



# education

---

Department:  
Education  
**REPUBLIC OF SOUTH AFRICA**

**NATIONAL  
SENIOR CERTIFICATE**

**GRADE 12**

**COMPUTER APPLICATIONS TECHNOLOGY P2**

**FEBRUARY/MARCH 2010**

**MARKS: 150**

**TIME: 3 hours**

**This question paper consists of 16 pages.**

**INSTRUCTIONS AND INFORMATION**

1. This question paper consists of SECTIONS A and B.
2. Answer ALL the questions.
3. ALL questions should be answered from a computer-based perspective.
4. Start each question on a NEW page.

**SECTION A****QUESTION 1**

Choose the most appropriate 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.

<b>COLUMN A</b>		<b>COLUMN B</b>	
1.1	A feature of a word processing program that can be used to show amendments to a document made by an editor or a reviewer	A	disk clean-up
		B	macro
		C	cap
1.2	Software for creating a document, which when read, does not require the original program in which it was created	D	peer-to-peer
		E	compare
1.3	A utility that re-organises the files on a computer's hard drive, thus speeding up access and performance of the computer	F	limit
		G	template
		H	CCTV
1.4	Type of network suitable for a large company with many branches	I	firewall
1.5	Software that can be downloaded and used for a short time before paying for it	J	client/server
		K	calculator
1.6	Maximum amount of data that a user can transfer on a monthly basis over his/her Internet connection	L	PDF writer
		M	freeware
1.7	Software which can be used to draw up and keep track of the budget for a school library	N	Adobe Reader
		O	disk defragmenter
1.8	Used to monitor the inside of a school library for security reasons	P	track changes/changes
		Q	shareware + beta
1.9	Document that contains a specific layout and content on which you can base your own document	R	spreadsheet
1.10	A system used to monitor and control access to and from the Internet on a computer		

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

**QUESTION 2**

Four 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 would be most suited for creating a library management system?
- A Word processor
  - B Database
  - C Spreadsheet
  - D Presentation program
- 2.2 Which ONE of the following Internet websites does NOT require a password, user name and/or pin code in order to use its functions?
- A Facebook
  - B Internet banking site
  - C Twitter
  - D Wikipedia
- 2.3 Which ONE of the following Internet features allows notifications and feeds of up-to-date information from websites automatically?
- A ADSL
  - B html
  - C https
  - D RSS
- 2.4 Many libraries save money by installing and using inexpensive networked computers known as thin client computers. What main computer part do these thin client computers often NOT have?
- A Motherboard
  - B Hard drive
  - C Power supply
  - D RAM
- 2.5 Which ONE of the following applications is best suited for viewing a YouTube video?
- A Media Player
  - B An MP3 player
  - C Paint
  - D Sound Recorder

- 2.6 Which ONE of the following types of files is likely to contain hyperlinks?
- A .bmp
  - B .exe
  - C .htm
  - D .avi
- 2.7 The librarian wishes to work on her laptop but forgot to bring the mouse to school. What alternative to a mouse is built into a laptop computer?
- A Touch pad
  - B Graphics pad
  - C Stylus
  - D Scanner
- 2.8 The school library promotes green computing. Which ONE of the following is NOT directly associated with green computing?
- A Recycling paper
  - B Sleep mode
  - C Security webcam
  - D Paperless office
- 2.9 Learners save pages from websites. What software is generally used to view a saved web page?
- A Search engine
  - B Operating system
  - C Web browser
  - D Word processor
- 2.10 A learner did a Google web search and found information on a web page. Which ONE of the following would be the best option for the bibliography?
- A Gates, Bill. The future of technology. <http://microsoft.gates.htm>. Accessed 20 October 2009.
  - B Google
  - C Gates, Bill. The future of technology.
  - D <http://microsoft.gates.htm>. Gates, Bill. The future of technology.

(10 x 1) [10]

**TOTAL SECTION A: 20**

**SECTION B**

All your answers must be based on the scenario below.

**SCENARIO**

Your school needs a well-organised and functioning media centre/library. The school library should focus on digital, as well as printed media.

A team of Computer Applications Technology (CAT) learners has been appointed to assist with computerising the media centre/library. The team is required to set up a management system in such a way that:

- books will be catalogued on computer
- books will be issued via the computer system
- records are kept of electronic and print media received or found
- learners in the school will receive information on library skills.

**QUESTION 3**

- 3.1 Name THREE advantages for the learners of the school of computerising the media centre/library. (3)
- 3.2 The library also has an old Pentium 1 computer. Name ONE possible use of this computer instead of simply disposing of it. (1)
- 3.3 Your school management team has agreed to purchase another twenty laptop computers that can be used in a networked environment. After doing research, you suggest that the library consider the specifications of the two laptops below.

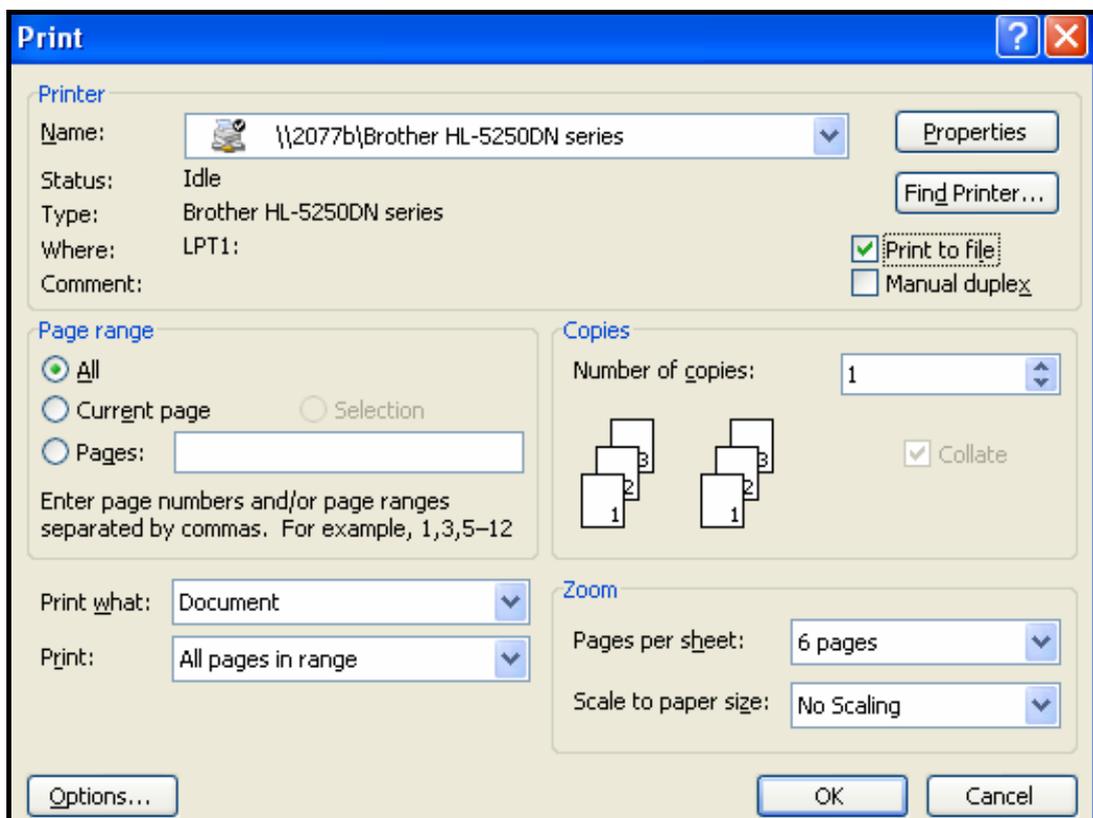
<b>LAPTOP 1</b>	<b>LAPTOP 2</b>
<b>R6 999</b>	<b>R5 999</b>
<b>1.73 GHz DUAL CORE PROCESSOR</b> <ul style="list-style-type: none"> <li>• 2 GB Memory</li> <li>• 120 GB Hard drive</li> <li>• 17" Screen</li> <li>• Dual layer DVD-RW lightscribe</li> <li>• 12 month warranty</li> <li>• Internet access</li> </ul> <p><i>* Free bag, USB hub, and mouse valued at R500</i></p>	<b>1.6 GHz DUAL CORE PROCESSOR</b> <ul style="list-style-type: none"> <li>• 1 GB Memory</li> <li>• 80 GB Hard drive</li> <li>• 15,4" Screen</li> <li>• Dual layer DVD-RW</li> <li>• Vista Home Basic</li> <li>• 56 K Internal modem</li> <li>• Wireless</li> <li>• Internet access</li> <li>• 12 month on-site warranty</li> </ul>

- 3.3.1 Give the speed of the faster CPU. (1)
- 3.3.2 A learner wants to open many windows on his laptop at the same time to compare the information of various on-line encyclopaedias.  
  
Which ONE of these laptops would be most suitable? Motivate your answer by referring to the specifications. (2)
- 3.3.3 Laptop 1 specifies a DVD-RW lightscribe. How will the DVD-RW lightscribe affect the playing of your old CDs on this laptop? Motivate your answer. (2)
- 3.3.4 Give the TWO hardware specifications that refer to ways in which one can connect to the Internet. (2)
- 3.3.5 Which ONE of the specifications from QUESTION 3.3.4 would provide faster Internet access? (1)
- 3.3.6 Explain the 17" specification for Laptop 1. (2)
- 3.3.7 What is meant by an *on-site warranty*? (2)
- 3.3.8 Give ONE reason for wanting to use a USB hub. (1)

3.4 The school management team has agreed to purchase five printers for the library. Consider the three advertisements below.

<b>PRINTER 1</b>	<b>PRINTER 2</b>	<b>PRINTER 3</b>
<b>MULTIFUNCTION INKJET PRINTER</b>	<b>PHOTOSMART PRINTER</b>	<b>LASER PRINTER</b>
<ul style="list-style-type: none"> <li>• Prints up to 22 ppm black and 16 ppm colour</li> <li>• PC free copying</li> <li>• Create brilliant photos with optional 5-colour print</li> <li>• 36-bit colour scanner depth; 12-bit greyscale 4 800 dpi</li> <li>• 12 month guarantee</li> </ul>	<ul style="list-style-type: none"> <li>• Print, copy, scan (flatbed)</li> <li>• USB 3.8 colour graphic display unit</li> <li>• Borderless printer</li> <li>• Smart webprinting</li> <li>• Card slots, 10 x 15 cm snapshots and 12 x 18 cm photos</li> <li>• Windows 2000 (sp3), Windows XP Home, Windows XP Pro, Windows Vista ready, Mac v10.3.9 or higher</li> <li>• 12 month guarantee</li> </ul>	<ul style="list-style-type: none"> <li>• Prints up to 50 ppm</li> <li>• 150 sheet paper tray capacity</li> <li>• Smallest laser-printing system</li> <li>• New chemically prepared toner</li> <li>• Hi-speed USB 2.0 connectivity</li> <li>• 266 MHz processor</li> <li>• 12 month warranty</li> </ul>

- 3.4.1 State which of these printers would allow you to print a photograph right to the edges of the paper. Briefly motivate your answer. (2)
- 3.4.2 Only one advertisement specifies the quality of the prints produced. Give the specification that refers to the print quality. (1)
- 3.4.3 Give the specification that indicates that you can easily print photos from a cellphone or digital camera if you have no cable. (1)
- 3.4.4 Give TWO reasons why there are different operating systems listed for Printer 2. (2)
- 3.4.5 Why is Printer 1 referred to as a multifunction printer? (1)
- 3.4.6 Which advertised printer would be the most suitable for quickly printing a detailed list of all the books in the library? (1)
- 3.5 The librarian needs some advice on whether she/he should use refilled printer cartridges and toner cartridges.
- 3.5.1 Name TWO benefits of using refilled cartridges. (2)
- 3.5.2 Name ONE potential disadvantage of using refilled cartridges. (1)
- 3.6 One of the learners cannot understand why his document is not printing. He shows you the print dialog box below. Identify the problem. (1)

(1)  
[29]

**QUESTION 4**

- 4.1 The computers used for the media centre/library will be linked in a school network. Identify THREE advantages of using the network that relate specifically to this library scenario. (3)
- 4.2 Each team member has a user name and password which allows him or her access to the network. State TWO guidelines for setting up secure passwords. (2)
- 4.3 Describe how you can organise the network so that all learners are able to access a digital encyclopaedia, such as Encarta, at the same time. (1)
- 4.4 The librarian is concerned about virus attacks on the network.
- 4.4.1 List THREE actions the librarian should take to ensure that the anti-virus software remains effective – besides updating the anti-virus program. (3)
- 4.4.2 Briefly explain why the librarian should update the anti-virus program regularly by referring to the way in which anti-virus programs work. (2)
- 4.4.3 Give ONE reason why people write virus programs. (1)
- 4.4.4 Name ONE commonly used anti-virus program. (1)
- 4.5 The library already has a usage policy document in place concerning the use of the computer centre. The librarian now wishes to compile suitable guidelines for the learners using the network. State THREE guidelines to be included in the network user policy. (3)
- 4.6 Your school has forged a link with a rural school that does not have Internet connectivity.
- 4.6.1 You have promised to give them an updated CD every week that will contain interesting web pages found by learners from your school. The CD will also contain a word processing document that will lead them to the web pages/websites saved on the CD.
- Explain how this word processing document should be set up and what it should contain to make access to these web pages easy. (2)
- 4.6.2 Many young people communicate with each other using their cellphones for instant messages (IM).
- Discuss TWO advantages of IM rather than SMSs (short message service). (2)

4.7 A digital camera was used to take a photograph of the CAT learners involved in computerising the library. The photograph was 3 MB in size.

Name TWO ways in which the size of this photograph can be reduced. (2)

4.8 Learners use information from books in the library and also from websites.

Refer to the above statement.

4.8.1 Name TWO advantages of using information from books over using information from websites. (2)

4.8.2 Name TWO advantages of using information from a website over using information from a book. (2)

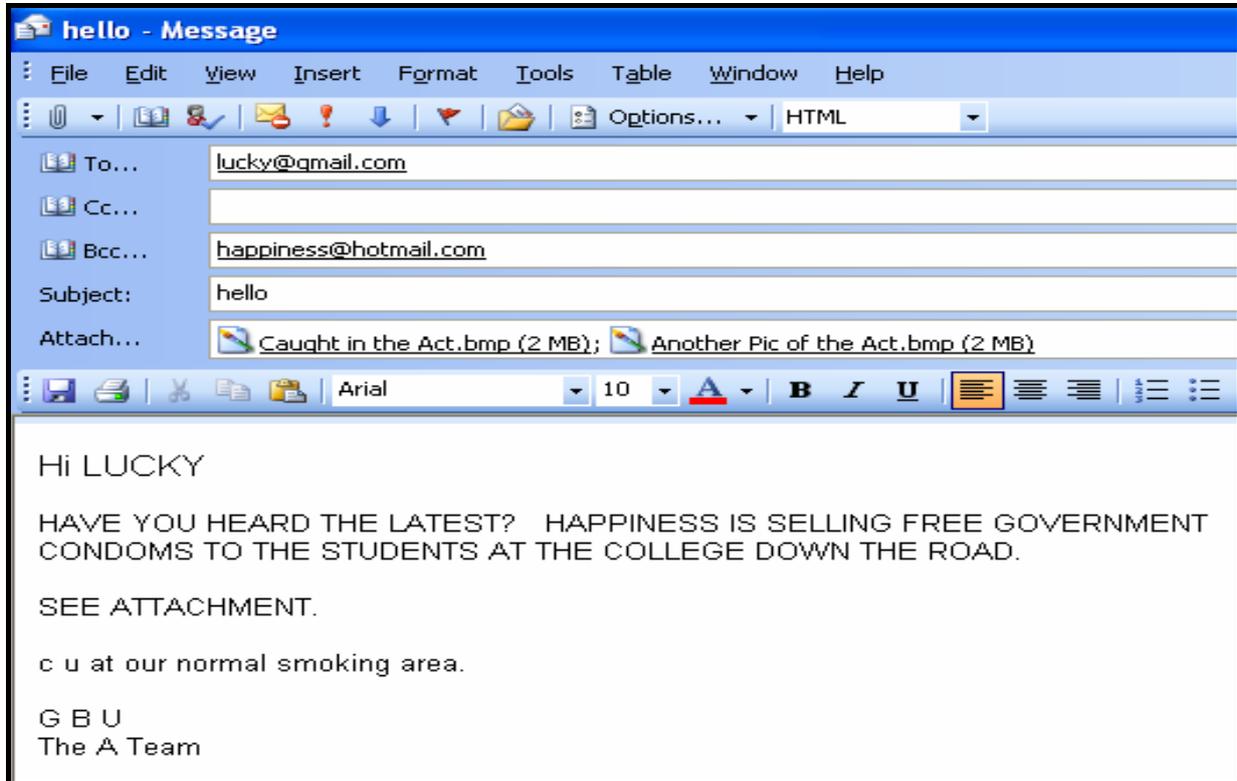
4.9 Discuss TWO ways in which Wikipedia is different from other on-line encyclopaedias. (2)

**[28]**

**QUESTION 5**

- 5.1 Power outages and lightning occur regularly in South Africa.
- 5.1.1 Name the device that would assist in preventing damage to a library *computer system* caused by power outages and lightning. (1)
- 5.1.2 Identify ONE possible type of damage that can be caused by power outages or lightning to the computers in a library *computer system*. (1)
- 5.2 Explain the purpose and advantage of bar codes as part of a library administration system to manage the lending and return process of books in the library. (3)
- 5.3 A summary of media articles should be available to all learners. How would you save the file in a way that data can be viewed but not altered? (1)
- 5.4 The CAT learners offered to capture all the information of the library books and articles. This will require many hours at the computer.
- Suggest TWO health risks associated with the use of computers AND suggest how each of these can be overcome. (4)
- 5.5 One of the CAT learners worked at home and created a brochure on library skills. He brought it to school on a flash disk. The file cannot be opened on the library computers. Give TWO possible reasons for this happening. (2)
- 5.6 Your school library has developed a partnership with a school in England and one in Australia. You mainly communicate via e-mail.
- 5.6.1 Name TWO advantages of e-mail communication. (2)
- 5.6.2 Name TWO disadvantages of e-mail communication. (2)

5.7 The learners are allowed to use the library's e-mail facilities. The A Team sent the following e-mail. Identify TWO netiquette guidelines which have been broken AND give the reason why these guidelines exist.



(4)  
[20]

**QUESTION 6**

- 6.1 Experts have made themselves available on-line to answer questions in 'real-time'.
- 6.1.1 Explain the term *real-time*. (1)
- 6.1.2 Name the hardware device that is essential when using video/web conferencing to connect to an expert. (1)
- 6.2 Explain how you would locate (as quickly as possible) a video on the Internet of a speech of a specific politician. (2)
- 6.3 Learners downloaded information for their school projects. Some lazy learners copied chunks of information from the websites they accessed and did not acknowledge their sources.
- 6.3.1 Give the term to describe what these learners are guilty of. (1)
- 6.3.2 Suggest ONE way in which teachers can check if the work was copied from a website. (1)
- 6.4 One of the learners brought in a licensed graphics program that was bought for home use and asked the librarian to load it on the library computers.
- Explain why this action is not legal. (2)
- 6.5 Learners have been asked to create a pod-cast about global warming.
- 6.5.1 What is a *pod-cast*? (1)
- 6.5.2 Name ONE advantage of pod-casting. (1)
- 6.6 Give TWO reasons why you would prefer ADSL for Internet access in the library. (2)
- 6.7 The school management team has agreed to purchase books over the Internet.
- 6.7.1 Name TWO commonly accessed websites from which books can be purchased. (2)
- 6.7.2 Explain THREE advantages of shopping for books over the Internet. (3)
- 6.7.3 Explain THREE potential disadvantages of shopping for books over the Internet. (3)
- 6.8 The school management team will make their payments on-line.
- Name TWO security features that have been built into Internet banking besides passwords and the use of PIN codes. (2)
- [22]**

**QUESTION 7**

7.1 A program has 'hung' and frozen one of the computers in the library.

7.1.1 What needs to be done immediately to solve this problem, without adding hardware? (1)

7.1.2 The same problem starts appearing with other programs. Assuming it is not caused by a virus, give ONE possible cause for the 'hanging' or freezing of the programs. (1)

7.2 The librarian must ensure that none of the data that is stored electronically will be lost.

Discuss TWO things she should consider or do when drawing up a backup policy or procedure. (2)

7.3 Some of the learners are planning a field trip to a book fair. Below is a spreadsheet of their budget.

	A	B	C	D
1			No of learners	30
2	Field Trip Budget			
3		Per learner	Total cost	
4	Transport	\$100.00	\$3,000.00	
5	Food	\$120.00	\$3,600.00	
6	Accommodation	\$200.00	\$6,000.00	
7	Entrance fees	\$250.00	\$7,500.00	
8				
9	<b>Cost per learner</b>	<b>\$670.00</b>		
10	<b>Overall cost</b>		<b>\$20,100.00</b>	
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				

7.3.1 In the calculation for the **Total cost** for transport, in cell C4, the formula was: =B4\*\$E\$1. The formula was then copied down (Autofill) for the other items.

Name the TWO types of cell references used in the formula and explain the difference between the two. (4)

7.3.2 When the data was formatted for currency, the **\$-sign** appeared instead of the **R-sign**.

Explain TWO ways in which this can be corrected. (2)

7.3.3 The pie chart represents the **breakdown of costs** for each learner for the field trip.

Name THREE items that should be added to the pie chart to make it meaningful and easy to interpret. (3)

7.3.4 Suggest ONE way in which the spreadsheet can be made easier to read and understand. (1)

7.3.5 What electronic device or system would be able to assist the bus driver to physically locate places of interest on their trip? (Do not give a product or brand name.) (1)

7.4 You set up a database of all the books in the library. The **Book\_Table** contains the fields below.

Field name	Description
Barcode number	Bar code number to identify each book
ISBN	ISBN number
Author	Author's name
Title	Title of the book
Year	Year published
Fiction	Fiction or non-fiction
No_of_Copies	Number of copies in stock

7.4.1 Name the field that is the most appropriate to use as the primary key AND state why you have chosen this field. (2)

7.4.2 State the most appropriate data type (besides text) for the **Fiction** field that indicates whether the book is fiction or not. (1)

7.4.3 State the most appropriate data type for the **No\_of\_Copies** field. (1)

7.4.4 Explain the use of an input mask in a database by referring to what you would test for in the **Year** field. The actual mask is not required. (2)

7.4.5 Describe how you could use a database feature to prevent data capturers from entering details of books published before 1990. (2)

7.4.6 What feature of a database report would you use to generate a list to separate the fiction from the non-fiction books? (1)

- 7.5 A second database table contains details of learners and the books they have borrowed. The librarian would like to send letters to all the learners who have books outstanding.
- 7.5.1 Which feature of a database would you use to generate a list of only the learners with books outstanding? (1)
- 7.5.2 Which feature of a word processing program would you use to generate personalised letters to send to each learner with outstanding books? (1)
- 7.6 The team has to report to the school governing body on their progress.
- 7.6.1 As they type, the word processing program automatically changes South African spelling conventions to the US spelling, for example colour to color.
- Name the feature of the word processing program that allows this to happen AND explain how to prevent this from happening. (2)
- 7.6.2 The team wishes to present a professional document.
- Name TWO features of the word processing program that can be used to quickly format various headings throughout the document so that they have the same font size, colour and type. (2)
- 7.6.3 The team prepared a report and used an abbreviation for the school's name in the report.
- Name the word processing function they can use to automatically change the abbreviation to the school's full name throughout the document. (1)
- [31]**
- TOTAL SECTION B: 130**
- GRAND TOTAL: 150**