basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

COMPUTER APPLICATIONS TECHNOLOGY P2

(THEORY)

NOVEMBER 2011

MARKS: 150

TIME: 3 hours

This question paper consists of 16 pages.

INSTRUCTIONS AND INFORMATION

1.   This question paper consists of SECTION A and SECTION B.

2.   Answer ALL the questions.

3.   Number the answers correctly according to the numbering system used in this question paper.

4.   Start EACH question on a NEW page.

5.   Do NOT write in the right-hand margin.

6.   Leave a line between each subquestion.

SECTION A

QUESTION 1: MATCHING ITEMS

Choose a term/concept from COLUMN B that matches a description in COLUMN A. Write only the letter (A–R) next to the question number (1.1–1.10) in the ANSWER BOOK, for example 1.11 S.

COLUMN A	COLUMN B
1.1 A component that determines the quality of the display on the screen	A NIC (network interface card)
1.2 A utility program that will speed up disk access by rearranging the contents of a hard disk	B disk defragmenter
	C malware
1.3 A device that protects your computer against power dips	D switch/hub
1.4 The main memory of the computer	E CPU
	F Blu-Ray
1.5 Software that secretly monitors activity on a computer	G router
	H disk clean-up
1.6 A central node where all the computers on a network plug in	I spyware
1.7 The component in your computer that allows you to connect the computer to a network	J RAM
	K graphics/video card
1.8 A term used to describe high-speed connections to the Internet	L shareware
	M power supply
1.9 The group or class of software that is specifically created to protect against detrimental or harmful influences	N memory card
	O HDMI
	P broadband
1.10 A type of DVD technology	Q power bus
	R UPS

(10 x 1)   **[10]**

QUESTION 2: MULTIPLE-CHOICE QUESTIONS

Various options are provided as possible answers to the following questions. Choose the answer and write only the letter (A–D) next to the question number (2.1–2.10) in the ANSWER BOOK, for example 2.11 E.

2.1   Which ONE of the following components is the <u>least</u> important in terms of the functioning of a computer?

      A   Memory
      B   Hard disk
      C   Processor
      D   DVD-writer

2.2   Which ONE of the following statements about good password practice or policy is FALSE?

      A   Passwords should be changed frequently.
      B   It is better to use the same password for every situation that requires one.
      C   Your identity number is not a good example of a secure password.
      D   Never tell other people what your password is.

2.3   Which ONE of the following is the best option to choose if you think the web page you are viewing, is outdated (old)?

      A   Change to a different ISP
      B   Update your antivirus software
      C   Refresh the web page
      D   Change to a 3G connection

2.4   Which ONE of the following options would be the most effective device for inputting large quantities of numbers?

      A   A virtual keyboard
      B   A numeric keypad
      C   A mouse
      D   A calculator program

2.5   Which ONE of the following components should be upgraded to allow more programs and data to be simultaneously loaded into memory?

      A   RAM
      B   ROM
      C   CPU
      D   Hard drive

2.6   Which ONE of the following refers to software that is designed to fix bugs (errors) and provide new features for existing software?

        A   Updates
        B   Drivers
        C   Virus definitions
        D   Wizards

2.7   Which ONE of the following refers to the use of material and sources without acknowledging them?

        A   Data theft
        B   Identity theft
        C   Piracy
        D   Plagiarism

2.8   Which ONE of the following ports is the best to use to transfer videos from a digital video camera to a PC?

        A   VGA
        B   HDMI
        C   FireWire
        D   USB

2.9   Which ONE of the following can you use to decrease the size of a large document to be e-mailed?

        A   WinZip
        B   Paint
        C   Snipping Tool
        D   Screenshot

2.10   Which ONE of the following statements about a firewall is TRUE?

        A   A firewall is not needed if you have an Internet connection.
        B   A firewall monitors communication between your computer and the Internet.
        C   Firewall software must be updated daily.
        D   A firewall will prevent software piracy.

                                                                    (10 x 1)   **[10]**

                                                        TOTAL SECTION A: **20**

SECTION B

The scenario below sets the scene for the questions that follow.

SCENARIO
A team of Computer Applications Technology (CAT) learners have decided to work at a cyber café to raise funds for their school. They will be required to answer computer-related questions for the owner, Mr Wu.

QUESTION 3

The first task is to replace the old administration computer. Mr Wu saw the following advertisement for a laptop:

ABC 21" LAPTOP
Processor:　　　　Intel Celeron 1.8 Hz
RAM:　　　　4 GB
Hard drive:　　　　150 GB
Connectivity:　　　　WLAN/LAN
Dual-layer DVD writer
Integrated webcam
Windows 7 Professional
Multidata card reader
12 month on-site warranty

3.1　　　The reason why the old administration computer has to be replaced is that it often crashes.

　　　　Give TWO reasons why a computer would crash.　　　　　　　　　　　(2)

3.2　　　Name TWO hardware components from the advertisement above that will play a significant role in determining the overall performance of this computer.　　(2)

3.3　　　State TWO advantages of purchasing a laptop computer rather than a desktop computer.　　　　　　　　　　　(2)

3.4   Mr Wu wants to experiment with video editing using the laptop.

        Name TWO hardware components from the advertisement where the specifications are not suitable for video editing. Briefly motivate the use of each hardware component in the context of video editing.   (4)

3.5   Many of the devices that can be connected to the laptop connect via USB ports and are therefore plug-and-play.

        What do we mean when we say a device is *plug-and-play*?   (2)

3.6   The DVD drive is listed as a 'dual-layer' drive.

        How could Mr Wu benefit from a dual-layer drive?   (1)

3.7   Explain the function of the card reader listed in the advertisement.   (2)

3.8   The advertisement for the laptop lists an 'integrated webcam'.

        3.8.1   Briefly explain what the term *integrated* means in this context.   (1)

        3.8.2   State ONE advantage of having an integrated webcam on a laptop.   (1)

        3.8.3   Mr Wu used Skype to contact his cousin in Taiwan. Mr Wu complained that his cap soon 'disappeared' when he used the webcam during the Skype session.

                  Explain why this happened by referring to the concept of a cap in your answer.   (4)

        3.8.4   Mr Wu thinks it would be a good idea to have webcams installed in the cyber café for surveillance purposes.

                  Give ONE reason why some <u>customers</u> could consider this practice unethical.   (1)

3.9   The advert refers to an 'on-site warranty'. Explain what an *on-site warranty* means.   (2)

3.10   Mr Wu is considering purchasing an external hard drive to backup the data on his new administration computer.

        State TWO advantages of using an external hard drive for backup copies.   (2)

3.11   Mr Wu connected a printer to his laptop to print his accounts but then experienced some problems with his printing.

The first problem was a message that appeared, that said that a printer driver could not be found.

3.11.1   Briefly explain what a *driver* is by referring to its function.   (2)

3.11.2   Suggest TWO places where Mr Wu can try and find this driver.   (2)

3.11.3   The problem with the driver was successfully sorted out. However, Mr Wu found that the printer did not print any hard copies and no error message appeared when he tried to print.

Give TWO possible reasons for this.   (2)

3.12   A number of customers are visually impaired and struggle to use the computers in the cyber café.

Name TWO utilities or features of the operating system that can be used to try and help these customers to use the computers more easily.   (2)

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QUESTION 4

4.1   Mr Wu cannot understand why a computer needs an operating system and application programs.

4.1.1   Name THREE functions of an operating system.   (3)

4.1.2   State TWO advantages of using an office suite rather than the individual programs available.   (2)

4.2   Give ONE reason why many people still use proprietary software such as Microsoft Office instead of an open-source software package, such as OpenOffice, which is free.   (1)

4.3   Mr Wu says that there are too many programs on his computer and decides to remove some.

Give TWO reasons why a program should be uninstalled rather than just deleted.   (2)

4.4   Mr Wu finds that his computer has suddenly become slower.

Name TWO instances where, or reasons why, software might cause a computer to become slower.   (2)

4.5   Mr Wu is concerned about computer virus infections in the cyber café.

4.5.1   Explain TWO ways in which customers can infect the cyber café's computers with viruses.   (2)

4.5.2   Name THREE possible ways in which Mr Wu would know if any of the computers have been infected with viruses.   (3)

4.5.3   Mr Wu says that he will scan the computers for viruses once a month.

Give TWO reasons why this will not be a good policy to follow.   (2)

4.6   Name TWO computer housekeeping tasks or good maintenance habits, besides the regular updating of security software, that Mr Wu should carry out regularly.   (2)

4.7   Mr Wu has heard of a single-user license, multi-user license and a site license.

He feels that single-user licenses would be too costly for his purposes. Briefly explain the difference between a *multi-user license* and a *site license*.   (2)

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QUESTION 5

5.1   The CAT learners noticed that all the computers in Mr Wu's cyber café are linked to a network.

        5.1.1   There are a number of benefits having a network.

                  What would the most important reason be for having a network, specifically in a cyber café? Briefly motivate your answer.   (2)

        5.1.2   Would the network in the cyber café be an example of a LAN or a WAN? Briefly motivate your answer.   (2)

        5.1.3   Discuss TWO possible disadvantages of establishing and running a network in the cyber café.   (2)

5.2   The cyber café has a hotspot.

        Explain what a *hotspot* is.   (2)

5.3   State TWO ways in which Mr Wu can, in terms of his business, help to bridge or reduce the digital divide.   (2)

5.4   Mr Wu would like to order supplies for his cyber café over the Internet and have them delivered to the shop. He would also like to do his banking over the Internet.

        5.4.1   What is the general term used to describe doing business over the Internet?   (1)

        5.4.2   Name ONE way in which he would know that he is using a secure connection to his Internet banking website.   (1)

        5.4.3   State THREE advantages of Internet banking when compared with conventional banking.   (3)

5.5   The cyber café is in Johannesburg. One of the customers urgently wants to send a document of 20 GB to somebody in Cape Town. He does not want to use or pay a courier service.

        Explain how this can be done over the Internet. The e-mail service cannot be used as it has a 5 MB limit for attachments.   (1)

5.6   Mr Wu has read about RSS feeds offered by websites.

        Describe clearly how RSS feeds can make a user's life that much easier.   (2)

5.7   A lot of young people use the Internet facilities at Mr Wu's cyber café. They often use Facebook and Twitter.

    5.7.1   What is a *tweet*?   (2)

    5.7.2   Give TWO reasons why many schools and companies block sites such as Facebook.   (2)

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QUESTION 6

6.1   Mr Wu would like to be able to assist people when they send e-mails from his cyber café.

Name THREE netiquette rules to keep in mind when adding and sending e-mail attachments.   (3)

6.2   Consider the following e-mail address:

<u>abcgenius@bluecross.org.za</u>

         6.2.1   Identify the user name in the e-mail address above.   (1)

         6.2.2   What does the .org.za part of the e-mail address indicate?   (2)

6.3   Discuss the differences between a *web browser* and a *search engine*. (Do not give the names of web browsers or search engines in your answer).   (4)

6.4   Consider the following e-mail:

To …	PWu2@webmail.co.za
Cc …	
Bcc …	
Subject:	Savings Bank of BB
Attach:	

Good day Sir

Your bank account has had multiple access attempts. Please click on the address below to reset your password and gain access to your account.

http://savingsbankofBB@savingsbank.co.za/details

Yours faithfully
B Jonass
Bank Manager – City Branch
074 000 1111

         6.4.1   Explain what the difference is between the *Cc field* and *Bcc field* in an e-mail.   (2)

         6.4.2   Name TWO ways in which the amount of spam received at the cyber café can be reduced.   (2)

6.5   RFID tags are becoming commonplace.

     6.5.1   Briefly explain what an *RFID tag* is.

           Do not simply write down what the abbreviation stands for.   (2)

     6.5.2   State ONE application of RFID tags in the cyber café environment.   (1)

6.6   Mr Wu is concerned about paying high electricity accounts for the cyber café.

     Describe TWO ways, related to the use of the computers in the cyber café, in which electricity can be saved.   (2)

6.7   Mr Wu needs to replace broken computer equipment.

     6.7.1   Explain why the broken computers should not be thrown away on rubbish dumps.   (2)

     6.7.2   Write down the collective name used for broken, discarded or unwanted electronic hardware.   (1)

6.8   The Internet provides a host of communication modes and methods.

     6.8.1   What is the main benefit of using VoIP technology like Skype?   (1)

     6.8.2   State TWO disadvantages when using a chatroom or instant messaging technologies to stay in contact with friends.   (2)

6.9   Mr Wu says that when he searched for information on the Internet about other types of coffee, a very large number of results were displayed.

     Name TWO ways in which he could reduce unnecessary results and obtain a shorter list of more relevant information.   (2)

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QUESTION 7

7.1   Mr Wu wants to help some people to improve their word processing skills. Help him to answer their questions.

7.1.1   One person says that a word processing document that he has sent to a friend, cannot be opened by the friend as they do not have the same program.

What is the best file format to save the document in so that it can be opened and edited using most word processors?   (1)

7.1.2   Give TWO reasons why one would make use of footnotes or endnotes.   (2)

7.1.3   What word processing feature should be used to allow both portrait- and landscape-orientated pages in the same document?   (1)

7.1.4   Give Mr Wu TWO reasons why some documents are distributed in PDF format.   (2)

7.2   One of the learners was trying to help Mr Wu with a spreadsheet.

Study the screenshot of the spreadsheet below.

	A	B	C	D	E	F	G
6					*Percentage*	10%	
7	Name	Rate	Hours	Bonus	Fees	Total	Statistics
8	Beth	9	14.00	100	126.00	12.60	226.00
9	Ruby	2	24.00	100	48.00	#VALUE!	148.00
10	James	6	21.00	100	126.00	15.88	#NAME?
11	Sharney	5	14.00	120	70.00	#VALUE!	62.00
12	Blessing	4	14.00	100	56.00	8.89	4.857143
13	Happiness	5	17.00	110	85.00	#VALUE!	7
14	Julie	3	12.00	110	36.00	3.20	#DIV/0?
15							

7.2.1   Name TWO ways in which to change the appearance of the spreadsheet above so that it is easier to read and more meaningful to Mr Wu.   (2)

7.2.2   How can Mr Wu prevent column E from showing in his spreadsheet (without deleting the data)?   (1)

7.2.3   State TWO possible causes for the error message that displays in cell G10 as #NAME, as shown in the screenshot.   (2)

7.2.4   State ONE possible cause for the error message that displays in cell G14 as #DIV/0!, as shown in the screenshot.   (1)

7.2.5   Name the function that could be used to find the number appearing most often in a column. (1)

7.2.6   The value in cell F8 is calculated by using the formula **=E8*F6**. When this formula is copied down to the rest of the column, error messages and incorrect values appear in column F.

Suggest ONE way of solving this problem. (1)

7.2.7   Which function could be used to work out how many numbers in column C are greater than 15? (1)

7.3   A database table with *ID*, *Term* and *Explanation* columns appears as follows:

ID	Term	Explanation
W1	Windows Server 2003	An operating system for servers
W2	Symbian	An operating system for a mobile device
W3	Android	An operating system for a mobile device
W4	Windows NT server	An operating system for servers
W5	Windows NT workstation	An operating system for workstations
W6	Windows 7	A modern operating system

7.3.1   The field *Explanation* is presently defined as a text field.

Suggest a new data type for the field that would enable the field to accommodate much longer explanations. (1)

7.3.2   What is the most appropriate data type for a field that will contain pictures? (1)

7.3.3   The following query was created on the given data table:

Field:	ID	Term	Explanation
Table:	Table1	Table1	Table1
Sort:			
Show:	☐	☑	☑
Criteria:		Windows*	
or:			

Name the field that will NOT appear in the query results. (1)

7.3.4 Briefly describe the difference in the results produced by each of the following queries:

A

| Explanation |
| Table1 |
| |
| ✔ |
| Like "Internet*" |
| |

B

| Explanation |
| Table1 |
| |
| ✔ |
| Like "*Internet*" |
| |

(2)

7.4 Use the database table below to answer the questions that follow.

	PerID	Surname_Van	Name_Naam	Grade_Graad	Log on	Log off
	1	Poggenpoel	Piet	A	18:00	18:06
	2	Dlamini	Tsebo	A	19:06	19:25
	3	Ali	Muhammed	B	18:00	18:50
✎	4	Basset	Marthy	B	18:00	20:00
	5	Majosi	Boni	B	9:00	12:00
	6	Naidoo	Cindy	A	15:00	12:00
	7					

7.4.1 Only the A and B classes in the grade work at the cyber café.

Suggest a validation rule that would prevent Mr Wu from entering any other letter in the *Grade_Graad* field. (2)

7.4.2 A report is created and grouped first by *Grade_Graad* and then by *Log off*.

Which surname will appear last in the report? (1)

7.5 The following formula was inserted in a query to calculate how long the person has been logged onto the Internet:

Hours:([Log off] – [Log on]) * 24

7.5.1 Name the calculated field created in the query. (1)

7.5.2 What is the purpose of the square brackets, [ ], and the round brackets, ( ), in the formula above? (2)

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TOTAL SECTION B: **130**
GRAND TOTAL: **150**