basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

COMPUTER APPLICATIONS TECHNOLOGY P2

(THEORY)

FEBRUARY/MARCH 2012

MARKS: 150

TIME: 3 hours

This question paper consists of 17 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 device that will allow the image on the computer screen to be displayed in a larger format on a wall or screen	A	YouTube
1.2	A utility program that will reduce the number of unnecessary files on your hard drive to free up disk space	B	keylogger
		C	disk clean-up
1.3	The process whereby documents are temporarily stored on a disk until they can be printed	D	virus
		E	data projector
1.4	A way of verifying that an electronic message or file actually comes from the person who claims to have sent it	F	router
		G	cache memory
1.5	An example of spyware	H	Facebook
1.6	Making use of environmentally friendly practices when using computers	I	upgrade
		J	LIFO principle
1.7	A website used for sharing videos	K	HDMI
1.8	A port used to connect a flash disk to a computer	L	USB
		M	GIGO principle
1.9	The concept that describes the fact that incorrect data input into the computer will lead to incorrect results being produced	N	spooling
		O	disk defragmenter
		P	green computing
1.10	To replace existing software or hardware with a newer version	Q	confirmation code
		R	digital signature

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

QUESTION 2: MULTIPLE-CHOICE QUESTIONS

Various options are given 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 file extensions does NOT belong with the others?

        A   .jpeg
        B   .bmp
        C   .pdf
        D   .gif

2.2   Legal permission granted to an author or creator of material/resources that prevents other people from distributing it is known as …

        A   password protection.
        B   a firewall.
        C   software piracy.
        D   copyright.

2.3   In computer crime, obtaining someone's personal details to impersonate that person, is known as …

        A   identity theft.
        B   spamming.
        C   data theft.
        D   scamming.

2.4   What is the most effective way of changing a printed document into a format that can be edited on the computer?

        A   Use a word processor to retype the document
        B   Scanning the document as an image
        C   Scanning the document and using OCR software
        D   Using a speech-to-text program

2.5   Which ONE of the following programs is needed if a new printer does not automatically install on a computer?

        A   Driver software
        B   Editing software
        C   Firewall software
        D   Utility software

2.6   Which ONE of the following actions should you take to create more storage space on your hard disk?

A   Defragment the disk
B   Clean up the registry
C   Create a backup of recently used files
D   Compress seldom used files

2.7   Which ONE of the following refers to technology that would be useful to have, should you get lost on a road trip?

A   GPRS
B   GPS
C   GAN
D   GNU

2.8   It is becoming more and more difficult to distinguish between different devices because they increasingly offer the same functionality. This trend is known as …

A   confluence.
B   convergence.
C   construction.
D   context.

2.9   Facebook is an example of a social … website.

A   engineering
B   communication
C   networking
D   information

2.10   The digital divide can be reduced by …

A   increasing access to technology for more communities.
B   increasing the use of analogue technology.
C   using more environmentally friendly technology.
D   reducing the amount of information stored on the Internet.   (10 x 1)   **[10]**

TOTAL SECTION A: 20

SECTION B

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

SCENARIO
Ms Khumalo works for a local charity shop. She has asked you, as a Computer Applications Technology (CAT) learner, to assist her with any computer-related problems.

QUESTION 3

The charity shop was given a box containing a number of computer parts and devices, including the following:

- A USB hub
- A UPS
- Some CPUs
- A webcam
- A multifunction printer
- A dot matrix printer
- A digital camera
- Some data storage device
- An LCD screen

3.1   Explain why you want a USB hub if there are already USB ports in the computer.   (1)

3.2   What, in general, are the TWO most crucial components you can upgrade to increase the overall performance of a computer?   (2)

3.3   Explain what the UPS is used for.   (2)

3.4   The charity shop was given some more CPUs.

     3.4.1   What is the general function of the CPU?   (1)

     3.4.2   Explain what should be checked before replacing a faulty CPU with one that the charity shop has been given.   (1)

3.5   Ms Khumalo wishes to use the webcam.

     3.5.1   Discuss TWO different ways in which Ms Khumalo can make use of the webcam.   (2)

     3.5.2   What additional devices would Ms Khumalo need if she wanted to hear sounds linked to the images from the webcam?   (1)

     3.5.3   What is the name given to the type of software needed when you want to have a conversation with someone else via the Internet?   (1)

3.6   Name TWO functions of a multifunction printer besides printing.   (2)

3.7   Ms Khumalo was happy to find a dot matrix printer in the box.

Name ONE application of dot matrix printers that is generally not performed by laser printers or inkjet printers.   (1)

3.8   Printing as little as possible will benefit both Ms Khumalo and the environment.

State TWO ways in which Ms Khumalo can reduce the number of times (how often) she has to print something.   (2)

3.9   The digital camera that Ms Khumalo found in the box had the following specifications:

> - 9 megapixels
> - 10x optical zoom
> - 20x digital zoom
> - 16 GB memory card

3.9.1   Explain the significance of the term *pixel* by explaining how the pixel specification affects the quality of photographs.   (2)

3.9.2   The memory card of the camera has a fairly high storage capacity, but it gets full very quickly.

Explain why this is happening and how it can be prevented without purchasing another memory card or changing it.   (2)

3.9.3   State TWO ways in which the photos on the digital camera can be transferred to the computer.   (2)

3.10   A 512 MB flash disk, 250 GB external hard drive and a CD were found in the box.

Which ONE of these is the most appropriate to create a backup of Ms Khumalo's large collection of data files and programs? Explain your choice.   (2)

3.11   Give ONE reason why LCD screens are considered to be environmentally friendly.   (1)

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QUESTION 4

4.1   Ms Khumalo wishes to upgrade an old computer by installing the latest Windows operating system.

        Give TWO possible reasons why it may not be possible to install or run the new operating system on the old computer.   (2)

4.2   Ms Khumalo cannot decide which operating system she should install on her computer. Linux is an example of a free open-source operating system.

        Other than costs, what is the main difference between *open-source software* and *proprietary software*?   (1)

4.3   Ms Khumalo noticed that the computer displayed a message when it was switched on, asking her if she wanted to boot the computer in safe mode.

        4.3.1   Give ONE reason why this message appeared in the first place.   (1)

        4.3.2   Briefly explain what it means to *boot or start a computer in safe mode* and why one would do so.   (2)

4.4   Explain to Ms Khumalo why she needs other software besides the operating system on her computer. Give an example to support your answer.   (3)

4.5   The learners at the charity shop told Ms Khumalo that she should add passwords to some of her files.

        4.5.1   Give ONE reason why Ms Khumalo might need to add passwords to some of her files.   (1)

        4.5.2   State TWO guidelines Ms Khumalo should consider when setting up a secure password.   (2)

4.6   Ms Khumalo is very worried about virus infections. She has installed an antivirus program on her computer.

        4.6.1   Explain why the antivirus program needs to be updated.   (2)

        4.6.2   The antivirus program displayed a message that a virus was detected and quarantined.

                  Explain what it means when a virus is *quarantined*.   (2)

        4.6.3   Write down the general name for the group of software that viruses, worms and spyware belong to.   (1)

4.7   Users are generally required to accept a license agreement when they install a program.

Name the crime you would be guilty of if you ignore or violate the terms of the license agreement. (1)

4.8   Ms Khumalo has activated the firewall on her computer.

What is the function of the firewall? (2)

4.9   Ms Khumalo is concerned that some of the computers are very slow, even though the hardware is adequate and the computers are virus-free.

What do we call the process whereby we can speed up disk access by rearranging the files on the hard disk of a computer? (1)

4.10   The operating system offers a backup utility program. You always need to make backups of your data files so that you can restore them if necessary.

4.10.1   Give TWO reasons why you might have to restore files from backups. (2)

4.10.2   Name ONE other electronic device containing data/information that should be backed up.

Also give ONE example of the data/information that may be contained on this device. (2)

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QUESTION 5

5.1   Ms Khumalo wishes to set up a network in the charity shop.

     5.1.1   Name TWO devices or hardware she may have to buy to set up a network, besides any computers.   (2)

     5.1.2   Name ONE advantage of using a network.   (1)

     5.1.3   Name ONE advantage of setting up a wireless network (WLAN) in the charity shop.   (1)

5.2   Ms Khumalo considers a peer-to-peer network in the charity shop.

     5.2.1   Name TWO advantages of using a peer-to-peer network.   (2)

     5.2.2   Name ONE disadvantage of using a peer-to-peer network.   (1)

5.3   Give TWO specific reasons why the charity shop would benefit from being connected to the Internet.   (2)

5.4   List THREE communication devices that are commonly used to connect a computer to the Internet.   (3)

5.5   Ms Khumalo has been advised to get a broadband ADSL connection to the Internet.

     5.5.1   Why have many users changed over to a broadband connection to the Internet?   (2)

     5.5.2   Explain what the TWO different speed specifications are that are often given for an ADSL modem or connection.   (2)

     5.5.3   Name TWO monthly expenses or costs that you will have to pay when using an ADSL connection. This excludes any extra cap that you may need to purchase.   (2)

5.6   Ms Khumalo has heard that the new trend of cloud computing means that, amongst other things, you can store your files in the 'cloud' (the Internet).

     Name ONE potential disadvantage of saving copies of your data in the 'cloud'.   (1)

5.7   Ms Khumalo wishes to set up an intranet for the charity shop.

     5.7.1   Name the <u>type</u> of application needed to access an intranet. Specific brand names will not be accepted as answers.   (1)

     5.7.2   Explain how the *intranet* differs from the *Internet*.   (2)

5.8   Ms Khumalo writes a blog on her experiences in the charity shop.

         Define the term *blog*.   (2)

5.9   Someone told Ms Khumalo about the BidorBuy and eBay websites.

         What do we call the type or group of websites that BidorBuy and eBay belong to?   (1)

[25]

QUESTION 6

6.1 Ms Khumalo frequently uses e-mail to communicate. She has received an e-mail that appears to be from her bank, asking for personal details such as her pin and account numbers.

    6.1.1 How should Ms Khumalo react to this e-mail? Motivate your answer by referring to the aim of this e-mail. (2)

    6.1.2 Which type of fraud is this e-mail an example of? (1)

6.2 Explain to Ms Khumalo why she should not write an e-mail using only capital letters. (1)

6.3 State TWO other rules or guidelines one should follow when composing and sending e-mail, besides not writing the e-mail in capital letters. (2)

6.4 Ms Khumalo received an e-mail with an attachment called *Checkthisout.exe*.

    6.4.1 What type of file has an .exe file extension? (1)

    6.4.2 Why would you suggest that Ms Khumalo NOT open the attachment? (1)

6.5 Many of the learners who help out at the charity shop have web-based e-mail accounts.

    Name TWO potential disadvantages of having a web-based e-mail account. (2)

6.6 Some of the learners working at the charity shop communicate via Facebook instead of using e-mail.

    6.6.1 State TWO functions that Facebook offers other than sending messages. (2)

    6.6.2 Suggest TWO ways in which young people can protect themselves when using a website such as Facebook. (2)

6.7 As many learners who work at her shop use MXit, Ms Khumalo wishes to use it to contact them.

    6.7.1 What is the main benefit of Ms Khumalo using MXit rather than sending an SMS to each learner? (1)

    6.7.2 Give ONE reason why it may NOT be a good idea to use MXit instead of SMSs. (1)

6.8 Some schools ban the use of cellphones during the school day because they may cause a disturbance.

Other than the reason above, state ONE instance where it is never appropriate to use cellphones in the school environment. Motivate your answer. (2)

6.9 Ms Khumalo missed a radio broadcast about charities. She has heard that she can get it as a podcast.

Explain what a *podcast* is. (2)

6.10 When Ms Khumalo asked the learners for information, their answer was, 'Google it.'

6.10.1 Explain what the learners meant by 'Google it'. (2)

6.10.2 State TWO criteria which Ms Khumalo should pay attention to, to make sure that the information she finds on the Internet is correct. (2)

6.11 Someone told Ms Khumalo to try and find the information she is looking for in Encarta and on Wikipedia.

6.11.1 Explain what a *wiki* is. (2)

6.11.2 Which ONE of these two sources is likely to be the more reliable source of information in terms of the accuracy of the information?

Briefly explain your answer. (2)

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QUESTION 7

7.1 Below is a menu for the fund-raising dinner to be held by the charity shop. Ms Khumalo used a word processor to create the menu.

MENU:Fund-raising Dinner

Biscuits and Pate
Fruit Cocktail

Beef Stroganoff
Chicken à la King

Carrots
Beans
Choice of Potatoes or Rice

Blue Cheese Salad

Ice Cream and Chocolate Sauce
Banana Custard

The menu can be made much more attractive by changing the font size and type, font colour or font style, such as bold, italics or underline.

Other than the options given above, list THREE other improvements that could be made (besides changes to the actual content) to improve the appearance of the menu. (3)

7.2 Suggest a suitable file format in which the menu can be saved, so that the menu can be viewed and printed, but where no changes to the menu can be made. (1)

7.3 Ms Khumalo needs to write a comprehensive report about the activities and finances of the charity shop.

7.3.1 She wishes to clarify the terms used on each page in her report by adding a short reference and explanation at the bottom of the pages that the terms appear on.

Name the feature of a word processing program that she can use to do this. (1)

7.3.2 Ms Khumalo wants to ensure that all headings and subheadings, as well as any others she will add at a later date, have the same formatting.

What is the most appropriate feature in the word processing program to do the formatting? (1)

7.3.3 Name the feature of the word processing program that will allow you to move directly to a specific place in a document. (1)

7.3.4 Ms Khumalo made a mistake with the name of Mr Wu in her report where she referred to him as Mr Lu. She used the Find and Replace function to correct her error, but now she has words like 'p**wu**g-and-play' instead of 'p**lu**g-and-play' in her document.

Explain how she could have prevented this error. (1)

7.4 Ms Khumalo received a text file listing the names and addresses of various organisations that may donate money to her charity shop.

7.4.1 Other than retyping it, name ONE way of inserting this list into a database program. (1)

7.4.2 Give TWO reasons why a database is better than a spreadsheet to hold the details of the possible donors to the charity shop. (2)

7.5 Study the extract below from the database that Ms Khumalo has created to store the details of the learners who are helping in the shop.

	Name	Surname	Grade	Cell Number	Date Worked
	Mabu	Malatji	12 B	0831234567	2011/01/11
	John	Jacobs	12 C	0724568741	2011/01/12
	Lindi	Kwambule	12 B	0827896541	2011/01/11
	Henry	Bantjies	12 A	0841236547	2011/01/10

7.5.1 Based on the format of the data in the table above, name the data type AND the field size that would be the most appropriate for the *Cell Number* field. (2)

7.5.2 Name the data type used for the *Date Worked* field. (1)

7.5.3 Which feature of the database can be used to make sure that only digits (numbers) are entered into the *Cell Number* field? (1)

7.6   Ms Khumalo created the query below to show all the names of the learners who worked on the public holiday, 27 April, of any year. She used the criterion */04/* in the *Date Worked* field.

Field:	Name	Surname	Grade	Cell Number	Date Worked
Table:	Charity Shop	Charity Shop	Charity Shop	Charity Shop	Charity Shop
Sort:	Ascending ▼				
Show:	☑	☑	☑	☑	☑
Criteria:					Like "*/04/*"
or:					

7.6.1   What does the wild-card character '*' signify in any criteria used in a query?   (1)

7.6.2   Write down the correct criteria for the *Date Worked* field to return the records required.   (1)

7.7   Ms Khumalo created a database report showing the dates on which the learners of each class worked.

7.7.1   She wants to check that she has not left any records out.

Which database function can she use to show the total number of records appearing in the report?   (1)

7.7.2   State specifically in which part of the report she should add this function to show the total number of records appearing in the report.   (1)

7.7.3   Ms Khumalo wants to create a report with records of only Grade 12 learners.

What will she have to do before she can create this report?   (2)

7.7.4   Ms Khumalo has heard about 'grouping' in reports.

Explain what *grouping* means in the context of a database report.   (2)

7.8   The screenshot below shows a spreadsheet, created by Ms Khumalo, of the hours and dates worked by the learners.

	A	B	C
1	Learner Name	Date Worked	Hours Worked
2	Mabu Malatji	2011/01/06	4
3	John Jacobs	2011/01/07	3
4	Lindi Kwambule	2011/01/08	3
5	Henry Bantjies	2011/01/08	4
6	John Jacobs	2011/01/09	2
7	Lindi Kwambule	2011/01/11	2
8	Mabu Malatji	2011/01/12	1
9	Mabu Malatji	2011/01/13	2
10	John Jacobs	2011/01/14	2
11	Henry Bantjies	2011/01/15	2
12	Henry Bantjies	2011/01/16	1

7.8.1   Ms Khumalo wants the background colour of the cells in column C, where the learners have worked for more than three (3) hours, to appear in a different colour to the other cells.

Name the spreadsheet feature she would use to do this.   (1)

7.8.2   Ms Khumalo wishes to calculate the number of hours worked by Mabu Malatji.

One of the learners has suggested the following function:

=COUNTIF(A2:A12,"Mabu Malatji")

Give ONE reason why this function will not return the required result.   (1)

7.8.3   Name the function that can be used to calculate the number of hours that Mabu Malatji worked.   (1)

7.9   Name the feature in the spreadsheet program that guides a user through the process of creating a graph.   (1)

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TOTAL SECTION B: 130
GRAND TOTAL: 150