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# basic education

Department:  
Basic Education  
**REPUBLIC OF SOUTH AFRICA**

## **NATIONAL SENIOR CERTIFICATE**

**GRADE 12**

**COMPUTER APPLICATIONS TECHNOLOGY P2**

**FEBRUARY/MARCH 2014**

**MARKS: 150**

**TIME: 3 hours**

**This question paper consists of 15 pages.**

**INSTRUCTIONS AND INFORMATION**

1. This question paper consists of SECTIONS A and 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. Leave a line after EACH subquestion.
6. Do NOT write in the right-hand margin.
7. In general, a mark is allocated per fact. A 2-mark question would therefore require TWO facts, et cetera.
8. Write neatly and legibly.

**SECTION A****QUESTION 1: MATCHING ITEMS**

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

<b>COLUMN A</b>		<b>COLUMN B</b>	
1.1	A device that can be used to provide power in the event of an electricity failure	A	solid state
		B	portal
1.2	The use of ICT in order to be able to work at home or anywhere away from the main office	C	convergence
		D	file server
1.3	A commonly used portable storage device	E	app
		F	MICR
1.4	Technology that can be used to read hand-drawn objects such as circles and rectangles	G	flash drive
		H	spyware
1.5	A series of actions/keystrokes a user creates and records to automate repetitive tasks in order to save time	I	USB
		J	pop-up
1.6	Small programs, specifically designed for mobile devices, that are usually downloaded from the Internet	K	icon
		L	template
1.7	A website offering a variety of Internet services from a single convenient location	M	router
		N	UPS
1.8	A program that gathers information about a user without his or her knowledge	O	adware
		P	telecommuting
1.9	A device that enables Internet connectivity	Q	SATA
		R	OMR
1.10	The increasing trend of combining different functions and technologies in computers and devices	S	macro

(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 D.

- 2.1 Which ONE of the following is a special kind of computer designed to allow users to write or draw on the screen with a stylus (digital pen)?
- A Tablet
  - B Notebook
  - C Server
  - D Desktop
- (1)
- 2.2 Which ONE of the following components holds data and instructions waiting to be processed and which will be lost when the power is turned off?
- A EEPROM
  - B CPU
  - C RAM
  - D ROM
- (1)
- 2.3 Which ONE of the following refers to a type of website that allows users to work together to create, add, delete or modify the content?
- A Webinar
  - B Wiki
  - C RSS feed
  - D Podcast
- (1)
- 2.4 Encrypted code that is attached to an e-mail message to verify the identity of the sender is called a ...
- A digital certificate.
  - B digital handshake.
  - C digital divide.
  - D digital signature.
- (1)
- 2.5 A fingerprint reader and voice verification system are examples of ... devices.
- A animation
  - B multimedia
  - C biometric
  - D geographic
- (1)

- 2.6 Which ONE of the following statements about cloud storage is NOT true?
- A You cannot save off-site backups of data in the cloud.
  - B You will be able to share files with other users.
  - C You do not have to use storage space on your own computer.
  - D You can access data files from any computer via the Internet. (1)
- 2.7 Which ONE of the following is the general term for computer viruses and worms?
- A Freeware
  - B Spyware
  - C Shareware
  - D Malware (1)
- 2.8 *Bandwidth* refers to ...
- A the amount of data that can be transmitted via a communication channel in a fixed period of time.
  - B a device that streams audio and video from your home to any Internet-connected device.
  - C the amount of data your ISP allows you to download or upload in a month.
  - D a hardware component that enables the exchange of data and information between computers. (1)
- 2.9 Which ONE of the following precautions will prevent eyestrain while working at a computer?
- A Decrease the refresh rate of the monitor.
  - B Use an ergonomically designed keyboard.
  - C Look away from the monitor at regular intervals.
  - D Change the screen orientation to portrait. (1)
- 2.10 Which ONE of the following combinations of spreadsheet functions will enable a user to create a code consisting of the first three letters of a name plus the last two letters of a surname, all displayed in capital letters?
- (i) CONCATENATE, MID, LEN
  - (ii) CONCATENATE, UPPER
  - (iii) UPPER, MID, LEFT
  - (iv) LEFT, RIGHT
- A (ii) and (iii)
  - B (ii) and (iv)
  - C (i) and (iv)
  - D (iii) and (iv) (1)

**[10]****TOTAL SECTION A: 20**

**SECTION B**

The questions that follow are based on the scenario below.

An organisation has donated a building which will be set up as a multimedia centre at your school for learners and members of the community. As a CAT learner, you need to assist Ms Mills in the media centre and offer computer-related advice to members of the community.

**QUESTION 3**

Ms Mills has decided to purchase 20 type-A computers (see below) which will be available for general use and one type-B computer which will be used by facilitators when making presentations.

Study the advertisements below to answer the questions that follow.

COMPUTER A	COMPUTER B
<ul style="list-style-type: none"> <li>• 3-year extended warranty</li> <li>• Core i3-2100 3.1 GHz CPU</li> <li>• 23" Multi-Touch</li> <li>• 4 GB DDR3 RAM</li> <li>• 1 TB 3.5" hard drive</li> <li>• 1 GB nVidia GT525 MB graphics card</li> <li>• Integrated webcam and speakers</li> <li>• Wireless LAN and Bluetooth 3.0</li> <li>• Windows 7 Home Premium 64 bit</li> <li>• Includes wireless keyboard and mouse</li> <li>• DVD writer</li> </ul>	<ul style="list-style-type: none"> <li>• 3-year on-site warranty</li> <li>• Intel Core i7-2637M 1.8 GHz CPU</li> <li>• 13.3" HD (720 p) True Life WLED</li> <li>• 4 GB DDR3 RAM</li> <li>• 256 GB Solid State Drive (SSD)</li> <li>• Intel HD 3000 graphics card</li> <li>• 1.3 MP HD (720p) webcam</li> <li>• Wireless-N LAN and Bluetooth</li> <li>• Windows 7 Professional 64 bit</li> <li>• Internal backlit keyboard</li> </ul>

3.1 Both Computer A and Computer B carry a warranty.

Explain the term *on-site warranty* offered with Computer B. (2)

3.2 Considering that the computers will be bought for general use, which TWO hardware specifications listed in the advertisement above will be the most important in determining the performance of Computer A? (2)

3.3 The advertisements state that Computer A has a 23" Multi-Touch and Computer B has a 13.3" HD (720 p) True Life WLED.

3.3.1 Which hardware device are these specifications referring to? (1)

3.3.2 What does the term *Multi-Touch* refer to in the advertisement for Computer A? (1)

3.3.3 How are the 23" and 13.3" specifications determined? (1)

- 3.4 How can LED technology contribute towards green computing? (1)
- 3.5 Name TWO possible storage devices or mediums not included in the advertisements which could be used to save more than 10 GB of data. (2)
- 3.6 What is the function of a graphics card? (1)
- 3.7 The advertisement for Computer A specifies a webcam.  
Describe THREE uses of a webcam. (3)
- 3.8 Computer A includes a DVD writer.
- 3.8.1 Why would it be better for the learners to use DVDs rather than CDs to store data? (1)
- 3.8.2 Give TWO reasons why Ms Mills should buy a DVD-RW disk rather than a DVD-ROM disk. (2)
- 3.8.3 Give TWO examples of the type of data that software distributors would usually store on DVD-ROMs. (2)
- 3.8.4 Name ONE technology that can etch labels directly onto a specially coated optical disc, instead of using a sticky label. (1)
- 3.9 Both computers have LAN capabilities.
- 3.9.1 Explain what a LAN is. (2)
- 3.9.2 Give an example of a place where a LAN could be set up. (1)
- 3.10 What is the term given to programs such as Windows 7 and Linux that coordinate the activities of hardware devices? (1)
- 3.11 State TWO ways in which a user can reduce the chances of experiencing repetitive strain injuries (RSI). (2)

**[26]**



**QUESTION 4**

The CAT learners are asked to offer advice on hardware- and software-related issues to community members that use the media centre.

- 4.1 Which wireless communication technology is the most commonly used to enable a computer to work with a wireless keyboard and mouse? (1)
- 4.2 A community member wants to run a small business from home and is advised to purchase an entry-level computer.
- 4.2.1 State TWO benefits of purchasing an entry-level computer. (2)
- 4.2.2 State ONE limitation of an entry-level computer by referring to a specific component. (1)
- 4.3 When a community member tries to install an office suite on his new computer, a message to enter the product key appears.
- 4.3.1 Explain what a *product key* is. (2)
- 4.3.2 Give the main reason why software developers make use of product keys. (1)
- 4.4 One of the community members asks questions about disk fragmentation.
- 4.4.1 What effect does disk fragmentation have on a computer? (1)
- 4.4.2 Which utility can be used to solve the problem caused by disk fragmentation? (1)
- 4.5 One of the community members found a shortcut to a web browser on his desktop.
- 4.5.1 Explain what a *shortcut* is. (2)
- 4.5.2 What is the purpose or function of a web browser? (1)
- 4.6 Another community member found a message on her computer screen that a 'non-system disk error' has occurred when she switched on.
- Give ONE reason AND a solution for this problem. (2)
- 4.7 One of the community members suggests that Ms Mills should use open-source software, such as Linux, on the computers.
- 4.7.1 State TWO features of open-source software. (2)
- 4.7.2 State TWO potential disadvantages of using open-source software. (2)

- 4.8 When one of the community members turns off her computer, a message appears instructing her not to shut down as updates are running.
- 4.8.1 Give TWO reasons why updates are necessary. (2)
- 4.8.2 State TWO possible consequences if she switched off the computer while the updates are being installed. (2)
- 4.9 Name TWO general types of system software. Do NOT refer to any brand names in your answer. (2)
- 4.10 Ms Mills notices that learners do not backup their work.
- 4.10.1 What is a *backup file*? (1)
- 4.10.2 State TWO best practices to consider concerning backups. (2)
- [27]**

**QUESTION 5**

The CAT learners are asked to advise community members on networks.

- 5.1 Explain the difference between the terms *Internet* and *world-wide web*. (2)
- 5.2 Name the type of program on the Internet that is used to find websites, web pages, images, maps or information related to a specific topic. Do NOT give brand names or examples as your answer. (1)
- 5.3 State TWO advantages of networking the computers in the media centre. (2)
- 5.4 Name TWO e-communication services which allow communication over the Internet. Do NOT give brand names or examples as your answer. (2)
- 5.5 What type of license is needed to install software on all the computers in the media centre? (1)
- 5.6 What communications device would be needed on each of the computers to access the network, if the computers did not have built-in networking capabilities? (1)
- 5.7 State ONE disadvantage of a wireless network. (1)
- 5.8 An antivirus program identified an infected file on the system and notified the user that the file has been quarantined.
- 5.8.1 Explain the term *quarantine*. (2)
- 5.8.2 Other than buying a new computer or hardware, what would you have to do if the antivirus program could not remove a virus from your computer? (1)
- 5.9 Ms Mills told the learners that all networked and online computer users should make sure that they make use of a firewall.
- Explain what a *firewall* is. (3)
- 5.10 Other than restricting physical access or entry into the media centre, state TWO ways in which Ms Mills could make sure that sensitive information on the network is kept secure. (2)
- 5.11 Ms Mills tells the learners that she found an example of phishing on her computer.
- 5.11.1 Explain the term *phishing*. (3)
- 5.11.2 What should Ms Mills do if she became a victim of a phishing scam? (2)

5.12 Many hearing-impaired users rely on ICT for better communication.

5.12.1 Most e-mail applications alert the user of an incoming e-mail message by making a sound.

What option is available to alert a deaf user of an incoming e-mail message? (1)

5.12.2 Name the type of application that enables a hearing-impaired person to follow a lecture or speech. (1)

5.12.3 How can videos on YouTube be made accessible for deaf users? (1)  
**[26]**

**QUESTION 6**

The learners at the school use the media centre to do their projects.

- 6.1 The media centre will stock many hard copy books as well as e-books.  
Which type of application would you recommend for keeping easily accessible records of these books? Do NOT give any brand names in your answer. (1)
- 6.2 Name ONE device on which you could read an e-book. (1)
- 6.3 Consider the following statement:  
'You cannot always trust information on the web and assume that it is correct and accurate.'  
Give TWO ways in which you can verify the reliability of information found on the Internet. (2)
- 6.4 Teachers complain that many learners plagiarise material from the Internet when doing their projects or PATs.
- 6.4.1 Discuss the term *copyright*. (3)
- 6.4.2 State TWO ways or features of a word processor which learners may use to acknowledge the use of material from the Internet, without being guilty of plagiarism. (2)
- 6.5 The CAT learners have to set up a questionnaire for their PAT.
- 6.5.1 Name a type of document created with a word processor that would allow respondents to answer a questionnaire electronically. (1)
- 6.5.2 Give TWO aspects to consider when setting up a questionnaire that will allow one to collect relevant data that can be analysed. (2)
- 6.6 The school is given a brand new inkjet printer, but when one of the CAT learners connects it to a computer, it will not print.
- 6.6.1 State TWO possible causes of this problem. (2)
- 6.6.2 Give TWO reasons why used ink cartridges should not be thrown into the rubbish bins at school. (2)
- 6.7 Which technology would enable subscribers to a sports publication to receive the latest sports news on their computers, tablets or smartphones? (1)

- 6.8 When one of the learners tries to download information from the Internet, he is prompted to install a plug-in called Adobe Reader.
- 6.8.1 Define a *plug-in*. (1)
- 6.8.2 Name the file type that will be read by Adobe Reader. (1)
- 6.9 Ms Mills keeps a blog and also tweets about the media centre.
- 6.9.1 She would like to inform the community of a presentation taking place at the school.
- Give TWO reasons why it would be better for her to post a message on her blog rather than sending an e-mail message. (2)
- 6.9.2 What is a *microblog*? (1)
- 6.9.3 Name ONE educational use for a blog. (1)
- 6.9.4 Which Internet service would Ms Mills use to send tweets? (1)
- 6.10 The school governing body has asked Ms Mills to investigate marketing the new media centre online.
- Briefly describe how organisations can benefit from marketing their products or services on the Internet. (2)
- [26]**

**QUESTION 7**

The learners and community members who use the media centre often have questions about computers and the applications they are using.

- 7.1 Ms Mills keeps a database of learners that use the media centre. She set up the following database table:

Field name	Description
Surname	Surname of the learner
Name	Name of the learner
Grade	Grade of the learner
User number	Unique number given to the learner
User password	Password assigned to learner
Internet usage	Amount of data used by the learner

- 7.1.1 To which field of the database table would you assign a primary key? (1)

- 7.1.2 What feature of the design view of the database would Ms Mills use to place a combo box in the *Grade* field? (1)

- 7.1.3 Ms Mills created a query to display the names of all the Grade 10 and Grade 11 learners.

This query does not return any names when she uses the criteria 10 AND 11 in the *Grade* field.

- What criteria should Ms Mills rather use for this field? (1)

- 7.1.4 What feature of a database report would Ms Mills use to obtain the Internet usage for each grade? (1)

- 7.1.5 In which section of the report would Ms Mills place a formula to determine the total Internet usage of all the learners? (1)

- 7.1.6 Ms Mills wishes to transfer the data from the database to a spreadsheet.

- Other than using 'copy and paste', which feature of the spreadsheet would she use to perform this action? (1)

- 7.2 What feature of a spreadsheet could Ms Mills use to ensure that other users cannot change formulae in her spreadsheet? (1)

- 7.3 Name ONE way in which Ms Mills can use the computer to find a solution to a problem she has encountered in a spreadsheet application. (1)

- 7.4 What appropriate measure should Ms Mills take when she finds that the word processing application is not responding? (2)

- 7.5 Ms Mills receives an e-mail message warning her of a serious virus and requests her to delete a specific file from the operating system files.

You suspect that the e-mail may be a virus hoax.

- 7.5.1 Give the meaning of the term *virus hoax*. (2)
- 7.5.2 How could she confirm whether this e-mail message is a virus hoax? (1)
- 7.5.3 Briefly describe what is likely to happen if she deletes the file mentioned in the e-mail message. (1)
- 7.5.4 What term is used for unwanted e-mail? (1)

- 7.6 A learner says that his family has a 2 GB cap limit per month on their Internet connection, but that it is reached within the first two weeks of every month.

The family does not download movies. They only send a few e-mails and do some web browsing.

- 7.6.1 Give TWO possible reasons for the cap being reached so soon. (2)
- 7.6.2 How can the family find out how much cap they use per week? (1)

- 7.7 Many learners visit the media centre on a Saturday to play online games.

- 7.7.1 What does it mean to play online computer games? (2)
- 7.7.2 Give TWO possible reasons why learners are allowed to play online computer games at the school only on a Saturday. (2)
- 7.7.3 Some people play computer games for long periods of time. Discuss the negative impact on TWO aspects of these people's lives. (2)
- 7.7.4 Modern treasure hunters use geographical coordinates to locate a hidden item.

Which technology can be used to determine the geographical coordinates?

(1)  
[25]

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