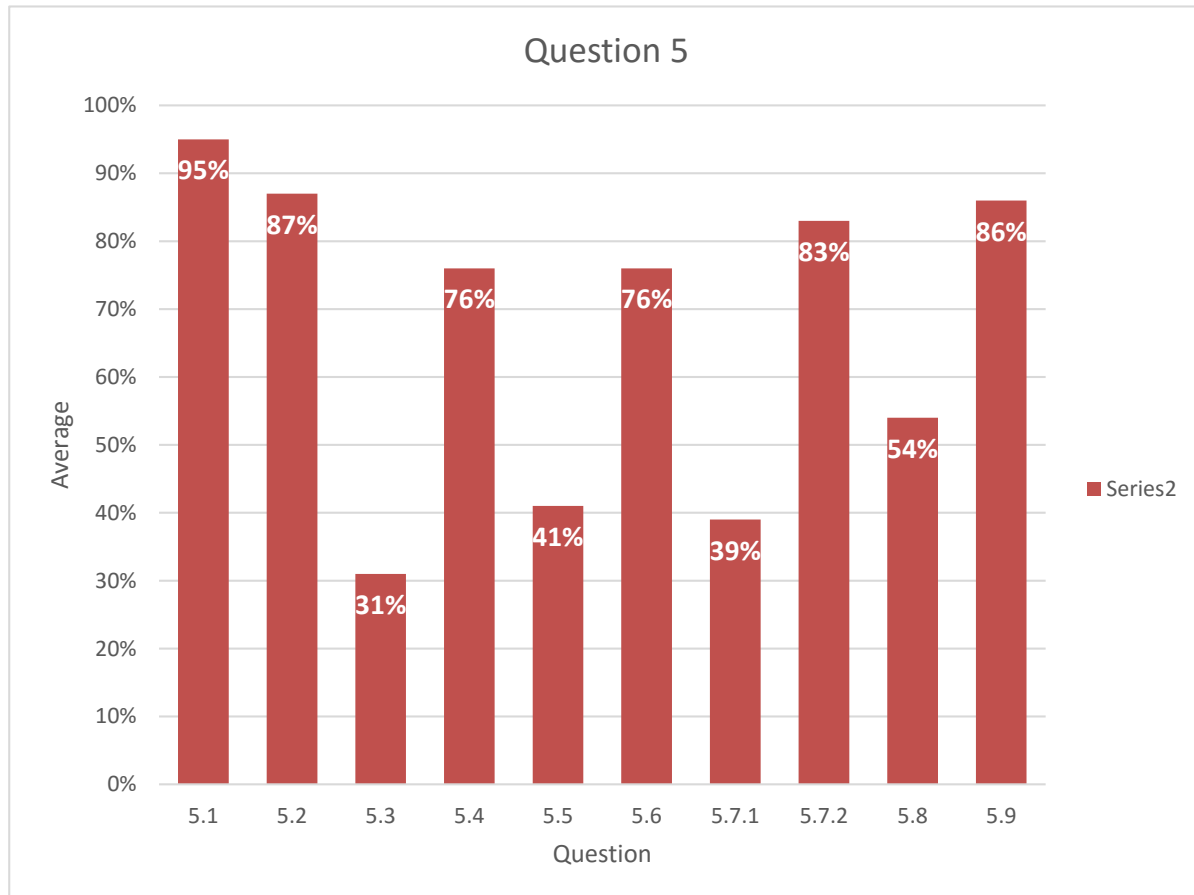
(e) Any other comments useful to teachers, subject advisors, teacher development etc.

Refer to the general comments in Section 1 of this report.



QUESTION 5

(a) General comment on the performance of learners in the specific question. Was the question well answered or poorly answered?



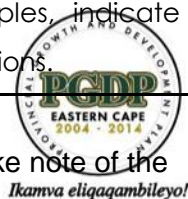
The learners' response to this question was disappointing and the question was poorly answered by most learners.

In cases where learners performed poorly it is mainly due to:

- Lack of content knowledge, using wrong terminology as well as getting confused with some of the terminology. Examples
- Most learners were not familiar with the term VOIP. They don't understand the concept.
- They don't know the difference between servers and clients.
- They don't know the terms Grid Computing and Web Caching.

(b) Why was the question poorly answered? Also provide specific examples, indicate common errors committed by learners in this question, and any misconceptions.

The following questions were poorly answered by learners. Teachers should take note of the following:



Q 5.1

Learners do not distinguish between VoIP and video conferencing. They will list “save on travelling expenses” as a benefit of VoIP which is an indication that they confuse it with video conferencing. Teachers should pay attention and explain the difference.

Q 5.2

The difference between a server and a client in terms of their role or function.

This question is also an example of learners not reading the whole question. Many of them explained the difference with regard to the server being a powerful and the client computer a less powerful computer. Here again the terminology of learners was disastrous which led to many generic answers.

Q 5.3

We were surprised that learners performed very poorly in this question. This was a very basic and straight forward question about networks.

Q 5.4

What is grid computing? Most of the learners got confused and thought this had something to do with Excel. Other knew it had something to do with many computers but did definitely not understand what this multiple computers was used for.

Q 5.7.2

How does the speed of data transmission of an ADSL line differ in terms of downloading and uploading? They tend to write very vague answers using words like “it is faster”. Most of the learners thought it is faster to upload than to download.

Q 5.8

Many learners have a wrong understanding of web caching. They are under the impression that it is the saving of the history of websites and not the website itself on the hard drive therefore it can be accessed quicker and without using cap.

(c) Provide suggestions for improvement in relation to Teaching and Learning

- Teach basic terminology and put more time and effort into theory.
- When teachers do practical, they need to explain the theory or how it works in theory as well.

(d) Describe any other specific observations relating to responses of learners

- Learners do not read with comprehension. This might be due to a number of factors such as a language barrier or from skipping sections of the question and only focusing on specific keywords.
- When a question asks: Why and how, they tend to only answer one of the two questions and not both.

- Learners don't look at mark allocations.
- Learners don't know how to express themselves.

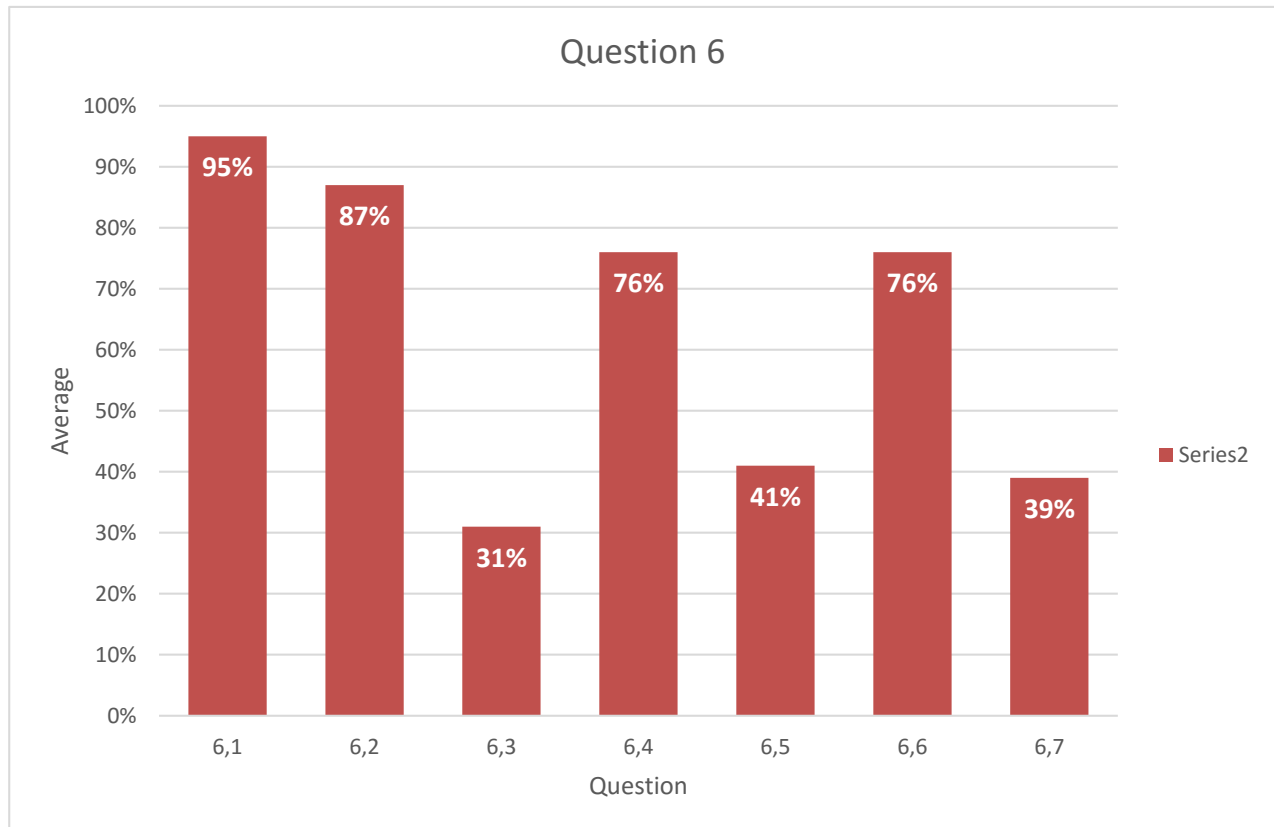
(e) Any other comments useful to teachers, subject advisors, teacher development etc.

Refer to the general comments in Section 1 of this report.



QUESTION 6

- (a) General comment on the performance of learners in the specific question. Was the question well answered or poorly answered?



This question was fairly well answered by most candidates.

- (b) Why was the question poorly answered? Also provide specific examples, indicate common errors committed by learners in this question, and any misconceptions.

I am of the opinion that the reason why learners did fairly well in this question was because this was knowledge they needed for 3 years to do the PAT assignment. The only questions that some learners battled with were:

Q 6.1

Many learners do not know why a questionnaire or survey is used to obtain information. They regard the information that they get through a survey the same as the information that they get on the Internet or in magazines.

Although this should be explained to them when doing their PAT assignment, some learners still battle to understand the difference.



Ikamva eliqaqambileyo!

Q 6.2

Many learners also do not understand what a closed question is. They responded that you get secret/private information, etc. Again, this is something that should have explained when the PAT assignment was done during the year.

Q 6.3

Give general features of spreadsheets that make them suitable for data analysis. Learners did not know what the word “features” meant and most of them referred to doing calculations instead of using functions and formulas. Again, teachers should teach learners to read with understanding and make sure they understand all the terms.

Q 6.7

Why should you include the date when information was retrieved from the websites in a bibliography? Most of the learners referred to the “accuracy of data” instead of “content could have changed”.

(c) Provide suggestions for improvement in relation to Teaching and Learning

I refer you to the list of suggestions under the same heading in Question 4. As those are the basic rules for successful teaching and learning in CAT Paper 2 – applicable to all questions.

(d) Describe any other specific observations relating to responses of learners

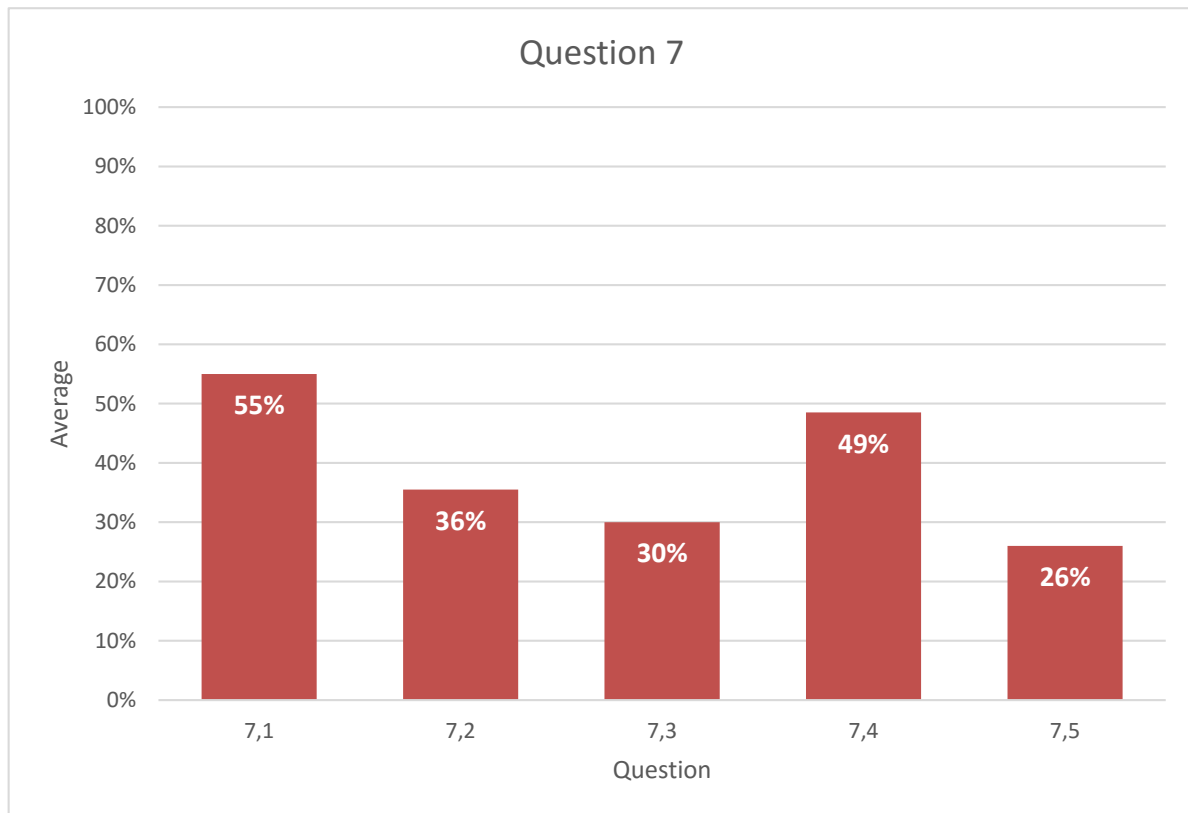
- I refer you to observations made in the responses of learners in general in this paper. They are basically the same for all questions.

(e) Any other comments useful to teachers, subject advisors, teacher development etc.

Refer to the general comments in Section 1 of this report.

QUESTION 7

(a) General comment on the performance of learners in the specific question. Was the question well answered or poorly answered?



The performance of learners in this question range from satisfactory to very poor.

(b) Why was the question poorly answered? Also provide specific examples, indicate common errors committed by learners in this question, and any misconceptions.

Q 7.1

Learners did not refer to the operating system settings, but their answers were very general.

They tend to answer “switching off the laptop when not in use” and this is just a general power-saving technique, not an operating system settings that can be changed.

Again an example of learners not reading with concentration – their eye just *caught saving* power and they answered accordingly.

Q 7.2

Many learners used plagiarism as an example – they confuse piracy with plagiarism. Teachers should just explain the difference to learners again.

Q 7.4

This was maybe one of the higher order questions because the response of learners was very poor. The learners gave very general answers and could not be awarded any marks. E.g. many of them mentioned that people must get spectacles. Poor eyesight was interpreted as blindness, because learners gave answers referring to the use of braille.

Q 7.5

The way the question was phrased forced learners to think that the answer should be based on the computer being overloaded with information and not a human being. Teachers should take time to teach and assess learners in these types of questions.

(c) Provide suggestions for improvement in relation to Teaching and Learning

I refer you to the list of observations under the same heading in Question 4.

(d) Describe any other specific observations relating to responses of learners

The understanding of some questions, is still a problem.

The learners don't read the questions properly before they answer.

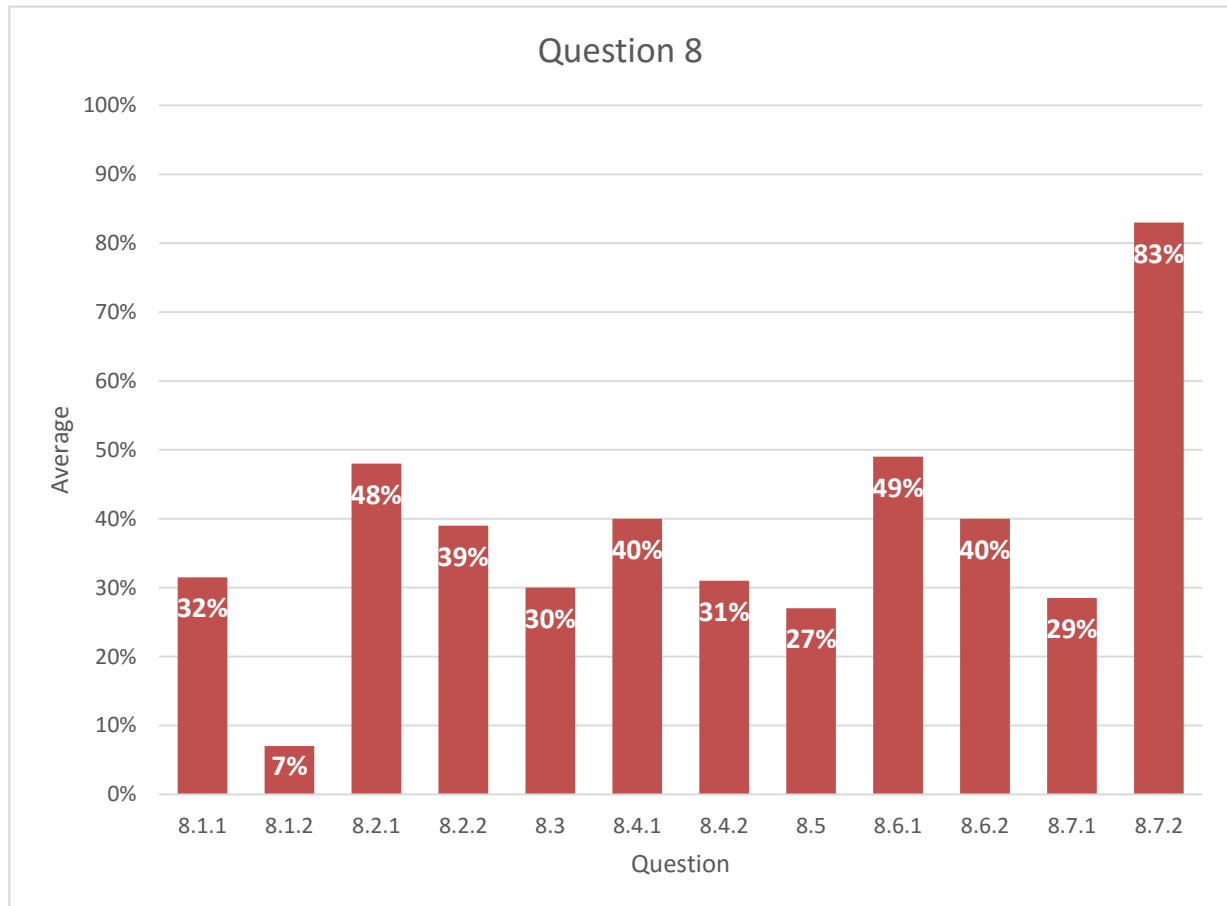
(e) Any other comments useful to teachers, subject advisors, teacher development etc.

Refer to the general comments in Section 1 of this report.



QUESTION 8

- (a) General comment on the performance of learners in the specific question. Was the question well answered or poorly answered?



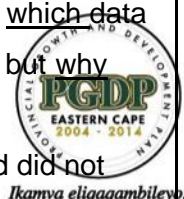
The performance of learners in this question was generally poor although there were some learners who got almost full marks for this question.

- (b) Why was the question poorly answered? Also provide specific examples, indicate common errors committed by learners in this question, and any misconceptions.

Q 8.1.1 – 8.1.2

These questions were based on mail merge. This is a good example of teaching theory together with practical work. Many learners could not respond correctly to these questions. Learners should be taught not only how to insert data from a data source but also which data sources can be used. They should also not be taught how to insert merged fields but why merged fields are inserted.

Most learners only wrote database as a possible data source for a mail merge and did not mention that you can only use a table or a query in a database as a data source for mail merge. The same with Word – only a table in Word can be used.



Q 8.3

From the responses of learners in this question it seems as if not all learners were exposed to the “paste special” feature of a spreadsheet. Most of the learners explained the normal copy and paste function.

Q 8.4.1 – 8.5

These questions were questions based on HTML. Most learners did not know the purpose of the comment tag in a web page and that nothing is displayed by this code when the web page is displayed in a browser. Most learners also did not know the purpose of adding the Alt section in the tag to insert a picture, namely to show the specified text if the picture for some reason cannot appear.

Q 8.7

Most learners did not even attempt this question. If they did attempt to answer the question, they could not explain WHY the query would not return the correct results but some of them could explain that the criteria should move from the OR row to the CRITERIA row.

(c) Provide suggestions for improvement in relation to Teaching and Learning

- When teachers do practical, they need to explain the theory or how it works in theory as well.
- Explain to the learners why we do certain functions and work in practical as well as the advantages of using certain features in the different programs.

(d) Describe any other specific observations relating to responses of learners

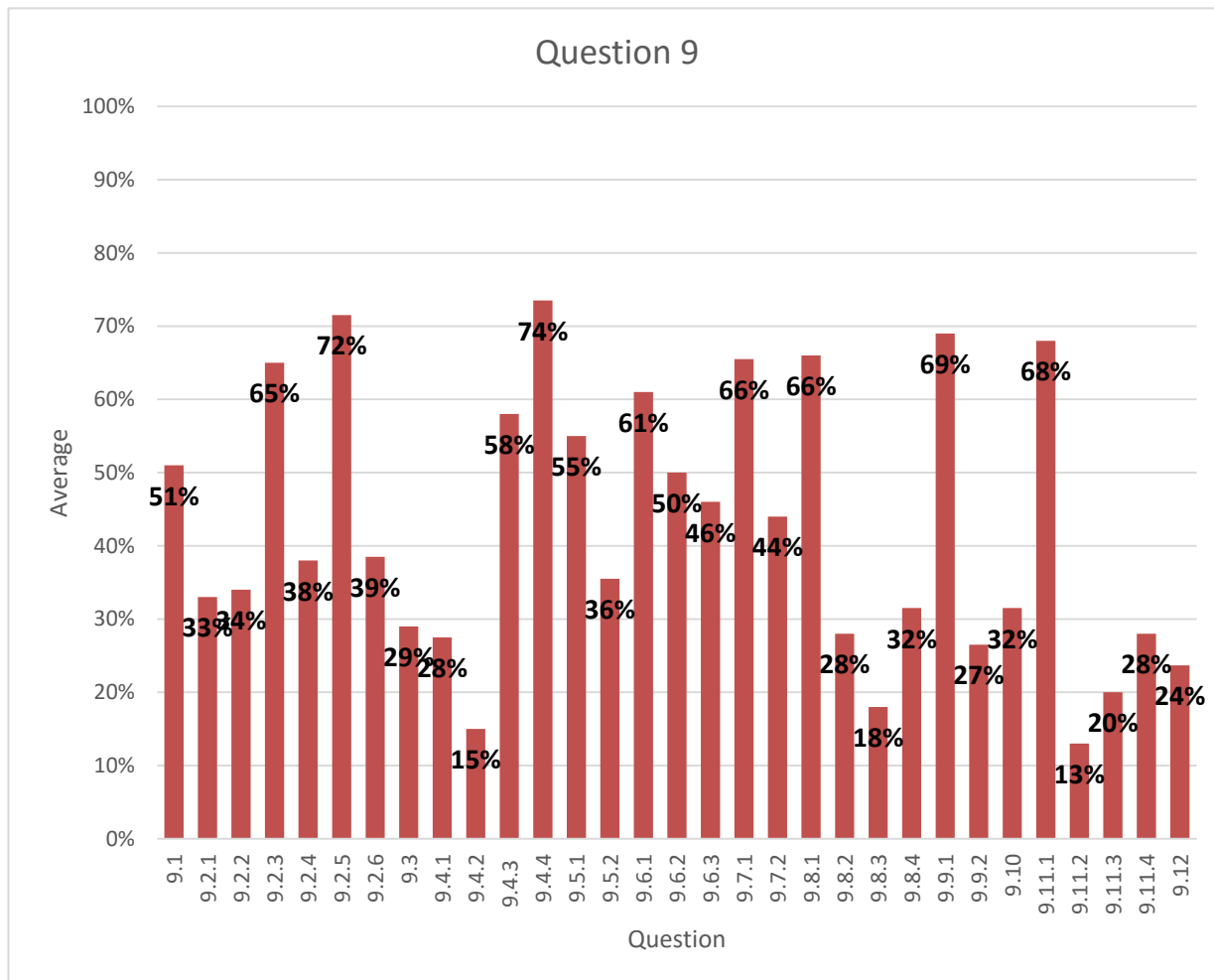
Learners do not know how to apply practical work in theoretical context.

(e) Any other comments useful to teachers, subject advisors, teacher development etc.

Refer to the general comments in Section 1 of this report.

QUESTION 9

- (a) General comment on the performance of learners in the specific question. Was the question well answered or poorly answered?



This question was answered well in comparison with the other questions in this paper. The question was not that difficult for the learners as they answered mostly to the point. Learners still need to read questions carefully and answer what is expected from them.

- (b) Why was the question poorly answered? Also provide specific examples, indicate common errors committed by learners in this question, and any misconceptions.

Q 9.2.1

Learners could not explain this answer for the full 2 marks – only managed the second mark. The learners actually rewrote the question in their answers and did not really answer the question. Teachers need to make sure that learners know that system requirements refer to the hardware and software specifications needed to run the program – again, make sure they use the correct terminology.

Q 9.2.5

Most learners wrote that you can free up disk space by defragmenting the hard drive. This is a misconception that needs to be corrected by the teachers. Defragmentation does not free up space.

Q 9.2.6

Many learners misinterpreted/misunderstood the question in the sense that it was about the software and not the class situation. They responded by referring to security reasons for the school, learners visiting inappropriate website and playing games.

Q 9.3

Learners did not know the advantages of installing a service pack.

Most learners discussed cost, they are not aware that service packs are freely given to subscribers as part of the agreement.

Q 9.4.2

This questions was poorly answered because it was yet again something that learners knew very well to do in a practical question but were totally unable to answer in the theory examination. I think most learners were not exposed to a printer with a card reader or USB port. They know about it but do not know exactly how it works. We need to expose our learners more to this new technology in a practical way.

Q 9.5.2

Learners did not know what the term colour depth means. To them it was just about the brightness of the colours instead of the amount of colours that can be recognized by the scanner. Most learners knew what dots per inch referred to.

Q9.6.1

Learners did not know the advantages of using the Internet for doing research. Most of the learners gave generic answers like, faster or easier without giving full details/explanation. Teach learners to respond in full sentences.

Q 9.6.3

I was surprised to notice that so many learners did not know that a wiki is a website. They knew the second half of the definition about anybody that can edit or add to the contents.



Q 9.8.2

The misconception with this question is that the learners did not write the advantages of video conference but they rather shifted the focus to distance teaching and learning. Most of the learners gave incorrect responses because their focus was wrong.

Q 9.8.3

Learners are not familiar with the term “streaming a video”. Most learners guessed because they never experienced this. However, more learners than I expected responded correctly to the question.

Q 9.8.4

This question was interpreted wrongly by learners. The phrase “large screen” misled the learners. The learners ended up comparing large and small screens instead of concentrating on the advantages of a large computer screen over a data projector.

Again, an example of not reading the questions properly before attempting to answer them.

Q9.10

Most learners gave one word answers like query, report or form without an explanation. The question stated clearly give two reasons – meaning in sentences. No marks could be awarded for that.

Q 9.11.1 – 9.11.4

I was surprised about the poor performance by learners in these questions but again it is a question of learners being able to do the practical work but they cannot explain theoretically. Teachers need to teach theory with the practical!

Q 9.12

Most learners performed very poorly in this question. Most learners explained how to create a report and ignored the fact that they only wanted the top 10 donors. The learners did not read the question well therefore they approached it incorrectly.

I think a question like this, rather belonged in the practical paper. Asking *why* and *what* is fine in a theory paper but the *how* belongs in the practical paper.

NAME OF THE CHIEF MARKER:

SIGNATURE

DATE

