



Computer Studies SG May Theory Paper 2007

Grade 12

Time: 1 ½ hours

100 marks

Question 1 – 10 marks

Select the one answer to each question which you think is the most correct or the best answer. Just write down the question number and letter.

1. Which one of the following items of hardware is most likely to influence the overall performance of a computer?
 - A. Disk capacity
 - B. Screen size
 - C. Quantity of RAM
 - D. DVD writer
2. Which one of the following functions is NOT provided by an operating system?
 - A. Instructions to coordinate the flow of information between the programs, files, printers, storage devices and other components of your computer system
 - B. Programs for organising files
 - C. Programs that allow you to specify the operation of the mouse
 - D. Spell checker for your documents
3. Which of the following is NOT a function of network administrator?
 - A. To analyse the load on the network.
 - B. To be responsible for the security of the data on the network.
 - C. To install all the cabling on the network.
 - D. To maintain a network database system of users of the network.
4. Processing method that lets it appear as if the operating system carries out more than one task (program) simultaneously while only one processor is concerned.
 - A. Batch processing
 - B. Multiprocessing
 - C. Multitasking
 - D. Real-time processing
5. A channel which allows simultaneous communication in both directions:
 - A. Full-duplex
 - B. Half-duplex
 - C. Simplex
 - D. Synchronous
6. This protocol is responsible for the delivering of e-mail messages from one server to another:
 - A. FTP
 - B. SMTP
 - C. TCP/IP
 - D. Telnet

7. The term cybercrime refers to ...
 - A. any illegal activity involving a computer
 - B. destructive events or pranks
 - C. events that damage computer hardware
 - D. Internet-based illegal acts

8. A program that is used to translate that which is sent, such as a confidential document, into gibberish by applying a certain formula or algorithm:
 - A. Digital certificate
 - B. Digital signature
 - C. Encryption
 - D. SSL

9. The most popular LAN architecture today is ...
 - A. ArcNet
 - B. CSMA/CD
 - C. Ethernet
 - D. Token passing

10. Which one of the following is NOT a crime?
 - A. A game which was bought legally is also installed on a friend's computer.
 - B. A hacker breaks into a system to show his skills, but does no damage to the system.
 - C. Cracker breaks into a system and obtains unauthorised information.
 - D. Shareware is downloaded from the Internet.

[10]

Question 2 – Grouping – 5 marks

Heading	Items
1. Connectivity / Networking	
2. eCommerce	
3. eLearning	
4. Hardware	
5. Software	

Copy the table. Place the following items from A to N in the above table besides the appropriate headings.

- | | |
|--------|--------|
| A. ATM | H. LAN |
| B. CBT | I. OS |
| C. CPU | J. PDA |
| D. DOS | K. RAM |
| E. FAT | L. SMS |
| F. I/O | M. UTP |
| G. ISP | |

[5]

Question 3 - General computer use – 12 marks

1. What benefits do smartcards have for a user? 1
 2. How does a smart card differ from a credit card? 2
 3. Why does e-commerce exclude a large part of the South African community? 2
 4. What are the main areas that the operating system must manage? 3
 5. List four objectives/functions of an operating system. Put another way, what is the purpose of an operating system? 4
- [12]**

Question 4 - The Internet and e-mail – 18 marks

1. How can you check what e-mail you may have sent? 1
 2. In a search for information on computer crime on the Internet you discover the following words. Explain the meaning of each with respect to crime and how you can make sure you are not caught by each of these crimes.
 - a. phishing 2
 - b. spyware 2
 - c. spam 2
 3. How can you make the web browser open at a home page which you set? 2
 4. How can you check what web sites have been viewed on your computer in the last few days? 2
 5. How safe are the contents of an e-mail which you send from being intercepted and read? What can you do about it? 2
 6. There are crimes which can be associated with e-mail. How do you make sure you are not a victim of such crime? 3
 7. How can you set a web page so that you do NOT receive any pornographic material? How do you set it so that no one can alter your choices? 4
- [18]**

Question 5 - Transport and traffic - 30 marks

1. What forms the physical connection of a PC / computer to the network *in an office* such as that in the traffic department in Ottery or Green Point? 1
2. What type of LAN architecture or technology, would they have *in an office* such as that in the traffic department in Ottery or Green Point? 1
3. What kind of LAN would they have *in an office* such as that in the traffic department in Ottery or Green Point – a peer-to-peer or client server? 1
4. How can car retailers made use of the Internet? Explain. 2
5. What type of cable would they use in the traffic department offices in Ottery or Green Point to link the computers *to the local server*? What are the benefits of using that type of cable? 2
6. Describe two areas in the transport industry where smart cards are used. In each case indicate why they are using smart cards and how they are useful. 4

7. The NaTIS is the national register and asset that stores, records, manages and enforces the requirements of the National Road Traffic Act (NRTA) and the National Road Traffic Regulations (NRTR).

It provides for the registration and licensing of vehicles. It manages and records applications for and authorisations of driving and learner's licences. It is a law enforcement tool which is used to ensure that the details of vehicles that are stolen are circulated and to prevent irregular and fraudulent re-registration of such vehicles. It serves as a register for recording the decisions of safety as provided by the South African Bureau of Standards (SABS). This process, where the SABS is linked to the NaTIS, ensures that only vehicles that meet our country's stringent safety standards are allowed to be registered in this country.

<http://www.enatis.com/> 15 May 2007

- a. What is the URL of this computer system? 1
- b. What network topology does this system have or describe the physical layout of this computer network. Why does it have that type and not one of the other types? 2
- c. What is the value of putting all traffic details on a network? 2
- d. How should the data on this system be secured / made safe? 2
- e. This system runs on a network. What is a computer network? 2
- f. Name two advantages for Joe Public of this new system when it is up and functioning properly. 2
- g. With this new system people can pay their traffic fines at an ATM. Explain how this is possible from a networking perspective. 2
- h. Will this system where Joe Public can renew licences, pay fines, etc. via the Internet / ATM be liked by all citizens in South Africa? Answer the question very carefully with reasons. 2
- i. There have been problems with the introduction of this new system. Most of the problems were identified as being with the server. In network terms what is a server? 2
- j. The traffic centres around the country must connect to the NaTIS network server. What type of Internet connection do the traffic centres such as those in Ottery or Green Point, have – dialup, dedicated line or satellite? Give the reason why you selected that one. 2

[30]

Question 6 - Banking – 12 marks

1. Why is it not a good idea to do your Internet banking on a computer in an Internet café? 1
 2. Why did the phishing incidents on banks' websites make such big headlines? What have banks developed against it? 2
 3. Name five ways in which the user can protect himself against corruption on banking websites. 5
 4. Give the URLs of two South African banks. 2
 5. Banks with online banking facilities must take note of the Electronic Communications and Transactions Act (No 25 of 2002). Describe one way in which this act influences what they do? 2
- [12]**

Question 7 – School – 13 marks

1. Would you install a 'Home' or a 'Server' version of an operating system on a computer which the learners use in a computer centre? Substantiate your answer. 2
 2. Discuss the way in which PHS (not CSSG and not CAT) makes use of e-learning by referring to the available technology and programs. 2
 3. Discuss at least three advantages of e-learning for the learner. 3
 4. Name at least three factors that can handicap e-learning. 3
 5. The learners of your school compete in computer games against the learners of a neighbouring school. Explain how this can be done without the learners of both schools being in the same room at the same time. 3
- [13]**