



NATIONAL SENIOR CERTIFICATE EXAMINATION  
NOVEMBER 2011

**COMPUTER APPLICATIONS TECHNOLOGY: PAPER I**

Time: 3 hours

150 marks

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**PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY**

1. This paper consists of 12 pages. Please check that your question paper is complete.
  2. The paper is divided into Section A (30 marks) and Section B (120 marks).
  3. Answer ALL the questions.
  4. Number your answers exactly as they appear in the question paper.
  5. Non-programmable calculators may be used.
  6. It is in your own interest to write legibly and to present your work neatly.
  7. Read the questions carefully. Take note of the wording of the questions, i.e. explain, name, select, discuss, identify, etc. and then answer accordingly.
  8. Give your answers in general terms. Use brand names only when asked, e.g. use 'word processing' rather than 'Microsoft Word' or 'WordPerfect'.
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**SECTION A**

**QUESTION 1**

1.1 Choose the correct word(s) in Column B which **BEST** completes the statement in Column A. Write down **ONLY** the word of your choice next to each question number.

Column A		Column B	
1.1.1	(a) is a feature in modern operating systems that enables automatic detection and configuration of (b).	Hot plugging hardware devices Plug and Play software	(2)
1.1.2	A (a) gains unauthorised access to a computer or network as a challenge, whereas a (b) gains access for malicious purposes.	keylogger cracker hacker spy	(2)
1.1.3	The maximum amount of data that can be transmitted from one point to another along a communication channel in a given time period is called (a) and is measured in (b).	Mbps broadband kHz bandwidth	(2)
1.1.4	If you type an email message in (a), it shows that you are angry, but when you include a/an (b) like a smiley it denotes a smile, a grin or a joke.	lowercase emoticon uppercase icon	(2)
1.1.5	A (a) is a secure way of connecting to a private (b) from a remote location using the Internet.	Personal Area Network (PAN) Wide Area Network (WAN) Virtual Private Network (VPN) Local Area Network (LAN)	(2)

1.2 In each of the following cases state whether each statement is **TRUE** or **FALSE**. Substantiate your answer by giving an explanation as to why the statement is **TRUE** or **FALSE**.

1.2.1 The *GUI* principle refers to the fact that inaccurate data will produce inaccurate information. (2)

1.2.2 A *GPRS* connection gives you faster access to the Internet than a 3G connection. (2)

1.2.3 A *product key* is a specific software-based key for certain computer programs; it is also used to track the number of installations of the product. (2)

1.2.4 A file that is deleted from the *Recycle Bin* is lost forever. (2)

1.2.5 *Defragmentation* of the hard drive will make more space available. (2)

**[20]**

**QUESTION 2**

Select the **MOST** appropriate answer to each question. Write down **ONLY** the letter of your choice next to each question number.

- 2.1 Not all *Bluetooth* enabled devices are designed to be connected to each other (paired). Which of the following two *Bluetooth* enabled devices will **NOT** be logically paired together?
- A A mobile phone and a wireless headset
  - B A pair of wireless headphones and a laptop computer
  - C A wireless mouse and a wireless keyboard
  - D A computer and a wireless keyboard or mouse (1)
- 2.2 What type of file has a *.mov* extension?
- A sound
  - B picture
  - C graphic
  - D video (1)
- 2.3 The **MAIN** purpose of an external storage device is to ...
- A store information.
  - B store programs and data more permanently.
  - C save time while working on the computer.
  - D make your data more portable. (1)
- 2.4 Ink and colour printer cartridges have a detrimental effect on the environment after they have been used. The most environmentally friendly way to manage this problem is to ... the cartridges.
- A bury
  - B refill
  - C burn
  - D sell (1)
- 2.5 A SPAM email message is ...
- A when you send a large number of emails at the same time.
  - B the same message sent indiscriminately to a large number of recipients.
  - C when you send an email message to over 1 000 recipients.
  - D when the size of the email is over 1 000 kB. (1)
- 2.6 Which **ONE** of the following statements concerning data structures is true?
- A A field consists of a group of related records.
  - B A database consists of the data fields for a single application.
  - C A record consists of a group of related fields.
  - D A field consists of a group of files. (1)

- 2.7 If the following sentence '*It was a nice party*' was typed in a word processing program, which function could you use to find a synonym for the word '*nice*'?
- A Spell check
  - B Look up
  - C Thesaurus
  - D Translate
- (1)
- 2.8 The following is **NOT** a way in which data can be validated in a database.
- A The use of an input mask
  - B Changing the properties of the field length
  - C The use of a default value
  - D The use of a validation rule
- (1)
- 2.9 Which of the following groups of websites are commonly known as *social networking* websites?
- A Facebook; Twitter; Ning
  - B Facebook; YouTube; Picasa
  - C Twitter; Ning; Picasa
  - D Facebook; YouTube; Ning
- (1)
- 2.10 A ... connects two branches of a company in two separate suburbs of the same city.
- A WLAN
  - B MAN
  - C GAN
  - D SAN
- (1)

[10]

30 marks

**SECTION B**

Read through the scenario below. Note that all of the questions in Section B are based on this scenario. **Please relate your answers to the scenario.**

**SCENARIO – THE GEEK GANG**

*The Geek Gang* is a computer support company dedicated to supporting users in homes and small businesses. They have a team of qualified, affordable and friendly technicians who will come to you!

- *Geeks* fix any computer problems
- *Geeks* will help you to solve security issues
- *Geeks* sell new computers
- *Geeks* upgrade computers
- *Geeks* install and maintain networks
- *Geeks* will help you get connected to the Internet

**QUESTION 3**

Zachary Allison is a first year student studying Sound Engineering. He makes use of a computer to manipulate sound files and add audio to video clips. At high school he used an old computer with the following specifications:

- Pentium Celeron 1 GHz
- 40 GB HDD
- 256 MB RAM
- Onboard sound and VGA
- CD-RW/DVD-ROM combo drive

*The Geek Gang* has advised Zachary to either upgrade or buy a new computer.

- 3.1 Explain the term *upgrade*. (1)
- 3.2 List TWO components of Zachary's computer (listed above) that would need to be upgraded **AND** explain how the upgrades will make the computer more powerful. (4)
- 3.3 Discuss any TWO ways of disposing of old components in an environmentally friendly way. (2)
- 3.4 A friend gave Zachary a 120 GB SATA hard disk drive which, after having tried to install it, he finds it does not work in this system. Give TWO possible reasons why the hard drive would not work. (2)

3.5 Zachary's younger sister wants him to buy a new computer so that she can make use of his old system. *The Geek Gang* provides him with the following two adverts:

Desktop system – R 4,999.00	Laptop system – R 4,999.00
 <p>Intel Pentium Core 2 Duo 3.33 GHz                      320 GB Seagate SATA II HDD                      2 GB DDR3 1333 MHz RAM                      512 MB Geforce 9500GT Graphics                      LITEON 24X DVD-Writer                      GIGABYTE GA-G41MT-D3LGA775                      Motherboard                      Windows 7 Home Premium 32-bit                      3 year Carry-in Warranty</p>	 <p>ASUS K Series: K52F SX37OR                      INTEL 2.16 GHz Dual Core                      2 GB DDR3 1066 MHz RAM                      250 GB 5400 RPM HDD                      8X DVD Super Multi-Writer                      Webcam built-in                      Wireless Networking                      Windows 7 Home Basic 64-bit                      1 year Global Collect and Return Warranty</p>

**Figure 1**

Refer to **Figure 1** when answering the following questions:

- 3.5.1 What is the difference between **Core 2 Duo** and **Dual Core**? (2)
- 3.5.2 List **TWO** essential hardware components that need to be added to the desktop system to make it a complete system. (2)
- 3.5.3 One of the features Zachary needs to consider is the number of connection ports available on the system. Provide **TWO** reasons why a *FireWire* port would be an advantage for Zachary in addition to the two USB 2.0 ports. (2)
- 3.5.4 If Zachary and his younger sister would like to network their two computers, how would Zachary achieve this? Refer to *hardware*, *software* and *physical location* in your answer. (3)
- 3.5.5 Discuss the difference between a *Global Collect and Return Warranty* and a *Carry-in Warranty*. (2)
- 3.5.6 Give **ONE** advantage and **ONE** disadvantage for Zachary of using a laptop over a desktop system. (2)

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**QUESTION 4**

*Brett & Sons* is a small accounting business which has hired *The Geek Gang* to set up its small office network.

- 4.1 The owner, Brett Tuttelberg, has been advised to buy an accounting package to keep the accounts of the company. He needs to consider the *minimum* and *recommended hardware and software requirements* of the package, before making a purchase.
- 4.1.1 Name ONE popular accounting package. (1)
- 4.1.2 Give ONE typical software requirement normally specified. (1)
- 4.1.3 What is the difference between *minimum* and *recommended requirements*? (2)
- 4.1.4 When Brett tries to install the program, he is given the option of either a *custom* or a *full installation*. Explain the difference between these TWO options. (4)
- 4.2 Choose the word that **BEST** fits the explanation in each of the following cases:
- 4.2.1 Hardware and/or software that restricts or prevents unwanted access by other computers to a network. (1)
- 4.2.2 A self-replicating program able to copy itself across a network, typically having a detrimental effect. (1)
- 4.2.3 A device that is the central connection point for all the cables and intelligently manages the transfer of data in the network. (1)
- 4.3 Explain the following terms regarding *system software* to Brett:
- 4.3.1 Desktop environment (1)
- 4.3.2 Drop-down menus (1)
- 4.3.3 Utility software (1)
- 4.4 *Brett & Sons* is concerned about virus attacks on the network. They asked *The Geek Gang* for advice on what anti-virus program to purchase.
- 4.4.1 Briefly explain why Brett should update the anti-virus program regularly by referring to the way in which anti-virus programs work. (2)
- 4.4.2 List THREE actions, besides updating, that Brett should take to ensure that the anti-virus software installed on their computers remains effective. (3)
- 4.4.3 Give ONE reason why people write virus programs. (1)
- 4.4.4 Name ONE commonly used anti-virus program. (1)
- [21]**

**QUESTION 5**

*The Java Cafe* business is another customer of *The Geek Gang*. The manager, Katherine Greig, wants help in computerising the coffee shop. She plans to set up an office from where she can run the coffee shop and her catering business. Katherine has an assistant who does all the bookings for catering events and all the financial work. *The Java Cafe* will run basic application packages on the computers.

- 5.1 Discuss the following statements giving at least TWO relevant points in each case:
- 5.1.1 ICT can have a positive impact on the coffee shop and the catering business. (2)
- 5.1.2 The manager and the employees in the coffee shop will need to learn new skills. (2)
- 5.1.3 The manager needs to ensure that information obtained from the Internet is correct and reliable. (2)
- 5.2 The coffee shop would like to design and print their own menus as they make changes to the menu every second month. The manager wants to buy a digital camera to take pictures of each dish on the menu.
- 5.2.1 Discuss any TWO specifications that she must consider when deciding on which digital camera to buy. (2)
- 5.2.2 Name ONE advantage of using a digital camera instead of a normal film camera. (1)
- 5.3 The assistant has printed a pamphlet to advertise the coffee shop. She now wants to edit the document but she cannot find the file. She did, however, put the filename and path in the footer section of the pamphlet and the following appeared:  
*E:\2011\admin\Java.doc*
- 5.3.1 Explain to the assistant where she can find the document by explaining the various parts of the path. (3)
- 5.3.2 Give the name that she used when saving the pamphlet. (1)
- 5.3.3 What type of program did she use to create the pamphlet? (1)
- 5.4 Katherine wants to be able to see the physical activities of the coffee shop from her home. Will this be an invasion of employer privacy? Motivate your answer. (2)
- 5.5 Explain to Katherine how she could use TWO different electronic communication methods to advertise her business. (2)

**[18]**



**QUESTION 6**

*RMA Securities* outsourced their security server to James Rod, a senior technician, of *The Geek Gang*. *RMA Securities* specialises in the protection of information and property from theft, corruption or natural disaster, whilst allowing the information and property to remain accessible and productive to its intended users.

- 6.1 Many companies use RFID access cards to gain access to buildings, use elevators, or even open the doors to special penthouse-type hotel suites.
- 6.1.1 What does the acronym RFID stand for? (1)
- 6.1.2 Briefly describe how RFID technology works. (3)
- 6.2 Discuss TWO physical security measures that *RMA Securities* could implement to secure its servers. (2)
- 6.3 *RMA Securities* network would require strict security in the form of *user names* and *passwords*.
- 6.3.1 Motivate why a network needs both a *user name* and a *password*. (2)
- 6.3.2 Recommend TWO tips that users can follow when creating strong passwords. (2)
- 6.3.3 Why does James force the users to change their passwords every 40 days? (1)
- 6.4 *RMA Securities* has created a *blog*.
- 6.4.1 Explain the concept of a *blog*. (2)
- 6.4.2 List ONE way in which a *blog* can be used by *RMA Securities*. (1)
- 6.5 Provide the brand name of the software packages that would be **BEST** for *RMA Securities* to install to achieve the following. (*You may not use the same package more than once.*)
- 6.5.1 Create a company website (1)
- 6.5.2 Record customer details, extract data and print reports (1)
- 6.5.3 Send and receive emails (1)
- 6.5.4 Create a slideshow to present their business plan (1)
- 6.5.5 Embed a copyright logo in images to be used on a website (1)

**[19]**

**QUESTION 7**

*The Geek Gang* runs a variety of workshops for customers covering some of the problem areas that they might face.

- 7.1 'Booking your next holiday online' Workshop: As the workshop instructor you have set up a tutorial for the participants to plan a holiday snorkeling off the coast of Mozambique.
- 7.1.1 After having the participants simply type in *tours* and finding 227 000 000 websites referring to tours, explain to the participants how they can refine their search so that they get a more accurate result. (2)
- 7.1.2 When browsing the results, one of the customers, Leanne, found a certain site that had 50 000 hits. Explain the term *hits* to Leanne. (1)
- 7.2 'Making the most of your Presentations' Workshop: When connecting a digital projector to a laptop, a presenter has a number of display options to choose from. Briefly describe how these options display the computer images.
- 7.2.1 Projector only (1)
- 7.2.2 Extended desktop (1)
- 7.3 'Spreadsheets for dummies' Workshop: Using a spreadsheet to keep track of your figures.
- 7.3.1 What type of chart would you use to illustrate the way in which petrol prices have changed over the past 12 months? (1)
- R123.56
- Figure 2**
- 7.3.2 Which TWO cell formatting techniques would you use to format the contents of the cell as it appears in **Figure 2**? (2)
- 7.3.3 Explain why =COUNT(A1:A5,9,12) gives an answer of 7 if all five cells from A1 to A5 contain numbers. (2)
- 7.4 'Word processing blues – Creating your Company Report' Workshop:
- 7.4.1 Which word processing technique could this workshop cover so that attendees know what to do if their company director wanted them to change more than 20 occurrences of the director's name 'Andrew Stuart' to 'Mr A. Stuart'? (1)
- 7.4.2 List TWO functions of *footnotes* and *endnotes* in a company report. (2)
- 7.4.3 The course instructor suggests that the company reports be created in *pdf* format. List TWO advantages of creating a *pdf* document. (2)

7.5 *The Geek Gang's* website includes an *RSS feed (Really Simple Syndication)* icon:



**Figure 3**

- 7.5.1 What is an *RSS feed*? (1)
- 7.5.2 Explain how an *RSS feed* works. (3)
- 7.5.3 List ONE benefit that an *RSS feed* will have for *The Geek Gang's* customers. (1)
- [20]**

**QUESTION 8**

*The Geek Gang* provides remote support for all clients. Technicians are able to connect to clients' workstations over the Internet to quickly resolve IT issues; or customers are able to bring their computers into one of the equipped workshops. Gavin Robins is one of the technicians available to help customers.

- 8.1 A customer complains that each time he turns on his computer, he only hears a *'long beeping noise'* and the computer never boots up. Explain to the customer why this is happening **AND** state how Gavin could solve the problem. (2)
- 8.2 A new customer complains that his monitor doesn't display any image. Name **THREE** steps that Gavin could follow to see if the monitor is in working order. (3)
- 8.3 Outline the procedure that a customer needs to follow to terminate the web browser that is not responding. (3)
- 8.4 One of the customers received an error message *'The computer has run out of virtual memory'* after which the computer restarted. What could be the cause of this message? (2)
- 8.5 A customer downloaded an attachment containing a new price list, but the file doesn't open. Discuss **TWO** possible reasons for this error. (2)
- 8.6 A customer can open a spreadsheet file, but she is unable to edit it. Gavin established that the file is *read-only*. How could the file have become *read-only*? (1)
- 8.7 A customer is waiting anxiously at the network printer for her document to print. Explain to her why it may take a while before her document is printed. (2)
- 8.8 When a customer switched on their home computer, it gave them a message that said *'Non System Disk'*, and did not boot any further. Give **THREE** reasons why this message could appear. (3)
- 8.9 A client is trying to burn movie clips, which she downloaded from the Internet to a CD. The program gives the message *'Not enough space available on media'* and then ejects the CD from the drive. Explain **AND** provide a solution to the problem. (2)

**[20]**

<b>120 marks</b>
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**Total: 150 marks**