

FORM TP 2006239

TEST CODE 02129020

MAY/JUNE 2006

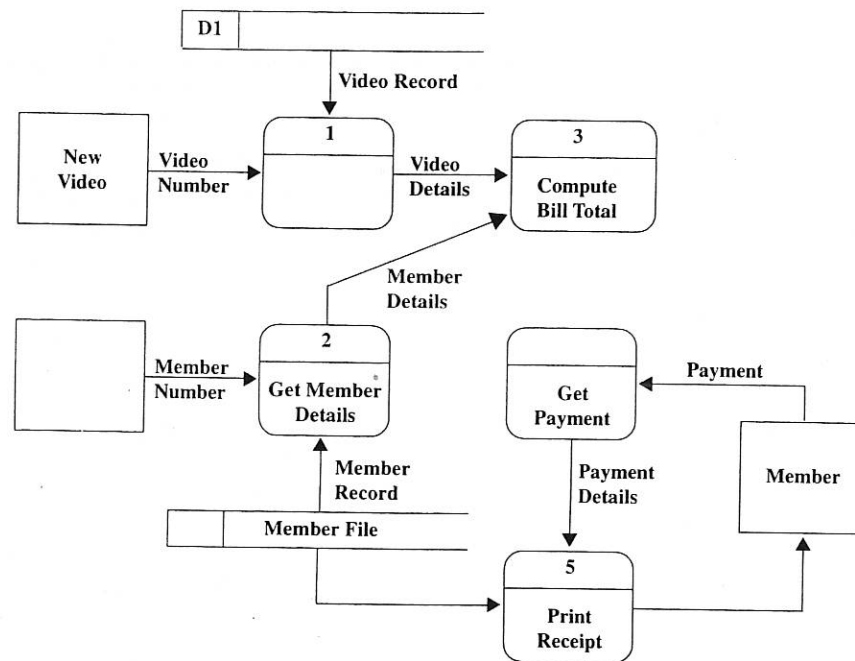
CARIBBEAN EXAMINATIONS COUNCIL
ADVANCED PROFICIENCY EXAMINATION

INFORMATION TECHNOLOGY

PAPER 02

Answer Sheet for Question 1 (c) (ii)

Candidate's No: _____



ATTACH THIS ANSWER SHEET TO YOUR ANSWER BOOKLET

FORM TP 2006240



TEST CODE 02129032

MAY/JUNE 2006

CARIBBEAN EXAMINATIONS COUNCIL
ADVANCED PROFICIENCY EXAMINATION

INFORMATION TECHNOLOGY

PAPER 03/2

1½ hours

17 MAY 2006 (p.m.)

INSTRUCTIONS TO CANDIDATES

This paper consists of **THREE** questions.

Answer **ALL** questions.

SECTION III

INFORMATION AND COMMUNICATION SKILLS

Answer ONE question from this section.

5. A sixth form student did a study on the dangers the Internet posed to teenagers. He entered his research paper in a national competition and won the first prize for his age group category. The sponsors of the competition wish to share the findings with the public.
- (a) Identify SIX information sources that the sponsors may use to publicize the student's research findings. **[6 marks]**
- (b) Explain clearly at least SIX steps that could be used to create, publish and maintain the document on the Internet. The steps should be outlined in a systematic approach. **[12 marks]**
- (c) The sponsors reported that they have received telephone calls and E-mail messages from persons who visited their website to view the document. Visitors have reported several error messages, three of which are stated below. Examine EACH message by describing the underlying problem and proposing a solution for the problem.
- (i) The requested URL was not found on this server.
- (ii) Not authorised to view this page.
- (iii) The page cannot be displayed. **[12 marks]**

Total 30 marks

6. (a) (i) What is meant by the term 'characteristics of information'? **[2 marks]**
- (ii) Discuss, using appropriate examples, FOUR consequences that a firm may experience if it fails to consider the characteristics of information. **[16 marks]**
- (b) Examine the following statements. For EACH statement, critically evaluate the information paying careful attention to the information source from which the statement was extracted.
- (i) "The source of information is as important as the information itself."
This statement was extracted from an organisation's website.
- (ii) "High levels of debt can depress economic growth in low-income countries, but only after it reaches a certain threshold."
Extracted from an article in Finance and Development, December 2004, Volume 41, Number 4. A Quarterly publication of the International Monetary Fund (IMF).
- (iii) "A total of 110 new cases of HIV/AIDS were reported in Clarendon for 2004, bringing the number of reported cases in that parish to 700," said Dr Sonia Copeland, Medical Officer of Health at the Clarendon Health Department.

[12 marks]

Total 30 marks

END OF TEST

- (i) There are several errors. Identify SIX errors. [6 marks]

An answer sheet is provided for this part of the question.

- (ii) On the Answer Sheet provided, show the correction for EACH error identified in (b) (i). [6 marks]

- (d) Identify and briefly describe, THREE telecommunications concerns that management must consider before establishing a network for its branches. [12 marks]

Total 30 marks

2. Information technology influences our lives in many ways. Respond to items (a) – (c) in this context.

- (a) A well-known software developer discovered that a small store owner was making and selling copies of his software. The developer reported the matter to the police and the store owner was arrested.

- (i) Discuss the possible law that the store owner violated in this case. [6 marks]

- (ii) What are TWO benefits of this law to the software developer? [4 marks]

- (b) Examine THREE concerns that managers may have when their organizations rely solely on information technologies. [12 marks]

- (c) For TWO of the concerns noted in (b), describe a strategy that may reduce the concern. [8 marks]

Total 30 marks

SECTION II

INFORMATION PROCESSING AND PRESENTATION

Answer ONE question from this section.

3. Two teachers decided to use desktop software packages for maintaining the records of the marks of students in their classes. All students did the same ten subjects. Students obtained marks from either class assignments or examinations. It is expected that, in subsequent years, the data will be passed to other teachers of these students. One teacher opted to use a spreadsheet package and the other teacher, a database management system (DBMS).

- (a) Identify FOUR similarities between the spreadsheet package and the database package. [4 marks]

- (b) Examine TWO advantages and TWO disadvantages of the spreadsheet package when compared with the DBMS package. [16 marks]

- (c) Design an input screen for the DBMS that the teacher could use to enter the marks of students either from a class assignment or an examination. [4 marks]

- (d) Propose TWO validation checks that could be used to minimise potential data entry errors for the input screen in (c). [6 marks]

Total 30 marks

4. Hundreds of software tools are available to people to assist them in solving real-life problems.

- (a) State SIX considerations which a person should examine in selecting an appropriate tool for a given task. [6 marks]

- (b) Explain clearly how any FOUR considerations stated in (a) above may assist a person in the choice of tool for a given task. [12 marks]

- (c) Describe TWO types of user interfaces, showing how EACH type of user interface guides and directs users in the appropriate use of a tool. [6 marks]

- (d) Examine the following tasks. Select the MOST appropriate tool to use and give a reason for your choice.

- (i) To immediately see the impact on the net profit/loss in the Profit and Loss statement by making adjustments to certain figures such as Sales, Cost of Goods or Wages.

- (ii) To incorporate a sound track and a 30-second video clip in the promotion of a new software product to a group of sales persons. [6 marks]

Total 30 marks



**CARIBBEAN EXAMINATIONS COUNCIL
ADVANCED PROFICIENCY EXAMINATION**

INFORMATION TECHNOLOGY

PAPER 02

1½ hours

17 MAY 2006 (p.m.)

INSTRUCTIONS TO CANDIDATES

This paper consists of **THREE** sections.

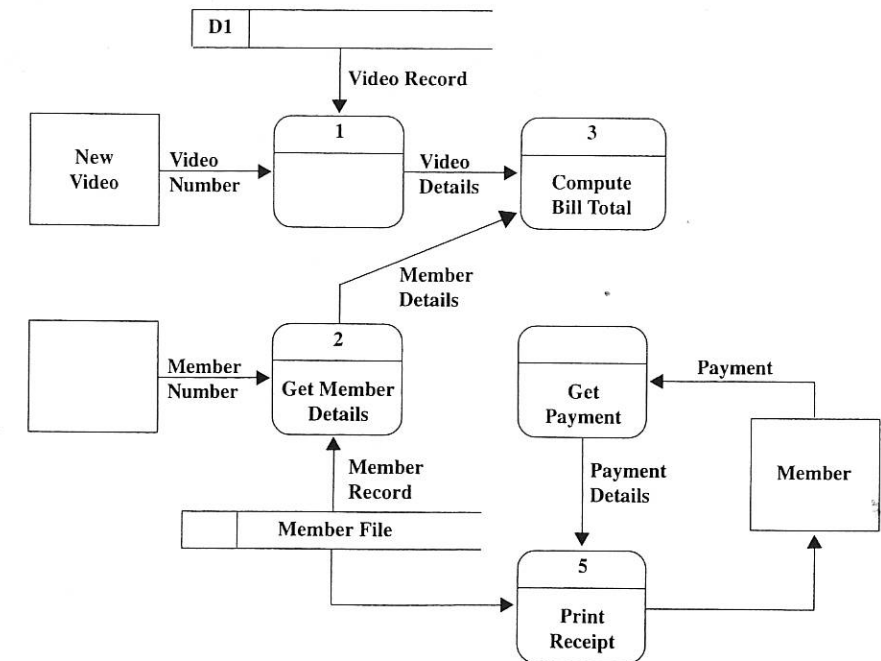
Answer **ONE** question from **EACH** section.

SECTION I

INFORMATION SYSTEMS

Answer **ONE** question from this section.

1. ABC Inc. is a company with many branches across the country. A few branches are located in hilly terrain. Management decided to implement several computerised information systems at its headquarters and indicated that each branch should have the necessary access to these information systems.
 - (a) What is the role of the users in the software engineering process for this project?
[2 marks]
 - (b) One of the most critical information systems has to be built by a software company. As the VP (Vice President) for Information Technology, identify **FOUR** stages of the software engineering process that you must insist are done for this information system to be successful.
[4 marks]
 - (c) You have received the following data flow diagram from the software developer.



9. The manager of a small company must decide whether to send a file to a customer in text file or rich text format.

- (a) State what is meant by the terms:
- (i) 'Text file format' [2 marks]
 - (ii) 'Rich text format' [2 marks]
- (b) (i) Discuss TWO advantages of sending the file in rich text format when compared with sending the file in text file format. [4 marks]
- (ii) Discuss TWO disadvantages of sending the file in rich text format when compared with sending the file in text file format. [4 marks]

Total 10 marks

10. Explain EACH of the following in relation to database management systems, highlighting what it is and its purpose.

- (a) Normalisation
- (b) Validation check
- (c) Record
- (d) Form
- (e) Default value

Total 10 marks

SECTION III

INFORMATION AND COMMUNICATION SKILLS

Answer ALL questions in this section.

11. (a) What is an information source? [2 marks]
- (b) Identify TWO information sources. [2 marks]
- (c) State ONE advantage and ONE disadvantage of EACH of the information sources you identified in 11 (b) [6 marks]

Total 10 marks

12. (a) What is meant by 'interactive online services'? [2 marks]
- (b) Describe TWO interactive online services. [4 marks]
- (c) Discuss TWO benefits of using interactive online services. [4 marks]

Total 10 marks

13. Explain the main function of EACH of the following:

- (a) Web page
- (b) URL
- (c) Virtual Private Network (VPN)
- (d) Modem
- (e) Search engine

Total 10 marks

SECTION II

INFORMATION PROCESSING AND PRESENTATION

Answer ALL questions in this section.

6. Software packages are used to help improve efficiency within an organization.
- (a) Explain the purpose of the following software packages giving ONE example of EACH package.
- software development packages
 - financial packages
 - presentation packages. [6 marks]
- (b) (i) Discuss ONE advantage of a desktop publishing package when compared with a word processing package. [2 marks]
- (ii) Discuss ONE disadvantage of a desktop publishing package when compared with a word processing package. [2 marks]

Total 10 marks

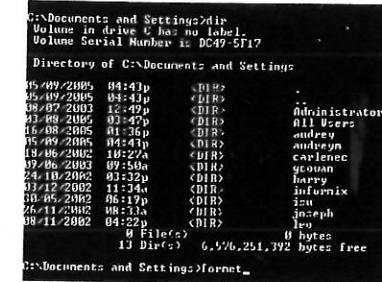
7. A government department on a Caribbean island has collected extensive data on economic trends in the country for the past 10 years.
- (a) Identify TWO productivity software tools which can be used by the government department to process the data. [2 marks]
- (b) For ONE of the productivity software tools identified in 7 (a), explain why it is used. [4 marks]
- (c) Describe TWO formats that the government department can use to present the data to senior management. [4 marks]

Total 10 marks

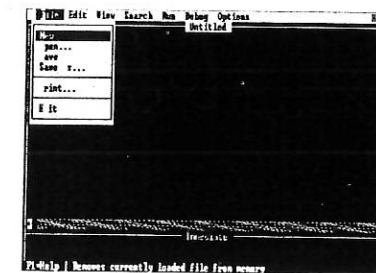
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8. (a) What is meant by 'user interface'?

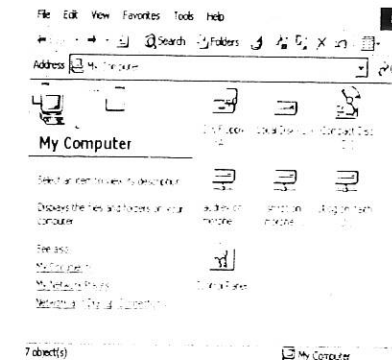
[3 marks]



(i)



(ii)



(iii)

- (b) Identify the type of user interface in EACH of the diagrams above. [3 marks]
- (c) Discuss TWO of the user interfaces identified in 8 (b). [4 marks]

Total 10 marks

GO ON TO THE NEXT PAGE

SECTION I

INFORMATION SYSTEMS

Answer ALL questions in this section.

1. (a) Identify THREE types of computers. [3 marks]
- (b) For TWO types of computers identified in 1 (a), state a task for which EACH type of computer is MOST appropriate. [4 marks]
- (c) Using ONE type of computer you identified in 1 (b) above, give ONE reason why it is MOST suited for the task you described. [3 marks]

Total 10 marks

2. Mr Frank Anthony, principal at a prominent high school, is notified by the Education Ministry that it will provide funds to assist in the setting up of a computer network. Mr Anthony is aware that there are several physical layouts (topologies) that could be used for the network.

- (a) Define the term 'computer network'. [2 marks]
- (b) Describe ONE topology, other than the bus topology, that Mr Anthony can use for the computer network, highlighting its primary advantage OR disadvantage. [4 marks]
- (c) Draw a labelled diagram of the topology discussed in 2 (b). [4 marks]

Total 10 marks

3. (a) List THREE input devices. [3 marks]
- (b) For EACH device listed in 3 (a), name the data type that the device primarily captures. [3 marks]
- (c) For TWO of the devices listed in 3 (a), describe ONE task for which EACH device can be used. [4 marks]

Total 10 marks

4. (a) Explain what is meant by the term 'system software'. [2 marks]
- (b) Identify TWO types of system software. [2 marks]
- (c) Examine TWO implications for a business organisation when its system software is changed frequently. [6 marks]

Total 10 marks

5. Current information processing systems are equipped with wireless communications technology.

- (a) What is meant by "wireless communications technology"? [2 marks]
- (b) Identify TWO types of wireless communications technology. [2 marks]
- (c) Examine TWO benefits of wireless communications technology to a business entity. [6 marks]

Total 10 marks

Answer ALL questions.

1. With reference to a specific emerging technology that you have studied, answer the following questions.
 - (a) Describe the technology showing why it is considered to be an emerging technology. [5 marks]
 - (b) Discuss ONE MAIN intended purpose of the technology. [5 marks]
 - (c) Discuss ONE potential benefit and ONE potential drawback of the technology. [10 marks]

Total 20 marks
2. You wish to collect data about the emerging technology to determine how it may be used in your locality.
 - (a)
 - (i) What type of data can be collected to make this determination? [2 marks]
 - (ii) Justify your selection of the type of data in (a) (i) relative to the objective. [2 marks]
 - (b) Discuss TWO data collection methods and TWO storage methods that can be used for collecting and storing data.
(Be sure to consider validation and verification issues in your response) [8 marks]
 - (c) How would you analyse the data to determine the usefulness of the emerging technology. [8 marks]

Total 20 marks
3. You wish to share the result of your work (question 2) with a selected group of persons.
 - (a) Identify TWO IT tools that can be used to present data to a selected group of persons. [2 marks]
 - (b) Describe how you would use THREE features of one of the tools identified in (a) to present materials to the group. [12 marks]
 - (c) Discuss TWO possible problems that could be encountered using the tool identified in (b). [6 marks]

Total 20 marks

END OF TEST

FORM TP 2007227



TEST CODE **02129010**

MAY/JUNE 2007

CARIBBEAN EXAMINATIONS COUNCIL
ADVANCED PROFICIENCY EXAMINATION

INFORMATION TECHNOLOGY

PAPER 01

2½ hours

16 MAY 2007 (a.m.)

INSTRUCTIONS TO CANDIDATES

This paper consists of **THREE** sections.

Answer **ALL** questions.

SECTION III

INFORMATION AND COMMUNICATION SKILLS

Answer ALL questions in this section.

11. Often when confronted with a problem, a person begins to think of procedures to follow to solve the problem rather than determine the information that is required to solve the problem. Information is critical to problem solving. Information may be categorised as desirable, extraneous or cosmetic, and essential.

(a) What is meant by 'information is essential'? [2 marks]

(b) A farmer wishes to get rid of a pest that is affecting his livelihood. Suggest FOUR pieces of information that will help to get rid of the pest before it causes severe damage. [4 marks]

(c) The government wishes to build a health care facility accessible to the majority of citizens. For any TWO of the following pieces of information, choose the category to which EACH belongs. Give a reason to justify your choice.

(i) The district with the HIGHEST population density.

(ii) The majority of health care professionals are female.

(iii) Approximately 50% of the population have NOT been immunised for hepatitis B. [4 marks]

Total 10 marks

12. Information may be of little value if it does not flow through channels in a suitable form for the individual who needs it. These channels may be equipment, people or procedures.

(a) Information may be described as being structured, semi-structured and unstructured.

Explain what is meant by any TWO of these, giving an example of EACH.

[4 marks]

(b) Discuss TWO advantages and ONE disadvantage of using a book as an information source when compared with a person. [6 marks]

Total 10 marks

13. Before using information, it is necessary to critique the information and its source for authenticity.

(a) What are FOUR criteria that may be used to assess information from a given source? [4 marks]

(b) Show how you would assess the information described below.

(i) A report on the war in Iraq taken from a newspaper website on the Internet.

(ii) Statistics for the FIFA 2002 World Cup. [6 marks]

Total 10 marks

14. Many companies have launched websites so as to attract new customers as well as to sell products and offer new services.

(a) Explain the following:

(i) Hyperlinks

(ii) Uniform Resource Locator. [4 marks]

(b) Identify TWO languages that may be used in constructing web pages. [2 marks]

(c) Distinguish between the two tools identified in (b). [4 marks]

Total 10 marks

15. The computer is an information technology tool that may be used to communicate information to remote sites.

(a) What other TWO hardware tools could be used to communicate information to remote sites? [2 marks]

(b) What TWO software tools, other than E-mail, could be used to communicate information to remote sites? [2 marks]

(c) Discuss ONE advantage and ONE disadvantage of ONE of the tools in (a) when compared with the computer for a homeowner. [6 marks]

Total 10 marks

END OF TEST

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SECTION I
INFORMATION SYSTEMS

Answer ALL questions in this section.

1. Most persons use the terms 'data' and 'information' interchangeably. However, in the context of Information Technology, there are differences.

- (a) Explain what is meant by EACH term ensuring that the differences are **clearly** evident. [4 marks]
- (b) Identify FOUR sub-processes in information processing. [4 marks]
- (c) Distinguish between 'manual information processing' and 'automated information processing'. [2 marks]

Total 10 marks

2. In the management of business, computers play an increasingly important role.

- (a) State FOUR reasons why companies have used Information Technology other than for the storing and retrieval of large volumes of data. [4 marks]
- (b) Rapid obsolescence is one of the concerns associated with the use of Information Technology. Discuss TWO other problems that companies could consider when introducing computers into their organisations. [6 marks]

Total 10 marks

3. Hardware can be categorised according to the five basic operations of a computer system: input, processing, output, storage and communication.

- (a) What is 'hardware'? [2 marks]
- (b) Give ONE example EACH of a device that performs each of any THREE of the operations listed above. [3 marks]
- (c) To which category of the five operations does primary memory belong? Justify your response. [3 marks]
- (d) Use a block diagram to illustrate the relationship that exists between processing hardware and storage hardware. [2 marks]

Total 10 marks

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4. (a) The E-mail system is easily replacing some functions of the post office system. There are functions, however, that the E-mail system cannot easily duplicate. Identify TWO tasks or situations that current E-mail systems cannot easily replace in the post office. [2 marks]

- (b) For EACH task or situation given in (a) discuss ONE reason for the difficulty. [4 marks]

- (c) Given the rapid development in technology, suggest, with justification, a method that can be used to overcome any of the difficulties in (a). [4 marks]

Total 10 marks

5. Information systems are categorised according to the level of employees within the organisation for which they have been developed. Two such information systems are Management Information Systems (MIS) and Transaction Processing Systems (TPS).

- (a) State the organisational level that uses EACH information system named above. [2 marks]

- (b) Describe EACH information system in such a way that **clearly** distinguishes one information system from the other. [6 marks]

- (c) Examine the characteristics of the information systems below and then state the type of information system to which EACH belongs.

- (i) The system solves unstructured problems. Inputs into the system may consist of summarised data, processed transactions from other systems and data that are internal and external to the organisation. The outputs are flexible, ad hoc reports.
- (ii) The system simulates the reasoning process of human experts. Consists of a set of well-defined rules. Makes reasonable guesses and deductions. Explains how conclusions are reached. [2 marks]

Total 10 marks

GO ON TO THE NEXT PAGE

Answer ALL the questions.

1. With reference to a specific emerging hardware or software technology that you have studied, answer the following questions.
- (a) State **clearly** why this particular technology is considered an emerging technology. [3 marks]
- (b) Discuss **FOUR** features of the technology. [8 marks]
- (c) (i) Identify a comparable (existing) technology. [1 mark]
- (ii) Give **THREE** reasons to justify the identification of this technology as a comparable (existing) technology. [6 marks]
- (d) Discuss **THREE** ways that the emerging technology may impact society. [12 marks]

Total 30 marks

2. Private tertiary institutions in our Caribbean Region face many competitive forces in today's global market. The challenges of globalisation often motivate organizations to develop solutions and to use Information Technology tools that are uniquely capable of assisting the solution process.

- (a) (i) Briefly discuss **ONE** general problem that may affect educational institutions. [3 marks]
- (ii) For the problem identified in (a), write a statement that can be the basis for developing a solution. [3 marks]
- (b) Develop a method for collecting information to help solve the problem. Use the following headings to outline the data collection method.
- Identification of tools or packages and features
 - Methods – forms, validation and verification techniques
 - Justification – tools or packages and data collection methods selected [9 marks]
- (c) Describe how the data may be analysed. Use the following headings to explain how the data would be analysed.
- Tools or packages selected
 - Data handling techniques
 - Justification – tools and packages and data handling techniques [9 marks]
- (d) Describe how the data/information may be presented. Use the following headings to explain how the data/information would be presented.
- Tools or packages selected
 - Justification – tools and packages selected [6 marks]

Total 30 marks

FORM TP 2006238



TEST CODE **02129010**

MAY/JUNE 2006

CARIBBEAN EXAMINATIONS COUNCIL
ADVANCED PROFICIENCY EXAMINATION

INFORMATION TECHNOLOGY

PAPER 01

2½ hours

17 MAY 2006 (a.m.)

INSTRUCTIONS TO CANDIDATES

This paper consists of **THREE** sections.

Answer **ALL** questions.

6. The Board of a multinational organization proposes to build a new factory in one of the Caribbean countries. The proposal must be approved by shareholders. The following extract was part of a document in the package sent to shareholders two weeks before the annual general meeting.

"The country is a democracy with a stable political and economic climate. The government recently announced a generous tax incentive programme to attract foreign investments. Wages are competitive with those in Asian countries. The country enjoys a Mediterranean climate. It has several first class hotels and white sand beaches. Its people are very warm and friendly. The Board is seeking your approval to build a factory on this Caribbean island next year."

- (a) (i) From the extract, identify TWO essential and TWO cosmetic pieces of information.
[4 marks]
- (ii) Explain why EACH piece of information given in 6(a)(i) is essential or cosmetic.
[8 marks]
- (b) (i) Based on the proposal, suggest THREE pieces of information that the Board should have included in the document.
[3 marks]
- (ii) Select TWO pieces of information suggested in 6(b)(i) and explain why EACH should be included.
[6 marks]
- (c) Discuss THREE possible negative consequences of using only the information presented by the Board to make a decision to build a factory.
[9 marks]

Total 30 marks

END OF TEST

FORM TP 2005235



TEST CODE 02129032

MAY/JUNE 2005

**CARIBBEAN EXAMINATIONS COUNCIL
ADVANCED PROFICIENCY EXAMINATION**

INFORMATION TECHNOLOGY

PAPER 03/2

1½ hours

18 MAY 2005 (p.m.)

INSTRUCTIONS TO CANDIDATES

This paper consists of TWO questions.

Answer ALL questions.

4. Items (a) – (d) are based on the information given in the following spreadsheet.

	A	B	C	D	E	F	G	H	I
1	ABC ACADEMY								
2									
3	Results of Information Technology Examination 2004 - 2005								
4									
5									
6		Paper 01		Paper 02		Internal Assessment			
7	Name	Raw Score (150)	Scaled Score (50)	Raw Score (90)	Scaled Score (30)	Raw Score (60)	Scaled Score (20)	Total Score	Grade
8	Abel, T	83		59		45			
9	Anderson, C	100		78		52			
10	Batson, A	74		50		36			
11	Bird, L	112		85		57			
12	Brown, J	48	16	37		22			
13	...	...	...	...	...	...	...	...	...
14	...	...	...	...	...	...	...	...	...
15	...	...	...	...	...	...	...	...	...

The spreadsheet above is used to calculate the grades for an IT examination consisting of three papers. Paper 01 is marked out of 150 and scaled down to 50, (for example, a raw score of 48/150 for J. Brown would produce a scaled score of 16). Paper 02 is marked out of 90 and scaled to 30. The Internal Assessment is marked out of 60 and scaled to 20. No decimal places are allowed. The total score is out of 100, the sum of the scaled scores.

Grades are awarded as follows:

- A = Total score of 75 and more
 B = Total score of 50 – 74
 C = Total score under 50

Forty students did the examination.

- (a) Explain why a teacher might use a spreadsheet for such an application. [6 marks]
- (b) (i) For student Abel, T, define the formula required for calculating the scaled score for Paper 01 and total score. Give an indication of the cell locations for your formulae. [4 marks]
- (ii) Suggest a formula and its location, required to generate Abel's grade. Justify your response. [4 marks]
- (c) Other than keying in the formulae for each student, explain how you could use the formulae for Abel to calculate the total score and grade for the other students. [4 marks]

- (d) The teacher wishes to know the number of students receiving each grade.
- (i) Suggest a built-in function that you could use. Justify your response. [4 marks]
- (ii) Explain how you would modify the spreadsheet to generate and present this information. Give an indication for the cell locations for this information. [8 marks]

Total 30 marks

SECTION III

INFORMATION AND COMMUNICATIONS SKILLS

Answer ONE question from this section.

5. A firm uses the Internet to facilitate its business activities. Lately, the firm has become very concerned regarding the many problems associated with the use of the Internet. Management has decided to restrict Internet access to employees.
- (a) Explain FOUR benefits that the firm may have derived from the use of the Internet as a communications medium. [12 marks]
- (b) Using examples, describe THREE current Internet information-related problems that may have influenced management's decision to restrict access. [12 marks]
- (c) In light of the problems described in 5(b), discuss another information technology tool that the company could use as a communications medium. You are required to examine the implication of using this alternate tool to the organisation. [6 marks]

Total 30 marks

SECTION II

INFORMATION PROCESSING AND PRESENTATION

Answer ONE question from this section.

3. A local school football league has twelve teams. Details of the teams and players are to be held on a database system.

Requirements for Database System

For each player, the league secretary wishes to record on the database system the following:

*Name
Address
Telephone number
Date of birth
School.*

For each school, the secretary wishes to record on the database system the following:

*Name of coach and contact details
Number of games played by team, so far for this season
Number of games won, drawn and lost.*

*In addition, the secretary wishes to use the database system to input a team name to display the following data on the screen: **

*Name of coach
Coach's telephone number
Names of players
Number of games won, drawn and lost.*

- (a) Each player must complete a registration form at the beginning of each season. The secretary will enter the data from these forms into the database system.

Design the registration form that can be used by each player.

[5 marks]

- (b) You are requested to develop a database system consisting of PLAYER and SCHOOL tables.

- (i) Using the outline below, create a suitable SCHOOL table to hold all the details of the teams.

Data Name	Data Type	Length	Validation	Required (Y/N)

[9 marks]

- (ii) In creating the PLAYER table, explain what should be done so that the secretary can obtain the desired information on the screen.

[4 marks]

- (c) A friend proposed the use of a spreadsheet package instead of the database system to store the details of the teams and players.

Discuss THREE advantages in using the database package rather than the spreadsheet.

[12 marks]

Total 30 marks

SECTION I

INFORMATION SYSTEMS

Answer ALL questions in this section.

1. A large chemical plant is computer-controlled. The computer operator initiates the automated process as well as enters commands to override the process when the need arises.
- (a) (i) State THREE output devices that can be used to present different types of information to the operator. [3 marks]
- (ii) Discuss ONE advantage of ONE of the devices named in 1 (a)(i), when compared with other devices. [3 marks]
- (b) For TWO of the devices identified in 1 (a)(i), using examples, describe the type of information for which EACH would be used. [4 marks]
- Total 10 marks**
2. Many users of electronic mail are faced with the danger of computer viruses.
- (a) What is a computer virus? [3 marks]
- (b) Suggest TWO ways, other than by electronic mail, by which viruses may be passed on. [2 marks]
- (c) Discuss ONE approach in which viruses can be checked and removed. [5 marks]
- Total 10 marks**
3. A publisher of textbooks has several offices within the Caribbean region. Many of the employees edit the books and communicate with the authors. It was decided that these employees should work from home rather than in the offices.
- (a) Suggest ONE technology that the publisher can use, that will allow the employees to work from home. [1 mark]
- (b) List FIVE hardware and software items that the employees would require if they are able to work from home and communicate with their offices. [5 marks]

- (c) The employees will need training to allow them to use the technology you identified at 3 (a) properly.

Discuss TWO advantages in producing a computer-based training package, for use at home rather than arranging a training course for the employees in the offices. [4 marks]

Total 10 marks

4. MYCIN is an 'expert system' used by doctors in the treatment of infectious diseases.
- (a) Explain what is meant by the term 'expert system' as it applies to MYCIN. [4 marks]
- (b) Discuss TWO ways that the 'expert system' can be useful to doctors. [6 marks]
- Total 10 marks**
5. ABC Limited uses a computer system to store all its data. The decision was made to replace the present system with new hardware and software.
- (a) State FOUR reasons why the company may have chosen to change its system. [4 marks]
- (b) Discuss TWO problems that may arise when the changeover from the present system occurs. [4 marks]
- (c) Explain how ONE of the problems identified in 5 (b) may be overcome. [2 marks]
- Total 10 marks**

SECTION II

INFORMATION PROCESSING AND PRESENTATION

Answer ALL questions in this section.

6. A spreadsheet package is one of today's popular software tools.
- (a) Explain THREE purposes of a spreadsheet package. [6 marks]
- (b) In which major category of software does the package in 6 (a) belong? Give THREE reasons to justify your response. [4 marks]

Total 10 marks

7. A systems analyst was asked to develop and implement a computer system for a large retail company.
- (a) State THREE stages of the problem-solving process which the analyst should complete before implementing a computer system. [3 marks]
 - (b) Give THREE reasons why an analyst ought to complete the stages identified at 7 (a) before implementing any computer system. [3 marks]
 - (c) When the system is delivered, it is expected to produce reports for different users, including the top management of the company.
Discuss ONE level of presentation of information that the system should generate. [4 marks]
- Total 10 marks**

8. A community in a large city has a citizens' association. The association wishes to keep members informed about all its activities and programmes through financial statements, newsletters and flyers. It has been decided to invest in a stand-alone computer system.
- (a) State TWO software packages that the association would need, giving a reason for EACH of your choices. [4 marks]
 - (b) To assist with the presentation of information during meetings, a multimedia presentation package was purchased.
 - (i) List THREE functions of the software that the association would find useful at meetings. [3 marks]
 - (ii) Discuss ONE advantage of using the package for meetings. [3 marks]
- Total 10 marks**

9. The principal of a high school, was asked by the board, to analyse students' performance in the CXC examinations for the past 10 years and to present findings, in print, at the next meeting.
- (a) Identify a software package that would be the MOST appropriate for formatting this information. [1 mark]
 - (b) Suggest THREE appropriate formats in which the findings could be presented to the board. [3 marks]
 - (c) Discuss ONE advantage of EACH format identified in 9 (b). [6 marks]
- Total 10 marks**

10. Mr Jones, the secretary of a sports club, kept the names and contact details of members in a notebook. He would add new members at the bottom of the list, or remove a name when a member left the club. He was not happy with this arrangement because names were not in alphabetical sequence, and he would take a long time to find a particular name. He was able to cope because he had been doing this for several years and could rely on his memory. However, he lost the notebook and had to collect all the data again. He has requested your assistance in finding a solution in organising this data using a software tool.
- (a) Name ONE software tool that you would use to develop a solution for Mr Jones' problem. [1 mark]
 - (b) Describe THREE features of the software tool that would be beneficial in the context of this application. [6 marks]
 - (c) After you handed over the solution to Mr Jones, he decided to track additional pieces of information for each member.
Explain how you would modify the solution to add the new information. [3 marks]
- Total 10 marks**

SECTION III

INFORMATION AND COMMUNICATIONS SKILLS

Answer ALL questions in this section.

11. Distinguish between EACH of the following pairs of terms that are related to Internet technologies.
- (a) HTML and URL [2 marks]
 - (b) Web page authoring tool and Web browser [2 marks]
 - (c) Web site and Home page [2 marks]
 - (d) Logon name and E-mail address [2 marks]
 - (e) Inbox and Attachment. [2 marks]
- Total 10 marks**

12. Good communication of information is one of the most important assets of an organization.
- (a) Identify FOUR characteristics of information. [4 marks]
 - (b) For TWO of the characteristics identified in 12 (a), show, using examples, how EACH is important in decision making. [6 marks]
- Total 10 marks
13. The Harrigan Enterprise is interested in establishing a tutoring centre dedicated to teaching persons how to use the computer.
- (a) Identify TWO pieces of information that the firm may need to help determine the feasibility of starting the centre. [2 marks]
 - (b) State, with reasons, TWO information sources from which the information identified in 13 (a) can be collected. [4 marks]
 - (c) For EACH information source stated in 13 (b), discuss ONE possible problem that may be encountered with the information source. [4 marks]
- Total 10 marks
14. (a) Describe a hypothetical or real situation in a hospital setting where EACH of the following tools can be used to access or receive information located at remote sites.
- (i) Computer
 - (ii) Telephone
 - (iii) Fax
- [6 marks]
- (b) Discuss TWO problems that might be related to using ANY ONE of the tools in 14 (a). [4 marks]
- Total 10 marks
15. The general manager of a regional organization is trying to encourage the use of e-mail for both internal and external communications.
- (a) List FOUR functions that the e-mail service should provide. [4 marks]
 - (b) What are THREE advantages of using e-mail in an organization? [6 marks]
- Total 10 marks

END OF TEST

FORM TP 2005234



TEST CODE **02129020**

MAY/JUNE 2005

**CARIBBEAN EXAMINATIONS COUNCIL
ADVANCED PROFICIENCY EXAMINATION**

INFORMATION TECHNOLOGY

PAPER 02

1½ hours

18 MAY 2005 (p.m.)

INSTRUCTIONS TO CANDIDATES

This paper consists of THREE sections.

Answer ONE question from EACH section.

SECTION I
INFORMATION SYSTEMS

Answer ONE question from this section.

1. ABC Inc. is a company that places temporary employees (TEMPS) in organizations for short periods of time. These TEMPS have a high degree of proficiency in working with computer software such as word processing and spreadsheets. The major activities of the system described below will allow ABC Inc. to match TEMPS with short-term openings that are available.
- Organizations telephone the company requesting TEMPS to fill specific positions. These requests update the Request file. If the organization requesting a temporary employee is not on the Employer file, a record is created for the entity.
 - A TEMP is selected to fill the temporary position based on qualifications and availability. The Employee and Request files are used to identify the suitable candidate.
 - A contract is sent to the selected candidate. Information is printed from the Employee, Request and Employer files.
 - The returned contract is used to update the Employee and Request files.
 - Notification is sent back to the organization that requested the TEMP to confirm the date and qualifications, as well as name.
- (a) What is a data flow diagram? **[3 marks]**
- (b) Explain the following terms:
- (i) External entity
 - (ii) Data store. **[5 marks]**
- (c) ABC Inc. wishes to develop a system based on the activities outlined above.
- (i) Identify FIVE major processes that will allow the system to work. Give a reason to justify EACH process that is identified. **[10 marks]**
 - (ii) Draw a data flow diagram of the system. **[12 marks]**

Total 30 marks

2. Information technology does not only provide individuals and organizations with ways to work, study and play, it also presents them with a stream of ethical and legal issues.
- (a) Explain what is meant by:
- (i) Privacy
 - (ii) Proprietary software. **[6 marks]**
- (b) Suggest TWO reasons why a company might wish to read its employees e-mail messages or monitor their use of the Internet. **[6 marks]**
- (c) Persons have committed illegal acts *against* computers and they have *used* computers to accomplish illegal acts.
- (i) Using examples, discuss FOUR computer related crimes. **[12 marks]**
 - (ii) Explain what safeguard can be taken to deal with TWO crimes you discussed in 2 (c) (i). **[6 marks]**

Total 30 marks