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CARIBBEAN EXAMINATIONS COUNCIL

SECONDARY EDUCATION CERTIFICATE EXAMINATION

INFORMATION TECHNOLOGY

Paper 01 – General and Technical Proficiencies

THEORY

1 1/2 hours

29 MAY 2008 (p.m.)

INSTRUCTIONS TO CANDIDATES

1. **This paper has four sections.**

   SECTIONS *ONE* AND *TWO* ARE TO BE DONE BY *ALL* CANDIDATES.

   ***TECHNICAL PROFICIENCY* CANDIDATES MUST DO SECTIONS ONE, TWO, AND *THREE*.**

   ***GENERAL PROFICIENCY* CANDIDATES MUST DO SECTIONS ONE, TWO, AND *FOUR*.**

2. **Number EACH answer correctly in the answer booklet.**

3. **You may write Basic or Pascal (or any other language) code in those questions requiring pseudocode/algorithm.**

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SECTIONS I and II

TECHNICAL AND GENERAL PROFICIENCIES

ANSWER ALL QUESTIONS.

SECTION I – 30 marks

1. Use the figures A to D to answer the questions below.



Figure A

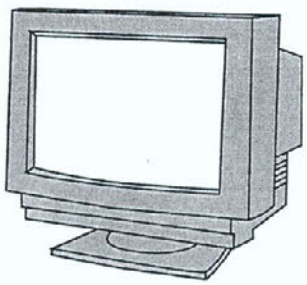


Figure B



Figure C

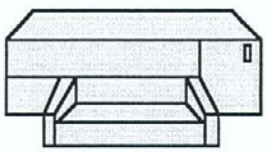


Figure D

(a) Write the terms Figure A to D on your paper. Then classify EACH figure, as an input, output or storage device. **(4 marks)**

(b) Give the names of the devices labelled

(i) Figure A

(ii) Figure B

(iii) Figure C

(iv) Figure D **(2 marks)**

Total 6 marks

2. (a) Explain how a general-purpose application package is different from a specialized application package. **(2 marks)**

(b) Write the numbers 1 to 4 in your answer booklet. Match the number for the application in Table 1 with the letter for the type of software in Table 2 that BEST describes that application.

Table 1

	Application
1	AutoCad for Draftsmen
2	LittleRed Pizza Delivery System
3	MS Word
4	Linux

Table 2

	Types
A	Custom-written software
B	Operating system software
C	Specialized software package
D	General purpose software

(4 marks)

Total 6 marks

3. You are the technician in an office complex. You are called because an employee who has a colour inkjet printer has tried repeatedly to print a document that has both text (in black) and a chart (in colour). The chart prints in colour, but the text prints faded in some places and appears in streaks in other parts of the document.

(a) Give TWO possible reasons why this might have happened. **(2 marks)**

(b) After this problem is fixed the employee calls again to say that the printer does not print on a multi-part form.

(i) Give the reason for the printer not printing on the second sheet of the form. **(1 mark)**

(ii) What kind of printer would have been more appropriate for this task? **(1 mark)**

(c) You ask the employee to provide you with a hardcopy and a softcopy of the document she is trying to print. She is not sure what you mean. Explain the terms 'hardcopy' and 'softcopy'. **(2 marks)**

Total 6 marks

4. The following is a directory listing using MSDOS.

```
C:\ExamFile\Questions>dir
 Volume in drive C has no label.
 Volume Serial Number is 0000-33D7

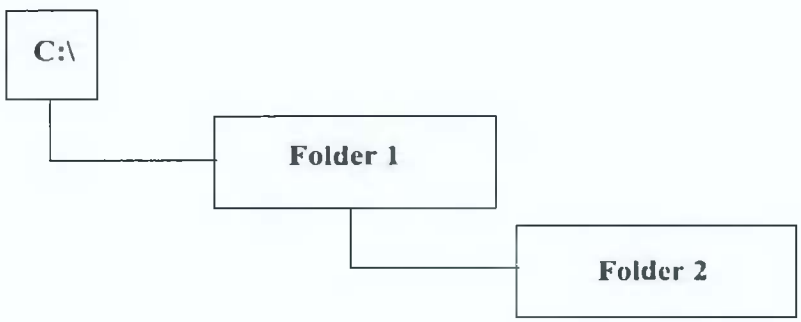
 Directory of C:\ExamFile\Questions

11/23/2006  02:33 AM    <DIR>          .
11/23/2006  02:33 AM    <DIR>          ..
11/21/2006  08:45 AM            27,648 Paper1.doc
11/22/2006  09:37 PM            30,720 Paper2.doc
               2 File(s)         58,368 bytes
               2 Dir(s)     177,446,912 bytes free

C:\ExamFile\Questions>
```

(a) State the type of user interface that is illustrated in the MSDOS printout above.
(1 mark)

(b) The diagram below illustrates the directories or folders from the above listing. State the names of Folder 1 and Folder 2.



(2 marks)

(c) Name the directory or folder whose contents are being listed. **(1 mark)**

(d) What is the TOTAL size of files in the "***Questions***" directory? **(1 mark)**

(e) How many files would you have in the Questions directory if you copied both Paper1.doc and Paper2.doc files to a new subdirectory "***Section1***"? **(1 mark)**

(f) How many files would you have in the Questions directory if you moved both Paper1.doc and Paper2.doc files to a new subdirectory "***Section1***"? **(1 mark)**

Total 7 marks

GO ON TO THE NEXT PAGE

5. Every month, a utility company takes readings from the meters of homeowners. The company then processes all readings to calculate every homeowner's monthly bill, prints the bills and posts them.

(a) State the name given to the type of processing that allows multiple tasks to be processed as a group. **(1 mark)**

(b) Give ONE benefit of this type of processing. **(2 marks)**

(c) Give ONE problem with this type of processing. **(1 mark)**

(d) State whether this type of processing by the company is similar to simplex, half-duplex or full-duplex transmission. **(1 mark)**

Total 5 marks

SECTION II – 30 marks

6. Computer-related crimes are on the rise. One form of computer-related crime is electronic eavesdropping.

(a) Explain the term 'electronic eavesdropping'. **(2 marks)**

(b) You go to great lengths to secure a word document that you want to share *only* with persons in your department. This document can be edited by persons in your department.

(i) Identify ONE physical access restriction that would help to ensure that ONLY authorized members in the department have access to important computer equipment. **(1 mark)**

(ii) Identify ONE security measure that would ensure that ONLY authorized members in the department have access to the word document. **(1 mark)**

(iii) Explain why a sharing restriction can be useful when one person is accessing the word document. **(2 marks)**

Total 6 marks

7. Consider the use of teleconferencing and telemarketing in a business.

(a) State ONE similarity between the two. **(1 mark)**

(b) State ONE difference between the two. **(1 mark)**

(c) Explain how telecommuting is different from both teleconferencing and telemarketing. **(1 mark)**

Table 3 shows a list of acronyms labelled P to R and Table 4 shows a list of functions for the acronyms labelled 1 to 3.

Table 3

Acronym	
P	CADD
Q	CAE
R	CAM

Table 4

Functions	
1.	Assists in data analysis
2.	Aids in the precision of product manufacturing
3.	Creates three-dimensional drawings

(d) Write the letters P, Q and R in your answer booklet. Match the letter with the number of the correct definition from Table 4. **(3 marks)**

Total 6 marks

8. I use my credit card to order a flat screen TV from *www.mydeals.com*.

- Within a day, an email arrives asking that I verify the order.
- A day later, I am sent another verification email which asks that I submit the last four digits of the credit card I used in my order.
- Five days later I receive the product I ordered.

(a) Give ONE reason why the company would ask me to verify the order within the first day. **(1 mark)**

(b) Give ONE reason why the company would send an email asking me to re-submit the last four digits of my credit card. **(1 mark)**

(c) Give TWO reasons why this action qualifies as an e-commerce activity. **(2 marks)**

(d) Three departments are involved in the successful completion of the order process. If the Dispatch Department is responsible for product delivery, then state the departments that are responsible for requesting credit card verification and verifying the order. **(2 marks)**

Total 6 marks

GO ON TO THE NEXT PAGE

9. Consider the following URL:

http://www.youthalive.org/index.html

(a) What part of this address would be considered the website? **(1 mark)**

(b) What part of the address would be the webpage? **(1 mark)**

(c) What does the abbreviation 'html' represent? **(1 mark)**

(d) What is meant by 'http'? **(1 mark)**

(e) What is a 'URL'? **(1 mark)**

(f) Create a URL for a company called Rising Sun. **(1 mark)**

Total 6 marks

10. A consultant has encouraged the administration of the bank where you work to install a MICR system.

(a) What does the term 'MICR' mean? **(1 mark)**

(b) State ONE function of an MICR system that would be useful to a bank. **(1 mark)**

(c) Before agreeing to install the MICR system, the Systems Analyst and the Network Manager must determine:

- the benefits this new feature will bring to the bank and
- the locations of servers and other devices to support the MICR

Explain which of the above tasks would be assigned to

(i) the Systems Analyst **(2 marks)**

(ii) the Network Manager. **(2 marks)**

Total 6 marks

TECHNICAL PROFICIENCY

THIS SECTION IS FOR TECHNICAL PROFICIENCY CANDIDATES ONLY.

SECTION III – 30 marks

PROGRAMMING

ANSWER ALL QUESTIONS.

11. Copy the labels EX1, EX2, and EX3 on separate lines in your answer booklet.

(a) Write the corresponding class of programming language, PL1 to PL4, which matches the appropriate example, EX1 to EX3.

EX1: MUL 12, 10
EX2: 00100101
EX3: READ name

PL1: Fourth generation
PL2: High level
PL3: Machine level
PL4: Assembly Level **(3 marks)**

(b) On the same line of the examples EX1, EX2, and EX3 in your answer booklet, identify the generation of programming language used. **(3 marks)**

Total 6 marks

12. For EACH of the following tasks, state whether it is described as input, output, processing or storage:

(a) (i) Calculating the cost of a pair of shoes after 10% discount

(ii) Dialing the number of the store to ask if a shoe size is in stock

(iii) Reading about a shoe sale in the newspaper

(iv) Saving the money to buy the pair of shoes

(v) Asking the salesperson the discount on a pair of shoes **(5 marks)**

(b) Place the tasks labelled (i) to (v) in Part (a) above in the CORRECT sequence. **(3 marks)**

Total 8 marks

GO ON TO THE NEXT PAGE

13. (a) State what EACH of the following operators means:

(i) >=
(ii) =
(iii) <
(iv) <>

(4 marks)

(b) State the output of the following algorithms, if MARK is 50:

(i)
```
READ MARK
IF      mark < 40
THEN PRINT 'The student has failed'
ELSE PRINT 'Let us see'
```
(1 mark)

(ii)
```
WHILE (mark <> 50) DO
BEGIN
        MARK = MARK + 2
        PRINT 'Working'
END WHILE
PRINT 'The student has passed'
```
(1 mark)

Total 6 marks

14. Use the fragment of code below, to answer Parts (a) to (c) that follow:

```
Line 1    A = 3
Line 2    B = 5
Line 3    Sum = 1
Line 4    While B <= 10
Line 5
Line 6        B = B + A
Line 7        Sum = Sum + B
Line 8    End while
Line 9    PRINT Sum
```

(a) For EACH of the following, identify ONE line which contains:

(i) An assignment statement
(ii) A loop
(iii) An output statement

(3 marks)

(b) Copy and complete the trace table below:

A	B	Sum
3	5	1

(6 marks)

(c) State the result of the algorithm. **(1 mark)**

Total 10 marks

GO ON TO THE NEXT PAGE

GENERAL PROFICIENCY

THIS SECTION IS FOR GENERAL PROFICIENCY CANDIDATES ONLY.

SECTION IV – 30 marks

PRODUCTIVITY TOOLS

ANSWER ALL QUESTIONS.

15. The questions which follow the paragraph below relate to Word Processing.

Information Technology has evoluted over the past five decades in responz to the need for more effishent technikes to manage the significantly increased volume and sophistikation of the knowledge reservoir of mankind. It merges the study of Computer Science, Telecommunications and Office Automation; involves the collection, storage, akkessing, processing and dissemination of information and impacts on both work and leisure activities.

(a) What kind of justification is used in this paragraph? **(1 mark)**

(b) Use the phrase *Technology and Me* as a title for this paragraph. What steps would you take to place it above the paragraph and centre it? **(2 marks)**

(c) How can you change the paragraph so that the second sentence is in a new paragraph? **(1 mark)**

(d) If you have successfully placed the second sentence into a paragraph of its own, explain how you would centre-justify that entire paragraph. **(1 mark)**

(e) Describe how you would move the entire second sentence to make it the first sentence. **(2 marks)**

(f) Some words are misspelled in this paragraph. What feature of word processing would you use to correct them? **(1 mark)**

(g) What steps would you take to change the line spacing in your two paragraphs from single to double spacing? **(2 marks)**

Total 10 marks

GO ON TO THE NEXT PAGE

16. The questions (a) to (h) relate to the Spreadsheet.

	A	B	C	D	E
1	GUYEXPO				
2	EXPORTS: 2005 - 2007				
3					
4	Products	2005	2006	2007	TOTAL
5	Rice	30000	50000	40000	
6	Sugar	50000	70000	80000	
7	Bauxite	5000	7000	6000	
8	Timber	7000	8000	3000	
9	TOTAL				

(a) Write the function that would calculate the TOTAL rice exported during the period 2005 – 2007. **(2 marks)**

(b) State how you would centre the text "GUYEXPO" across the columns used by the spreadsheet. **(2 marks)**

(c) State the range that would show the TOTAL exports for EACH of the three years. **(1 mark)**

(d) State the cell that contains the amount of sugar exported in 2007. **(1 mark)**

(e) Write the formula to compute the percentage of exports for 2005 that was contributed by rice. **(1 mark)**

(f) The comma (,) format was applied to the numeric data in columns B, C, D and E. What should happen? **(1 mark)**

(g) It was suggested that the headings for all numeric columns should be aligned to the right. Give ONE reason for this. **(1 mark)**

(h) Formulae were placed in Column E and Row 9 to compute totals. Suppose the data in C7 was changed from 7000 to 8000, state three cells whose data would change automatically. **(1 mark)**

Total 10 marks

17. The questions which follow the paragaph below relate to Database Management.

You are required to create a database table to store information on the students in a class. You are required to keep track of the following data for each student: student ID, student last name, student first name, date of birth, year of entry.

(a) Create a structure for the above table. Your structure should include field names, data types and field size. **(3 marks)**

(b) Write ONE example of a student record. **(1 mark)**

(c) Identify the database feature that would arrange the records in DESCENDING order by year of entry. **(1 mark)**

(d) Explain how ANOTHER field called grade point average (GPA) can be included in the database table. **(2 marks)**

(e) What criteria you would use to search the table for ALL students who have been admitted after 2005? **(1 mark)**

(f) Explain how you would generate a report to show ALL students ordered by last name, according to their year of entry. **(2 marks)**

Total 10 marks

END OF TEST