CARIBBEAN EXAMINATIONS COUNCIL

REPORT ON CANDIDATES' WORK IN THE SECONDARY EDUCATION CERTIFICATE EXAMINATION

JUNE 2005

INFORMATION TECHNOLOGY

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GENERAL COMMENTS

In June 2005, 21 269 candidates from the participating territories entered for the Information Technology examination; 762 entered for General Proficiency and 20 507 for Technical Proficiency. This represents an increase of 14 per cent in registration for the Information Technology examination when compared with June 2004.

DETAILED COMMENTS

General and Technical Proficiencies

Paper 01 – Structured Essay

This paper consisted of four sections. Sections 1 and 2 which is common to both the Technical and General Proficiencies consisted of eleven compulsory short-answer questions that tested the theory profile. Section 3 is the Programming section for Technical Proficiency candidates only and Section 4 is the Productivity Tools section for the General Proficiency candidates only. The mean scores out of 90 for General and Technical Proficiencies were 51.82 and 36.38 respectively. The range of marks obtained by the General and Technical Proficiencies candidates were 5 - 51 and 0 - 85 respectively.

Programming done only by the Technical Proficiency candidates continues to be an area of weakness. Candidates' responses in this section indicate that they were not well-prepared to handle the questions.

SECTION 1

Question 1

(a) Poorly done. Many candidates did not provide an acceptable function of the control unit.

(b) Well done by the majority of candidates.

(c) Satisfactorily done. Many candidates confused ROM with RAM.

(d) Satisfactorily done. Many candidates confused ROM with RAM.

Question 2

(a) Generally well done by the majority of candidates.

(b) Poorly done. Many candidates could not differentiate between a byte and a word.

(c) Well done by the majority of candidates.

Question 3

Well done by the majority of candidates.

Question 4

(a) Satisfactorily done. Many candidates named the direct access storage device but not the serial access storage device.

(b) Poorly done. Many candidates did not state the relationship between a track and a sector.

(c) Well done by the majority of candidates.

Question 5

(a) Satisfactorily done. Many candidates provided the binary representation but not in 8-bits.

(b) Poorly done. Most of the candidates provided the incorrect answers.

(c) Poorly done. Many candidates provided the binary representation instead of the Binary Coded Decimal (BCD) representation.

(d) Poorly done. Many candidates did not provide the two's complement representation of the given number.

Question 6

(a) Well done by the majority of candidates.

(b) Satisfactorily done. Many candidates could not specify the function of the mail merge feature.

SECTION 2

Question 7

(a) Satisfactorily done. Many candidates were not clear about the relationship among the three terms provided.

(b) Poorly done. Many candidates could not differentiate between the two terms given.

Question 8

(a) Well done by the majority of candidates.

(b) Satisfactorily done. Many candidates provided the job specification rather than the skills required.

Question 9

(a) Satisfactorily done. Many candidates only named the physical access method but did not describe it. Most candidates focused on high tech access methods and omitted the simpler ones such as the use of lock and key.

(b) Satisfactorily done. Many candidates identified but did not describe the software methods. Some, on the other hand, confused physical access with software access methods.

Question 10

(a) Poorly done. Many candidates indicated that computer fraud is a person.

(b) Satisfactorily done. Many candidates provided the actions but not the reasons for the actions. Some candidates provided unsuitable actions.

Question 11

(a) (i) Satisfactorily done. Many candidates did not make a clear distinction between a file librarian as against the traditional librarian.

(ii) Poorly done. Most candidates did not state the function of the Electronic Data Processing Auditor.

(iii) Poorly done. Many candidates had difficulties in expressing the job function of the computer consultant.

(iv) Satisfactorily done. Many candidates did not state the job function of the Data Communications Specialist.

(b) (i) Satisfactorily done. Many candidates confused teleconferencing with telemarketing, telecommuting and video conferencing.

(ii) a) Satisfactorily done. Many candidates did not provide three advantages of Teleconferencing.

b) Well done by the majority of candidates.

SECTION 3 - PROGRAMMING (For Technical Candidates)

Question 12

This question was generally satisfactorily done. Some candidates had difficulties in interpreting the mathematical aspect of the problem.

(a) Satisfactorily done. Some candidates used numeric values instead of variable names.

(b) Well done by the majority of candidates.

(c) Satisfactorily done. Many candidates misinterpreted the question and found the square root instead of the squares. Some candidates found the square of part (b) instead of the values from part (a).

(d) Satisfactorily done. Many candidates did not use the IF statement properly.

(e) Well done by the majority of candidates.

Question 13

This question was poorly done. Most of the candidates used pseudocodes instead of a structured language. The candidates who used the structured codes could not code the algorithm properly. Most candidates did not use a LOOP structure to find the sum and average of the collection of integers. Those who used the LOOP structure did not use it properly.

(a) Poorly done. Few candidates attempted this part.

(b) Poorly done. Many candidates did not input the values.

(c) Poorly done. Many candidates could not find the average and the sum.

Question 14

(a) Poorly done by the majority of candidates. Many candidates could not provide an example of a high level language.

(b) Poorly done. Many candidates could not explain what each statement does.

(c) Poorly done. Many candidates did not attempt this question.

Question 15

(a) Well done by the majority of candidates.

(b) Well done by the majority of candidates.

(c) Poorly done. Many candidates could not recognize the value of the antique watch to be 7000.

(d) Well done by the majority of candidates.

SECTION 4 - PRODUCTIVITY TOOLS (For General Candidates)

Question 16

(a) Well done by the majority of candidates.

(b) Satisfactorily done. Many candidates identified the justification as centred rather than fully justified.

(c) Poorly done. The majority of the candidates did not select the text before formatting.

(d) Poorly done. The majority of candidates provided methods that were not efficient.

(e) Satisfactorily done. Some candidates indicated the use of the spacebar instead of the tab key.

(f) Well done by the majority of candidates.

(g) Well done by the majority of candidates.

Question 17

(a) Satisfactorily done. Some candidates incorrectly identified 6 rows rather than 5 rows.

(b) Well done by the majority of candidates.

(c) Satisfactorily done. Some candidates omitted the identification of the cell.

(d) Poorly done. The majority of candidates failed to recognize that the formulas should be copied.

(e) Well done by the majority of candidates.

(f) Well done by the majority of candidates.

(g) Poorly done. Many candidates could not explain the use of the format feature correctly.

(h) Satisfactorily done. Many candidates could not provide the default alignment for numeric data.

Question 18

(a) Well done by the majority of candidates.

(b) Poorly done. Many candidates provided another field rather than another record.

(c) Well done by the majority of candidates.

(d) Satisfactorily done. Many candidates only identified one way of arranging records.

(e) Well done by the majority of candidates.

(f) Poorly done. Many candidates failed to identify the required fields in creating the report.

TECHNICAL PROFICIENCY

Paper 02 – Word Processing / Spreadsheets and Database Management

This paper consisted of four questions testing word processing, spreadsheet and database management.

The mean score for this paper was 86.02 out of 150. The range of marks obtained by the candidates was 0 - 150.

For spreadsheet, the candidates had difficulties with absolute addressing, sorting, percentages formatting and criterion search.

For database management, candidates had difficulties with linking tables, using calculated fields and summarizing statistics in queries and creating reports based on queries.

For word processing, candidates had difficulties changing margins and preparing the main document for a mail merge.

Question 1 – Word Processing

(a) Well done by the majority of candidates.

(b) Well done by the majority of candidates.

(c) Poorly done. Many candidates were unable to set the margins correctly.

(d) Satisfactorily done. Some candidates did not type the text in capital letters as was required.

(e) Well done. Some candidates inserted the title in two lines and did not use the Arial font.

(f) Poorly done. Many candidates inserted the file in the wrong position. While some inserted the file in the correct paragraph, but the table was broken up.

(g) Satisfactory done. Many candidates did not insert the data in the correct row.

(h) Poorly done. Many candidates did not right-align the table. Some candidates removed all the borders or did not remove any border at all.

(i) Well done. However, some candidates did not type in the data accurately.

(j) Well done. In many cases the title was affected by the columns.

(k) Poorly done. Many candidates did not attempt this question.

(l) Poorly done. Many candidates did not use the spell checker feature.

(m) Poorly done. Many candidates did not use the find and replace edit feature.

(n) Well done. Some candidates typed the word at the bottom of the page or use footnotes rather than using footer.

(o) Well done. Some candidates typed the page number instead of using the automatic page numbering feature.

(p) Well done by the majority of candidates.

Question 2 – Database Management

(a) Poorly done. The majority of the candidates used the spacebar rather than tabs for correct alignment. Many candidates did not insert the line.

(b) Well done by the majority of candidates.

(c) Satisfactorily done. Most candidates used the correct merge fields but some inserted additional fields or inserted the fields in the wrong position.

(d) Satisfactorily done. Some candidates inserted the data rather using the mail merge feature.

(e) Well done by the majority of candidates.

Question 3 – Spreadsheet

(a) Well done. Some candidates did not move the data to begin in cell A6.

(b) Well answered by the majority of candidates.

(c) Generally well done by the majority of candidates.

(d) Well done. Some candidates had errors in the data.

(e) Well done by the majority of candidates.

(f) Well done. Some candidates had spelling errors.

(g) Satisfactorily done. Many candidates did not use the merge and centre feature.

(h) Satisfactorily done. Many candidates used the wrong data range.

(i) Poorly done. Many candidates could not use the percentages format.

(j) Satisfactorily done. Many candidates had difficulties in formatting the data to percentage style.

(k) Well done by the majority of candidates.

(l) Generally well done by most of the candidates.

(m) Satisfactorily done. Many candidates did not enter the correct data in the correct location.

(n) Poorly done. Many candidates did not compute all the required functions.

(o) Poorly done. Many candidates did not insert the border in the correct range.

(p) Poorly done. Many candidates sort on only one field rather than on the whole data range. Some candidates used the wrong sort.

(q) Poorly done. Many candidates did not attempt this question.

(r) Poorly done. Many candidates did not select the correct data range.

(s) Well done.

Question 4 – Database Management

(a) Generally well done by the majority of candidates.

(b) Generally well done by the majority of candidates.

(c) Satisfactorily done. Some candidates had problems in modifying the Risk field. Many candidates had the Risk field named “Y” instead of “Risk”.

(d) Generally well done by the majority of candidates. Some candidates deleted a field instead of the particular record. Some candidates deleted more than one record.

(e) Generally well done by most of the candidates.

(f) (i) Well done. Some candidate printed the risk field only, instead of the requested fields.

(ii) Well done by the majority of candidates. Some candidates used the wrong criteria such as <5, <=5, =5 and >=5 instead of >5.

(iii) Satisfactorily done. Some candidates had difficulties with adjusting the date format.

(iv) Poorly done. The majority of the candidates could not use the required function and as such, grouped more than the single field required. Some candidates used the count function instead of the function to sum.

(v) Poorly done. The majority of the candidates could not use the maximum function.

(vi) Poorly done. The majority of the candidates could not use the average function.

(vii) Poorly done by most of the candidates. Many candidates were unable to create the calculated field or to assign an appropriate label for the calculated field column.

(g) (i) Generally well done by the candidates who attempted this question. However, many candidates had difficulties with inserting the required title of the report, linking the tables required for the report and sorting the data in the report.

(ii) Poorly done by the majority of candidates. Many candidates had difficulties creating a report based on a query. Most of the candidates who used a query did not use the given criteria and hence had incorrect data in their reports.

Paper 02/2 – Technical Proficiency

This paper is the alternative to paper 2 and consisted of four questions testing word processing, spreadsheet database management and integration among the three.

For spreadsheet, candidates had difficulties with absolute addressing labelling the axes in the chart, sorting and formatting.

For database management, candidates had difficulties with linking tables, inserting calculated fields and summarizing statistics in queries.

For word processing, candidates had difficulties with setting tabs, line spacing, using search and replace functions and using a database table as the data source to perform the merge.

Question 1 – Word Processing

(a) Well done by the majority of candidates.

(b) Satisfactorily done. Many candidates were unable to set the correct margins and instead used the default margins.

(c) Well done by the majority of candidates.

(d) Well done by the majority of candidates.

(e) Satisfactorily done. Some candidates did not use the arial font style.

(f) Poorly done. Many candidates inserted the file in the wrong location, while others were not able to insert it at all.

(g) Poorly done. Many candidates had difficulty in inserting the row in the correct position.

(h) Poorly done. Many candidates were unable to remove the borders from the table.

(i) Satisfactorily done. The majority of candidates inserted the text in the wrong position.

(j) Well done by the majority of candidates. Some candidates were unable to perform correct column break.

(k) Satisfactorily done. Many candidates set 1.5 line spacing for the entire column instead of the required paragraph.

(l) Satisfactorily done. Many candidates inserted the footer in the wrong position.

(m) Poorly done. Many candidates did not use the search and replace feature.

(n) Satisfactorily done. Majority of the candidates inserted the page number in the wrong position.

(o) Well done by the majority of candidates.

(p) Well done.

Question 2 – Word Processing

(a) Poorly done. Majority of the candidates did not set the tabs correctly.

(b) Well done by the majority of candidates.

(c) Poorly done. Majority of the candidates were unable to insert merge fields.

(d) Poorly done. Majority of the candidates could not perform the merge because of the problem in part (c).

(e) Poorly done. Majority of the candidates typed the individual letters instead of performing the mail merge.

Question 3 – Spreadsheet

(a) Well done. Candidates retrieved the correct file.

(b) Well done. Some candidates used only the last 4-digits of their candidate numbers rather than their full candidate numbers.

(c) Satisfactorily done. Some candidate did not use the date function.

(d) Generally well done by most of the candidates.

(e) Generally well done by most of the candidates.

(f) Satisfactorily done. Many candidates did not use the merge and centre feature.

(g) Generally well done by most of the candidates.

(h) Generally well done by most of the candidates.

(i) Poorly done. Many candidates had difficulties in using absolute addressing.

(j) Poorly done. Many candidates did not format the cells to percentage.

(k) Generally well done by most of the candidates.

(l) Generally well done by most of the candidates.

(m) Satisfactorily done. Many candidates did not ensure that the given text was entered correctly.

(n) Generally well done by most of the candidates.

(o) Satisfactorily done. Many candidates did not sort the data correctly.

(p) Poorly done. Many candidates did not attempt this question.

(q) Generally well done. Some candidates did not insert the appropriate title.

(r) Well done.

Question 4 – Database Management

(a) Generally well done by the majority of candidates.

(b) Generally well done by the majority of candidates.

(c) Satisfactorily done. Some candidates removed only fields instead of the entire record, while other deleted more than the required records.

(d) Well done by the majority of candidates.

(e) Well done by the majority of candidates.

(f) (i) Satisfactorily done. Some candidates were unable to specify the criteria conditions.

(ii) Well done by the majority of candidates.

(iii) Satisfactorily done. Some candidates used too many fields to perform the calculation.

(iv) Poorly done. Many candidates used the average instead of the minimum summarizing statistics.

(v) Poorly done. The majority of the candidates did not attempt this question.

(g) (i) Well done by the majority of candidates. Some candidates did not join the required tables and showed lack of creativity in providing a suitable title.

(ii) Well done by the majority of candidates.

Paper 02 - General Proficiency

This paper consisted of two sections. Section 1 consists of four questions on Information Processing of which candidates are required to do question 1 and any two other questions. Section 2 consists of four questions on Programming of which candidates are required to do question 5 and any two other questions.

The mean score for this paper was 60.04 out of 150. The range of marks obtained by the candidates was 0 - 143.

Question 1

(a) Poorly done. Many candidates did not recognize the diagram as the data processing cycle.

(b) (i) Satisfactorily done. Some candidates, however, provided the business definition of a transaction.

(ii) Poorly done. Many candidates were unable to recognize which keys were to be deleted or inserted.

(iii) Poorly done. Many candidates failed to recognize that the transaction file would have remained the same after processing.

(iv) Well done by the majority of candidates.

(v) Poorly done. Some candidates used 'stored' instead of 'not sorted'.

(vi) Poorly done. Many candidates displayed a lack of understanding of the file generation concept.

(c) (i) Poorly done. Most candidates interpreted the question as asking about the actual physical collection of data instead of the ways in which data is collected.

(ii) Poorly done. The majority of candidates thought it was for back-up purposes.

(iii) Satisfactorily done. Many candidates stated the various checks but did not provide the description.

(iv) Poorly done. Most candidates said it was magnetic ink character recognition (MICR).

(v) Well done by most of the candidates.

Question 2

(a) (i) Well done. Some candidates interpreted the advisory number as a code for a particular hurricane rather than a specific advisory.

(ii) Poorly done. The majority of candidates interpreted the exclamation point as urgency code rather than end of code or end of data marker.

(iii) Well done by most candidates.

(iv) Well done. Most candidates indicated the sender's initials but did not correct the errors in the date and sequence number.

(v) Satisfactorily done. Most candidates gave additions/changes to the format of the code rather than rules on the format given.

(vi) Satisfactorily done. Some candidates stated interactive rather than on-line method of receiving the data and did not realize that no reply would have been necessary from the hurricane centre.

(vii) Poorly done. Most candidates provided incorrect reasons.

(b) (i) Poorly done. Most candidates were unable to properly explain the difference between serial and sequential order.

(ii) Well done by most candidates.

(iii) Satisfactorily done. Some candidates inserted the key at the beginning of the serial list rather than at the end of the list.

(iv) Poorly done. Most candidates provided the speed of access for each list (list 1 then list 2) rather than compared the access speed of the lists together.

(v) Poorly done. Most candidates gave the speed of access for EACH list rather than considering the two lists together.

Question 3

(a) Poorly done. Many candidates provided written explanations instead of a diagram to illustrate the difference.

(b) Well done by most candidates.

(c) (i) Poorly done. Most candidates gave separate phases for each of the three statements.

(ii) Satisfactorily done. Some candidates confused testing strategies with methods of implementation.

(iii) Well done by the majority of candidates.

(iv) Well done by most of the candidates.

(v) Poorly done. Most candidates did not realize that both systems could be time consuming and costly.

(vi) Well done by most of the candidates.

Question 4

(a) Poorly done. Many candidates omitted this part of the question. Those who attempted it, presented their results in the form of a trace table. Little attention was paid to the fact that results should have been presented for each line of the program.

(b) (i) Well done by the majority of the candidates.

(ii) Poorly done. Most candidates converted the binary to its decimal value, without recognizing that a two's complement representation was required.

(c) Satisfactorily done. Most candidates were able to convert 19 to binary but were unable to accurately complete the solution.

(d) (i) Poorly done. The majority of candidates had difficulties with floating point representation.

(ii) Poorly done. Most of the candidates incorrectly referred to the table immediately below the question to form solutions.

(e) (i) Poorly done. Many candidates were not familiar with the formula.

(ii) Satisfactorily done. Most candidates were able to recognize that eight (8) different operation codes were possible.

Question 5

(a) Satisfactorily done. Many candidates gave a variety of responses which included assembly language and pseudocode.

(b) Well done by most of the candidates.

(c) Poorly done. Most candidates were unable to assign a value to a variable.

(d) Well done by most of the candidates.

(e) (i) Well done by most of the candidates.

(ii) Poorly done. Candidates used numerical values instead of the actual constant.

(iii) Satisfactorily done. Some candidates failed to recognize that the glass was a semi-circle and instead used the formula for circle.

(iv) Well done by most of the candidates.

(v) Satisfactorily done. Some candidates used the incorrect formula.

(vi) Well done by most of the candidates.

(f) Well done by most of the candidates.

(g) Satisfactorily done. Some candidates calculated labour cost but forgot to add it to total cost.

(h) Well done. Some candidates simply rewrote the print statement given in the question.

(i) Well done by most of the candidates.

(j) Well done by most of the candidates.

(k) Poorly done. Many candidates declared constants that were not used in their programs.

(l) Poorly done. Candidates did not declare variables which were used in their programs.

Question 6

(a) (i) Well done by most of the candidates.

(ii) Poorly done. Most candidates assumed that the salaries were already stored in variables.

(iii) Poorly done. Candidates were unable to calculate and print total salary.

(b) Poorly done. Most candidates did not attempt this question. Many candidates rewrote the code by inputting the value 1275.

Question 7

(a) (i) Poorly done. Many candidates did not recognize that the variable name "s" was not meaningful.

(ii) Well done. Some candidates used the multiplication sign "x" instead of asterisk (*).

(iii) Well done. Some candidates interpreted the result as cost, others as price.

(b) (i) Well done by most of the candidates.

(ii) Well done by most of the candidates.

(iii) Poorly done. Most candidates were unable to correctly define 'program documentation'.

(c) (i) Poorly done. The majority of candidates identified a single flaw and a single line number, but failed to provide the correct code.

(ii) Poorly done. Most candidates provided inaccurate trace tables.

(iii) Poorly done. Most candidates provided inaccurate results.

Question 8

(a) (i) Well done by the majority of candidates.

(ii) Well done by the majority of candidates

(iii) Satisfactorily done. An appropriate programming language was not used. Most candidates gave pseudocodes rather than proper syntax.

(b) (i) Satisfactorily done. Most candidates provided only a single variable for life expectancy.

(ii) Well done by most of the candidates.

(iii) Well done by most of the candidates.

(iv) Well done by most of the candidates.

(v) Well done. Read statement was properly used.

(vi) Well done. Most candidates were able to use the condition statement properly and were also able to set up the calculations properly.

(vii) Well done. Print statement was properly used.

(c) Poorly done. Most candidates did not attempt this part.

School-Based Assessment

The format of the SBA changed significantly this year. For the first time, teachers were required to produce an IT SBA description and the associated mark scheme. The descriptions that were produced, in most cases complied with the CXC guidelines given in terms of length and complexity.

Although some teachers used past SBAs, others were able to produce some very interesting scenarios that showed evidence of time spent in thought and development. This is worthy of commendation. Many SBAs were created SBAs based on current events in their countries. Special mention must be made of the teachers in Grenada, where some of the topics dealt with the effects of Hurricane Ivan in 2004. Also notable were the SBAs from Guyana which dealt with the health issues arising from the flooding in Guyana in 2004.

It is highly recommended that teachers actually mark each sample as though they are returning it to the candidate. In doing so, the moderators are able to see how the teacher marked and what the teacher was looking for. This is very useful in the moderation process.

Project Description and Mark Scheme

Teachers should NOT include the official name/trademark of CXC as part of the assignment.

While assignments prepared by teachers, were carefully thought out, planned and presented, the development of accompanying Mark Schemes showed some deficiencies. The following are worthy of note:

1. Some did not comply with the model presented in the guidelines. The marks awarded for specific areas exceeded the respective allocations. As a consequence, the weightings for the respective sections of the spreadsheet were compromised. It is to be noted also that the total allocation specified for each component of the SBA is twenty (20) marks. Some teachers did not adhere to this guideline.

2. A large number of descriptions and mark schemes were not submitted and as a result some candidates were disadvantaged.

3. Some teachers did not present a detailed breakdown of how the marks were awarded for the various subsections of the project. That is, they may have awarded, for example, 4 marks for formatting, but failed to say what specific formatting issues were being assessed or under what conditions a candidate would lose some or all of these marks.

Mail Merge

When testing the mail merge, the project must be sufficiently substantive to allow for the insertion of a reasonable number of merge fields. Teachers should also encourage candidates to submit:

- the data source in the word processing component of the SBA, even if it was created in spreadsheet or database software.
- the primary document showing the genuine merge fields, must be submitted once a mail-merge question is done.

Packaging

Teachers should ensure that all marks awarded are substantiated with an appropriate printout. Each printout should be clearly labelled indicating what it represents. While it is intended that the SBA be an integrated project, each section (Word Processing, Spreadsheet, Database solutions) should be clearly delineated and labelled.

Diskettes

All submissions should be printed. It is noted that the moderation process is performed on printed documents; hence no diskettes/CDs are required. Candidates should ensure that the appropriate documents are printed.

Word Processing

WP1: Headers, Footers, Footnotes, Endnotes
Headers and footers were well done. There was an increase in the number of samples which showed footnotes and endnotes, and in these samples the topics were well done.

WP4: Columns

This area was well done, especially for the samples in which brochures and flyers were done. There was a small number of samples in which columns were not executed at all.

WP6: Document Formatting Features

This area was well done by the majority of the samples submitted.

WP8: Mail Merge Facility

This section was well done by the majority of the samples submitted. Prints of the data source, and the primary document (i.e. Document clearly showing the merge field) were missing.

WP 10: Importing Files

Generally, the importation of files among applications was well done. Candidates demonstrated a high proficiency in manipulating charts and tables within a document.

WP12: Overall Presentation of SBA Sub-sections

This was well done for a high percentage of the samples submitted. However, in the majority, some samples needed better organization of each sub-section.

Spreadsheet

Generally, candidates exhibited a high level of proficiency in most of the spreadsheet skills that were tested. The use of advanced system functions such as VLOOKUP(), COUNTIF(), COUNT() and IF() are worthy of note. Candidates generally were able to use and link several worksheets in the problem solution. Some candidates were also able to use a variety of formatting skills efficiently to enhance the solution.

The creation of charts was another area where candidates demonstrated a high level of proficiency. Candidates were able to create the charts specified in the various assignments and label them appropriately.

Further, candidates were able to transfer data among applications efficiently. That is, objective SS14 was very well done by most candidates.

However, there were still some common areas of concern. The following should be noted:

1. System Functions: The SUM and AVERAGE functions were common system functions used. In many instances, these functions were used inappropriately. Candidates prefaced simple arithmetic formulae with SUM and AVERAGE. Some common examples of this were

   (i) = Sum(A1/B5)

   (ii) = Sum(A1 + A2 + A2)

   (iii) = Average(A1*A5)

   Each of these examples demonstrates the use of an expression as the parameter for the system functions rather than a data range and constitutes inappropriate usage.

2. Formula: The creation of suitable and relevant formulae was generally well done. However, there were still some candidates who were unable to use absolute and relative addressing appropriately and efficiently. Some candidates used numbers in their calculations rather than cell referencing. Some used relative addressing where absolute addressing would have been appropriate. Teachers need to address this area carefully.

   The printing of formula sheets continues to be a major problem. In a large number of instances these were not printed. Candidates should ensure that they:

   (a) Print the formula sheets directly from the spreadsheet software application package rather than copying it to a word processing package.

   (b) Always include column and row headings when printing spreadsheets in order to improve readability and for verification of cell references.

   (c) Include gridlines/borders in the printout.

   (d) AVOID EXCESSIVE PRINTING OF FORMULA SHEETS. It is not necessary to reprint formula sheets if only changes in the data have occurred. Further printouts of formula sheets are only necessary if they demonstrate changes in formulae.

3. While most candidates demonstrated a high level of proficiency in charting operations, others cut and pasted graphs from excel into word, instead of copying and pasting. Hence, no evidence of the chart(s) appeared in the Spreadsheet solution.

4. Teachers should avoid or minimize the testing of areas of the syllabus that cannot be easily verified by printouts or have a heavy subjective component. Examples include SS3, SS4, copying and pasting (SS5), and SS6. Where these objectives are used in the mark scheme, clear descriptions of how marks are awarded must be submitted for moderation.

5. SBAs are generally moderated using the printouts submitted by candidates. Hence, diskettes or CDs are not required and should not be included with the SBA submissions.

6. When sorting on primary and secondary fields, the data should contain sufficient and appropriate data (e.g. duplicates in the primary field) to clearly demonstrate that sorting has occurred on both key fields.

7. Printouts should be clearly labelled indicating the task being completed in the worksheet, particularly where changes in data - insertions/deletions of rows/columns, changes in fixed data or constants, have occurred.

8. If the SBA is submitted as one package, clearly indicate where each application solution begins and ends. The tasks within each application should also be clearly delineated.

9. Teachers should make an effort to have data in a spreadsheet fit one sheet.

10. Adding rows/columns to the end of an existing table does not constitute an insertion. Candidates do not get credit for this operation under objective SS7.

11. A major weakness seen by most candidates was the use of complex criterion reference. To be awarded marks in this area, candidates must show evidence of the criteria as well as the output range. Both ranges must be visible in the printouts.

Database Management

The quality of the SBAs submitted has improved when compared with those from 2004. The majority of schools used the Microsoft Office suite for their productivity tools. From the quality of work submitted, it was evident that teachers had a good working knowledge of the SBA guidelines and many ensured that their project outlines and marking criteria satisfied the requirements outlined in the guidelines. However, the following were observed with respect to the database submissions.

1. Many samples did not include a detailed project description along with their samples, the absence of which makes it difficult to verify the correctness of the database tables, queries and reports based on the instructions given to candidates.

2. Many samples did not include a mark scheme to delimit the marking criteria used by teachers in arriving at the mark given to the sample.

3. Some samples, whilst including a mark scheme

   (a) did not subdivide the mark scheme based on the guidelines given by CXC

   (b) awarded marks which totalled more than 20 marks

   (c) did not suitably weight the marking scheme based on the skills tested; for example, in some instances as much as 8 marks were awarded for the creation of tables, whereas 2 marks were awarded for report building.

4. Some samples did not include the table structures to verify the use of primary keys, field data types and relationships between tables. Often, database reports were used to verify the use of relationships between tables.

5. Some samples, whilst including the table structures, printed too much information in the use of the Microsoft Access documenter feature. Teachers must ensure that candidates are shown how to use this tool to minimize the production of unnecessary output from all structures used in creating the database.

Generally, there were many instances where there was insufficient evidence provided on the printouts of samples submitted, to verify the marks awarded by teachers. Teachers must ensure that they adhere to the guidelines provided by CXC outlining the process of preparing and submitting SBAs.

Candidate Performance
Overall, candidate performance was quite good.

Tables
From the moderation, candidates demonstrated their ability to create tables with a high degree of competence. Many also demonstrated their ability to import data from their spreadsheets to be manipulated as a database tables. Candidates demonstrated their recognition of appropriate field types and their ability to add and delete records and fields from their databases.

In most samples, relationships were used between tables to generate queries and reports. In some instances however, candidates did not identify and use primary keys in their tables to further support the table relationships created.

Queries
Most queries were done fairly well. Some candidates had difficulty in performing calculating queries. There were however, some projects in which most of the queries were very simple. Some projects did not test the ability to create calculating or summary queries; whereas some teachers created questions which could not be answered by the candidates, based on the problem description given. This highlights the need for teachers to ensure that queries and reports which are set for their SBAs, are answerable based on the data to be used in the tables. Also, questions which are set should be directly testing specific objectives in the syllabus for CXC CSEC Information Technology Technical proficiency. An example is where candidates are requested to create forms as a part of their database SBAs. While this is a desirable skill, it is not an objective on the syllabus and hence should not be awarded marks on the marking criteria of the SBA.

Reports
Candidates' reports were generally well done. In some instances, SBAs only called for very simple reports without the use of search criteria, grouping or summary calculations. Some samples have clearly shown that some teachers have not made use of the CXC guidelines for creating the problem for their SBAs. However, in many instances, projects suitably tested the creation of reports with an adequate level of difficulty for the CSEC level.