INSTRUCTIONS TO CANDIDATES

1. This paper consists of THREE sections.
2. Answer ALL questions.
SECTION A

MODULE 1: COMPONENTS OF COMPUTER SYSTEMS

Answer ALL questions in this section.

1. (a) What is cache memory? [2 marks]
   (b) Describe the kind of information that is typically stored in ROM in a computer. [2 marks]
   (c) Explain what is meant by memory speed. [2 marks]
   (d) Briefly explain EACH of the following aspects of input/output devices:
       (i) Port connectivity [4 marks]
       (ii) Speed [4 marks]
   Total 10 marks

2. (a) Some memory types are volatile and other types are NOT volatile.
      Explain this statement using ONE example in EACH case. [4 marks]
   (b) Describe TWO access methods that are used to retrieve the data in a hard disk drive. [4 marks]
   (c) Why is it necessary to frequently update anti-virus software? [2 marks]
   Total 10 marks

3. (a) TWO types of processing in computer systems are
       (i) batch [6 marks]
       (ii) online
       Describe EACH of these types of processing, giving an example of an application where EACH can be used.
   (b) Briefly discuss TWO reasons why compression utilities are useful in a computer system. [4 marks]
   Total 10 marks
4. (a) With the aid of a diagram, explain the role of a network interface card in a computer network. [4 marks]

(b) Explain the MAIN function of a modem. [2 marks]

(c) Describe TWO disadvantages of satellites as a transmission medium. [4 marks]

Total 10 marks

5. (a) Explain why a peer-to-peer network is normally considered a special case of a client/server network. [4 marks]

(b) Briefly discuss the following THREE terms that should be considered when developing a computer network:

(i) Network management

(ii) Expandability

(iii) Interconnectivity [6 marks]

Total 10 marks
SECTION B

MODULE 2: APPLICATIONS OF COMPUTERS

Answer ALL questions in this section.

6. (a) What is a data warehouse? [2 marks]

(b) (i) What is telecommuting? [2 marks]

(ii) Describe TWO categories of persons that are likely to benefit from telecommuting. [4 marks]

(iii) Explain ONE advantage of telecommuting to the employer. [2 marks]

Total 10 marks

7. (a) Describe TWO typical components of a Decision Support System (DSS). [4 marks]

(b) Give an example of a decision that a DSS can help make. [2 marks]

(c) Outline TWO requirements for video conferencing other than a computer. [4 marks]

Total 10 marks

8. (a) Explain TWO ways in which an organization may experience data loss. [4 marks]

(b) Monitoring and Control Systems (MCS) are very useful for firms that engage in hazardous activities.

(i) What is a monitoring and control system? [2 marks]

(ii) Describe ONE situation where MCS can be used. [2 marks]

(iii) Describe ONE advantage of using the MCS in the situation you described at 8(b)(ii) above. [2 marks]

Total 10 marks
9. The management of a car assembly plant purchased equipment to automate the assembly process which was formerly done by workers.

(a) Describe THREE advantages that may arise as a result of automation. [6 marks]

(b) Describe TWO disadvantages that may arise as a result of automation. [4 marks]

Total 10 marks

10. (a) Katrina conducted a survey on the average income of households in a certain district. She collected the information and presented it to her manager, who, after looking at the information, said that it lacked relevance, accuracy and timeliness.

Explain EACH of the following terms and for EACH term, give an example of what may have been wrong with her information in the context above.

(i) Relevance

(ii) Accuracy

(iii) Timeliness [9 marks]

(b) State the kinds of decisions that are made at the operational level of an organization. [1 mark]

Total 10 marks
11. (a) Kristina teaches CAPE Computer Science, Mathematics and Spanish at her secondary school. She wishes to use a software tool to maintain records for her class. Her main use of this software tool is to find out information like:

“What mark did the student who got the highest mark in Mathematics make in Computer Science?”

(i) Identify a software tool that best suits her needs. [1 mark]

(ii) State the main feature of the software tool identified in 11 (a)(i) above that she should be interested in. [1 mark]

(iii) How does the software tool identified in 11 (a)(i) above also help to maintain records? [2 marks]

(b) Jackie is a saleswoman at a major car manufacturing company. She has been selling quite a number of cars for the past five years. She is interested in an increase in salary and has decided to convince her manager that her performance is reasonable enough for her to get an increase in wage.

(i) Identify TWO software tools that Jackie can use to convince her manager of her good performance. [2 marks]

(ii) Describe TWO features of EACH tool identified in 11 (b)(i), that would be useful to Jackie in this situation. [4 marks]

Total 10 marks

12. A chicken shortage has caused the price of chicken to increase. Donna has decided to invest in the poultry business thinking that the high chicken prices would bring in a lot of revenue for her.

(a) Describe THREE sources of information that she should have consulted before making her decision. [6 marks]

(b) Choose ONE information source identified in 12 (a) above and discuss ONE advantage and ONE disadvantage of using that source for the required information. [4 marks]

Total 10 marks
13. Karissa has to do a research project on the causes of cancer in adults 35 years and older. She has decided to check the Internet for the required information.

Discuss FIVE reasons why the information that Karissa gets from the Internet may not be accurate.

Total 10 marks

14. Your school intends to publish a school magazine and has asked you to assist in its design. Since you learnt a lot about software tools in both CSEC Information Technology and CAPE Computer science, you decide to use a software tool to do the job.

(a) Identify a software tool that can best suit your needs. [1 mark]

(b) Explain THREE features of the software tool that would help you to design an outstanding school magazine. [6 marks]

(c) Describe ONE other feature of the software tool, besides those listed in 14 (b) above, that would generally be useful for the school magazine project. [3 marks]

Total 10 marks

15. You are about to purchase a health book on the Internet. The book is available on a DVD-ROM with added materials or as a printed book only.

(a) Suggest TWO advantages of the printed copy of the text. [4 marks]

(b) Describe ONE advantage of the DVD-ROM version of the text. [2 marks]

(c) Describe ONE additional feature that could be included on the DVD-ROM besides the text itself that would benefit the buyer. [2 marks]

(d) Describe ONE additional feature that could be included on the DVD-ROM besides the text itself that would benefit the publisher of the DVD-ROM (publisher of the text). [2 marks]

Total 10 marks

END OF TEST