

Study Opportunities

June 2013

COMPUTER APPLICATIONS TECHNOLOGY

Grade 11

Paper 2 – Written question paper

Time: 2.5 hours

Total: 125

This question paper consists of 10 pages (including the front page)

Instructions and information

1. This paper consists of three sections: Section A (20 marks), Section B (70 marks) and Section C (35 marks).
 2. Answer all the questions.
 3. Read the questions carefully, taking note of the number of marks allocated to each of the questions.
 4. Number the questions as given on the question paper.
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SECTION A

Question 1

Identify the correct answer for each question. Write down along the left side of your page only the *number* of each question, and next to it the single *capital letter* which represents the best answer, for example 1.11 A.

- 1.1 Which one of the following would **not** be considered a typical role that ICT plays in the workplace?
 - A. Perform tasks that are difficult or dangerous for humans to do
 - B. Store and make sense of vast quantities of data
 - C. Provide more job opportunities for unskilled workers
 - D. Complete repetitive mechanical tasks quicker and with consistent quality (1)
- 1.2 Which one of the following correctly lists the four parts of the *information processing cycle*?
 - A. Input, Processing, Output and Storage
 - B. Input, Output, Processing and the Internet
 - C. Output, Automation, Storage and Input
 - D. Processing, Communications, Input and Research (1)
- 1.3 Which one of the following factors best represents the difference between *general-purpose computers* and *dedicated devices*?
 - A. The presence of a processor and a hard drive
 - B. The ability to reduce or minimise the use of electrical power
 - C. The presence of a processor
 - D. The ability to load programs to perform different tasks (1)
- 1.4 Which one of the following generally places the computers or devices listed in **increasing** order of processing power (from smallest to biggest)?
 - A. Netbook, smartphone, desktop computer
 - B. Desktop computer, server, consumer tablet
 - C. Netbook, laptop, server
 - D. Smartphone, desktop computer, Netbook (1)

- 1.5 Which one of the following represents the characteristic or feature that *Ultrabooks*, *Netbooks* and *Notebooks* all have in common?
- A. They always use the Windows range of operating systems.
 - B. They are designed to have a low power consumption.
 - C. They can use a maximum of 1 GB of RAM.
 - D. They all have Blu-ray drives installed. (1)
- 1.6 Which one of the following is an operating system that is most likely to be found on a smartphone?
- A. Unix
 - B. Windows 7
 - C. Office 365
 - D. Android (1)
- 1.7 When entering a cellphone number in a spreadsheet, the leading zero keeps 'disappearing'. For example 0821651234 becomes 821651234.
- This problem can be solved by....
- A. changing the width of the column to an appropriate size.
 - B. decreasing the number decimal places to zero.
 - C. adding an equal sign ('=') in front of the number.
 - D. changing the data type of the cell to text. (1)
- 1.8 Which one of the following refers to the state that a portable computer can switch to when it has not be used for a period of time in order to conserve power?
- A. Validation
 - B. Hibernation
 - C. Power acceleration
 - D. Safe Mode (1)
- 1.9 Which one the following data types in *Access* will guarantee that the field declared with this type can serve as a primary key?
- A. Hyperlink
 - B. OLE Object
 - C. Memo
 - D. AutoNumber (1)
- 1.10 Keyboards that are projected onto a screen or a flat surface are known as
- A. QWERTY keyboards
 - B. ergonomic keyboards
 - C. virtual keyboards
 - D. visual keyboards (1)

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Question 2

Write down along the left side of your page only the *number* of the question from Column A, and next to it the correct matching *capital letter* from Column B, for example 2.12 K.

Column A		Column B
2.1	An app or feature on a smartphone that you could use if you were lost in a strange city	A. 3G B. DIMM
2.2	A device that can be used to protect a computer against power, surges, spikes and outages (power failures)	C. DPI D. DTP
2.3	A hardware component associated with RAM	E. GPS F. GUI
2.4	Unit or specification used to indicate the resolution of a printer or a scanner	G. HTML H. IM
2.5	A technology that is often used to track the position or progress of runners or cyclists in a long distance race	I. MP J. NIC
2.6	Technology used to connect to the Internet via a cellular network	K. OCR L. RAM
2.7	The specification in an advert for a digital camera that refers to its maximum resolution	M. RFID N. ROM
2.8	A type of software that can convert images of scanned text to editable text	O. RSI P. UPS
2.9	A special type of chip on the motherboard that holds the instructions needed to start the computer when you switch it on	Q. URL R. UTP
2.10	Name given to injuries resulting from fast, repetitive work such as frequent text messaging	S. WiFi

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Section B

Question 3

- 3.1 *Biometric* flash drives are quite affordable.
Explain what the term *biometrics* refers to and why this might be a useful feature on a flash disk. (2)
- 3.2 Input does not necessarily come via keyboard or mouse. *Sensors* can be used to provide input as well.
- 3.2.1 Give one specific situation where sensors would be used as input devices. (1)
- 3.2.2 Give one general advantage of using sensors as input devices. (1)
- 3.3 A surprising number of users use their cellphone numbers e.g. 0821451273 as their passwords.
Give two reasons why using one's cellphone number is not a good choice for a password. (2)
- 3.4 Portable computers such as laptops have become expensive to insure because of the large numbers of them that get stolen.
Give two measures you can take to prevent your computer being stolen from *your* business. (2)
- 3.5 Give two advantages that the use of *barcode systems* and *barcode scanners* have for a shop or business. (2)
- 3.6 Touch screens have become common-place in fast-food outlets and restaurants.
Give two advantages that a touch screen provides in this specific situation. (2)
- 3.7 Give two specifications or factors to consider when buying a *digital camera* besides issues concerning the brand name, cost, warranty issues and the resolution. (2)

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Question 4

- 4.1 Many people who are not computer literate battle to understand the difference between *memory* and *storage*.
- 4.1.1 Clearly explain the difference in function between memory and storage. (2)
- 4.1.2 Give two differences between memory and storage other than their functions. (2)
- 4.2 *Plug-and-Play technology* has largely removed the need for a user to have to install *drivers*.
- 4.2.1 Explain what a driver is and what the function of a driver is. (2)
- 4.2.2 Does using Plug-and-Play technology do away with the need for drivers?
Motivate your answer. (2)

- 4.3 The Windows utility *Disk Cleanup* helps to free up space on your hard drive.
List two ways in which the *Disk Cleanup* utility attempts to free up disk space. (2)
- 4.4 Someone suggested to your sister that *defragmenting the hard drive* on her computer could improve the performance of her computer, as well as freeing up some disk space.
- 4.4.1 Briefly explain what *disk fragmentation is* and how it slows down the performance of a computer. (2)
- 4.4.2 Explain why defragmenting the hard drive does not free up disk space by briefly outlining what happens in the process of disk defragmentation. (2)
- 4.5 Most people simply consider the size and cost when purchasing a computer monitor.
List two *other* hardware specifications (besides the size and cost) one should consider when purchasing a monitor. (2)
- 4.6 The *motherboard* is often not considered when purchasing a computer, yet it plays a critical role in the functioning of a computer.
Give two functions that a motherboard performs. (2)
- 4.7 Give two reasons why an *external hard drive* is the ideal device to use to back up the data on a computer. (2)
- 4.8 Clearly explain the difference between *backing up* files and *archiving* files. (2)

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Question 5

- 5.1 Many networks that are established are LANs.
- 5.1.1 What is a LAN? (Do not just write down what the abbreviation means.) (1)
- 5.1.2 Name two other hardware devices that one might find connected to a LAN besides computers. (2)
- 5.1.3 Users are sometimes not aware that they are connected to a LAN.
Mention two things that would indicate that you are connected to a LAN. (2)
- 5.2 The two major choices in terms of cabling a network is to use either *UTP* or *fiber optic* cable.
Clearly indicate the major advantage of using each of these types of cabling. (2)
- 5.3 A NIC was indicated with an *802.11n* specification.
What does the 802.11 specification indicate? (1)
- 5.4 Briefly explain what the function of server is in general on a network and give one example of a type of server you might find on a network. (2)
- 5.5 Your school wants to set up an *intranet*.
Explain what an intranet is and give one possible use of an intranet for the school. (3)

- 5.6 Most organisations have an *AUP* (Acceptable Usage Policy) for their computer facilities.
- 5.6.1 Briefly explain what the function or purpose of an AUP is. (1)
- 5.6.2 Give two items that would typically appear in or be covered in an AUP. (2)
- 5.7 It is not advisable to do e-banking in public venues such as cyber cafés because of the danger of keyloggers.
- 5.7.1 To what general class of software do programs such as keyloggers belong? (1)
- 5.7.2 Explain what keyloggers are and the dangers they pose to applications such as e-banking. (2)
- 5.8 The usability of websites often determines whether a user will bother returning to that site in the future. The usability is influenced by issues such as the consistency and readability of the website as well issues related to navigation.
Give two factors related to the navigation of a website that influences the usability of the site. (2)
- 5.9 Consider the following questions that formed part of a questionnaire sent out to a target group to get information about their reading habits.

A	Do you read a lot and do you also read magazines?	Yes	No
B	What do you feel about reading? _____		

Give one criticism of each of the questions labelled (A and B).

Do not give the same criticisms for both of the questions.

(2)

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Question 6

6.1 A friend set up a database table to keep track of her friends' contact details. An extract from the database table is shown below.

Use this table to answer the questions that follow:

Surname	Name	Grade	Email	CellNo	Facebook	WhatsApp
Appel	Willem	10	Appelator@mailbox.co.za	0834712321	Y	N
Baatjies	Magda	11		0834712321	Y	Y
Moodley	Tiodan	12	TioMoodley@mweb.co.za	0720868712	N	N
Solute	Simba	12	SimbyS@gmail.com	0731138432	Y	N

6.1.1 Explain what a *primary key* is in the context of a database and comment on whether there is a suitable primary for this particular table. (2)

6.1.2 Your friend created the following query to produce an alphabetical list of all her friends in Grade 11 and 12 who are on both WhatsApp and Facebook.

Field:	Surname	Name	Grade	Facebook	WhatsApp
Table:	tblData	tblData	tblData	tblData	tblData
Sort:					
Show:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Criteria			11 and 12	"Y"	
or:					"Y"

Give all the reasons why the query above will not produce the results or records she wants. (4)

6.2 Explain how you can place just *one* of the pages in a portrait document in *landscape* format. (You are not required to make reference to specific tabs or menu options in your answer.) (2)

6.3 You have created a *Word* document in Microsoft Office 2010 and took a lot of trouble to format the headings and subheadings properly using styles. You have to e-mail it to someone but you are not sure whether the person has Microsoft Word on his computer. Some suggested that you save it as an ordinary text file.

6.3.1 What application or program could the person receiving the text file use to open the text file if they did not have a word processor installed? (1)

6.3.2 Give one reason why one would *not* want to store the document as a text file. (1)

6.3.3 Give one advantage of making use of built-in *styles* to format your document. (1)

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Section C

Question 7 – Integrated Scenario

Your mother has been given finance from a small business development agency to set up a business which she will run from home. She will need to purchase the necessary software and hardware to set up a small network to help her run her business.

7.1 Your mother found the following advert for a computer:

Intel® Pentium Dual Core 2.2 GHz
Windows 7® Home Basic
DVD Writer
802.11bgn and Bluetooth
Integrated webcam and card reader
Intel® HD shared graphics
15.6" HD LED
4096 MB RAM and 500 GB HDD
GIGABYTE motherboard
Office 365

- 7.1.1 What component does the *dual-core* specification refer to and what is the significance or meaning of this specification? (2)
- 7.1.2 Write down how much *memory* this computer has in terms of Gigabytes (GB). (2)
- 7.1.3 Write down the specification that most strongly suggests or indicates that the computer is a portable computer.
Briefly motivate your choice. (2)
- 7.2 A colour laser printer needs to be purchased for the office.
Give three printer specifications your mother would have to consider when purchasing this printer, excluding costs, brand names and warranties. (3)
- 7.3 Your mother already has a multi-function printer. One of the features of this printer is that it can '*scan to PDF*'.
Briefly explain what this means and give one advantage or benefit of 'using PDF'. (2)
- 7.4 Your mother's administrative assistant suffers from *motor problems* that affect her ability to use her hands.
Mention two *hardware* items that could be purchased to help the assistant to use the computer in terms of her limited motor skills. (2)
- 7.5 Your mother wants to network the computers and equipment in her home office.
- 7.5.1 Give two advantages of having a LAN from the point of view of the business. (2)
- 7.5.2 She was told she would need *NICs* and a *switch*.
Explain why she would need NICs and a switch to establish the network by referring to what each of them does (their function). (4)
- 7.5.3 Give two potential disadvantages of using a **wireless** LAN compared to a cabled LAN. (2)

7.6 A colleague set up a spreadsheet for your mother. An extract of this spreadsheet is shown below:

	A	B	C	D
1			Tax Rate	35%
2				
3	Name	Annual Salary	Monthly Salary	Tax
4	Banzana Sibongiseni	R 87,052.80	R 7,254	R 1,789.04
5	Allison Michael	R 50,010.00	R 4,168	R 0.00
6	Carolus Bhrynthea	R 63,881.88	R 5,323	#VALUE!
7	Govender Ranée	R 109,997.40	R 9,166	R 7,454,945.71
8	Rama Neelan	R 62,751.60	R 5,229	R 1,000.00
9		Total >>	R 31,141	

- 7.6.1 Suggest one reason why it may have been a better idea to separate the names in column A into surnames names in two separate columns. (1)
- 7.6.2 Your mother found that the total of the monthly salaries in cell C9 is not correct, as the total she gets on her calculator is R 31 140.
She is puzzled as the spreadsheet function used to total the values is perfectly correct!
Explain what the most likely cause of the problem is and mention a strategy to ensure that the correct total is obtained. (2)
- 7.6.3 The formula given in cell **D4** to calculate the tax is given below:

$$=IF(C4<5000,0,1000+D1*(C4-5000))$$
 Explain in your own words how the tax is calculated without referring to the formula specifically in your answer. (4)
- 7.6.4 Not all the 'answers' or results in column D are correct because *absolute referencing* was not used.
Explain what this means by explaining *why* and *when* absolute referencing is needed by referring to this specific example. (3)
- 7.7 Your mother has been encouraged to make use of an *online storage service* such as *SkyDrive* or *Dropbox* for backing up her data.
- 7.7.1 Give two *advantages* of using an online storage service for backing up data. (2)
- 7.7.2 Give two possible *disadvantages* of using an online storage service for backing up data. (2)

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TOTAL : 125