

CARIBBEAN EXAMINATIONS COUNCIL

**REPORT ON CANDIDATES' WORK IN THE
CARIBBEAN ADVANCED PROFICIENCY EXAMINATION
MAY/JUNE 2007**

INFORMATION TECHNOLOGY

**Copyright © 2007 Caribbean Examinations Council ®
St Michael Barbados
All rights reserved**

INFORMATION TECHNOLOGY

CARIBBEAN ADVANCED PROFICIENCY EXAMINATION

MAY/JUNE 2007

GENERAL COMMENTS

The number of candidates sitting this year's examination increased when compared with the number entered for the examination in 2006. The overall performance for this year was slightly higher than in 2006, with 82.77 percent of the candidates achieving Grades I – IV when compared to 79.96 percent, in 2006. A few candidates (seventeen) sat Paper 03/2.

The quality of candidates' responses is a major concern to the examiners. Questions that assess the high order skills (Application and Analysis, and, Synthesis and Evaluation) continue to pose a challenge to the majority of candidates. This was evident by the low scores on questions that use verbs such as explain, justify, discuss, examine and distinguish. In addition, a number of candidates failed to appreciate the significance of marks ascribed to questions. Questions worth two or more marks, require more than a simply statement of fact. For example, where the question requires the candidates to **discuss, explain or justify a choice**, then a statement is not a sufficient response. In addition, the candidates need to be aware of the meaning and distinction between verbs.

Except for questions 12 and 13 on Paper 01 and Questions 2, 5 and 6 on Paper 02, the examiners wish to report that few candidates scored full marks. An analysis of candidates' performance by module revealed that candidates did better on questions in Module 1, Paper 01, than those in the other modules. The performance on questions in Module 2 was similar to that on questions in Module 3. Regarding Paper 02, the performance on questions in Module 1 and Module 2 was about the same, but was significantly higher than that on questions in Module 3. Questions on Paper 03/2 were generally poorly done.

To address the concerns regarding the poor quality of responses to questions, that use such verbs as explain, justify, evaluate, examine and distinguish, teachers are encourage to include more questions using such terms on the internal examination papers and homework assignments.

As stated in the previous year's report, since the removal of web page development from the Internal Assessment project, candidates have performed poorly on questions about web pages. The examiners wish to encourage teachers to have their students' design, develop and implement personal or school websites.

Internal Assessment

The quality of the internal assessments submitted for moderation this year was better than in previous years. The examiners are pleased to report that some candidates scored full marks and an increased number of candidates scored 52 (out of 60) and above. There was evidence to suggest that some centres utilised the comments contained in previous schools' reports and this impacted favourably on the choice of topics and the treatment given.

There was also a marked improvement in the quality of the assessment by teachers in some centres. In these cases, the mark scheme was consistently applied and all the required reports were correctly completed and submitted. In a few cases, the marks awarded could not be substantiated by the work presented in the samples.

A significant number of candidates selected technologies that were ideal. These have emerged within the past 36 months and relate to information systems (hardware, software and telecommunications, whether infrastructure, tools and services). Too many centres however, still continue to research technologies that have been around for several decades, and as such cannot be considered, 'emerging'. Additionally, a few candidates chose technologies that are outside the scope of the syllabus.

PAPER 01**Section I - Information Systems****Question 1**

The question examined candidates' knowledge and understanding of the types of computers and the type of processing (task) that they were designed to accomplish. This was satisfactorily done by most candidates. Over twenty-five percent of candidates who attempted the question scored 7 or more marks. Less than four percent of candidates scored full marks. Approximately seven percent of the candidates failed to score any marks.

Several candidates cited the types relating to microcomputers (personal computers) such as desktops, laptops, notebooks and handheld computers rather than super computers, mainframe computers, minicomputers and microcomputers. A number of candidates mentioned terms such as microprocessor and macro-processor as types of computers.

For those candidates who correctly identified the types of computers, the majority of them were unable to state a task for which the supercomputer and mainframe computer were most appropriate. They incorrectly responded that these computers were used in the home for domestic proposes. Supercomputers are used in applications that require large amounts of processing or in environments where long complex calculations are preformed. They are ideally suited for worldwide weather forecasting and analysis of weather phenomena, whereas mainframe computers are designed to be used in applications that process large amounts of data and support hundreds of users at any given time. They are ideally suited for airline reservations and ticketing as well as the processing of customer accounts at a national bank.

Question 2

The question assessed candidates' knowledge and understanding of the network topologies other than the bus topology. Most candidates generally did this question satisfactorily. Approximately thirty percent of candidates scored 7 or more marks. Approximately one percent of candidates scored full marks. No candidate who attempted the question failed to score a mark.

For part (a), most candidates accurately defined the term "computer network" by identifying it as a system of interconnected computers, cables and other communication devices that allow users to share programs, files and devices.

For part (b), most candidates correctly identify and describe a topology (star, ring or hybrid) other than the bus topology. A number of the candidates however, were unable to state the topology's advantage or disadvantage when compared with another. For the ring topology, some candidates made mention of a host computer or server.

For part (c), a number of the candidates incorrectly provided a labelled diagram of the star topology as a ring topology, or vice versa. Others provided a sketch, that is, nodes were not labelled and there was no indication of the direction of messages between the nodes.

Question 3

The question was designed to test candidates' knowledge and understanding of input devices. The question was generally well done by most candidates. Approximately 70 percent of the candidates scored 7 or more marks. Sixteen percent of candidates scored full marks. However, two percent of the candidates failed to score any marks.

Most candidates were able to correctly list three input devices as well as state the type of data that these devices capture.

In part (c), a number of candidates merely listed the task performed by the input device and therefore there was no difference in their response when compared with part (b); for example, one candidate simply wrote, 'enter text' for the task, with respect of the keyboard, rather than 'to enter text (words, numbers and special characters) to create a word document or work sheet'. Similarly, a more appropriate response for a task performed with the mouse would be 'to make a selection from a set of options from a pop-up menu' rather than 'to select an option'.

Question 4

This question examined candidates' knowledge and understanding of system software and their ability to assess the implications for a business entity when system software is changed frequently. Generally, most candidates did this question satisfactorily. Approximately 25 percent of the candidates earned 7 or more marks, with three percent scoring full marks. Eight percent of candidates failed to score any marks.

Most candidates were aware that system software was a collection of programs, which allow the computer to manage and control its resources. In addition, some of these candidates did not confuse the term "system software" with the operating system but rather demonstrated their understanding by accurately listing operating systems, utilities, device drivers and language translators as sub-categories (types) of system software.

For part (b), a number of candidates named operating systems such as Microsoft XP, Microsoft 98, Novell, Linux and Unix as types of system software suggesting that system software and the operating system were same thing.

For part (c), several candidates identified and examined implications such as cost, training, improved performance/productivity and acquisition of skills that could arise when an entity changed system software on a regular basis. Both the negative and positive aspects of the implication were discussed. A few candidates misinterpreted the question and as such made suggestions as to what the company could do to avoid changing system software, frequently.

Question 5

This question assessed candidates' knowledge and understanding of communications technology and in particular, wireless communications technology. It also tested their ability to examine the benefits of this technology to a business entity. Most candidates performed satisfactorily. Approximately thirteen percent of the candidates scored 7 or more marks. Approximately one percent of the candidates scored full marks with less than half of one percent of them failing to score any marks.

Section II - Information Processing and Presentation

Question 6

This question assessed candidates' knowledge and understanding of the purpose of various software packages. A few of candidates scored full marks but most candidates performed poorly.

For Part (a), most candidates gave vague responses or their responses were simply a 'play on words' of the term, for example, 'financial software is used to perform financial tasks'. Also, a number of the candidates seemed to have confused the presentation software with the Desktop Publishing (DTP) software. Therefore, the tasks peculiar to DTP packages were ascribed to presentation packages.

For Part (b), most candidates were unaware of the advantages/disadvantages of DTP software when compared with a word processing tool.

Question 7

The question assessed candidates' ability to examine a situation and identify appropriate software tools that could be used to provide a solution. This question was satisfactorily done by most candidates, although only one candidate scored full marks.

Most candidates correctly identified the productivity tools that are designed to **store and process large volumes of data** - the database management system and spreadsheet packages. Word processing and DTP software were unacceptable responses based on the scenario which was given in the question. In addition, appropriate arguments concerning the features of the packages were provided as justification for their choices.

In Part (c), a number of candidates misinterpreted the question and therefore described productivity tools that could be used to present the data to management rather than the formats that should be used to present these data. Appropriate formats included tables, graphs, charts, and free format (as in text) **OR** hardcopy (printed report) and softcopy (electronic format using a presentation tool).

Question 8

The question tested candidates' knowledge and understanding of user interfaces. Most candidates did this question at an acceptable level. A few of candidates scored full marks.

In Part (a), most candidates seemed unaware that the user interface **controls** the interaction between the user and the operating system (O/S) or application program; that is, the interface determines how the user should communicate with the O/S or application program, and vice versa. The candidates' responses implied that the communication flow was from the user to the computer only as there was no mention of the response/feedback from the computer to the user's action or command.

Part (b) was generally well done by most candidates. Several candidates however, did not correctly name the interfaces, for example, 'command-driven', 'menu user interface'.

Part (c) was generally poorly done by most candidates. This seemed to suggest that the candidates were not familiar with the features and advantages/disadvantages of the various user interfaces.

Question 9

This question assessed candidates' knowledge and understanding of the two formats that a person could use to send and receive files electronically, such as e-mail messages. A few candidates scored full marks but most candidates did poorly on this question.

For Part (a), most candidates could not distinguish between 'rich text' and 'text file' formats.

Part (b) required candidates to discuss two advantages of sending a file in rich text format when compared to text file format. Very few candidates knew that rich text supported a wider range of formatting features, such as bold, italicize, underline, indent, font style and size, along with others. A 'rich text' message could highlight selected aspect of a message and be aesthetically pleasing. Formatting features are not facilitated in text files.

In part (c) most students seemed not to be aware that rich text files are larger than text files (containing the same amount and type of data), and hence would take longer to upload/download. Also, rich text files cannot be read by all software applications.

Question 10

The question examined candidates' knowledge and understanding of database concepts. A few of candidates scored full marks but most candidates performed poorly.

Generally, most candidates showed a lack of appreciation for the technical terms and offered a rather literal explanation for technical words/phrases. This of course led to the lack of specificity when attempting to explain the terms in relation to DBMS.

- Normalization – a fair attempt by most candidates but not completely accurate.
- Validation check – was confused with term 'Verification'. Most candidates were not aware that a validation check is applied to source data in an attempt to ensure that data are correctly entered, thereby minimising the possibility of human error.
- Record – was explained literally with reference to recording of data rather than 'a set of related attributes (fields) used to store data about a member of a particular entity'.
- Form – was confused with paper forms for capturing data rather than viewed as a type of object that is primarily used to enter or display data in the database.
- Default Value – was explained in terms of default settings for software packages such as Word and Excel, and not with reference to the value that is assigned to a data item during data entry.

Section III - Information and Communication Skills

Question 11

This question assessed candidates' knowledge and understanding of information sources. Most students generally performed satisfactorily on the question. A few candidates scored full marks.

In part (c) many students seemed not to understand what was required. They were asked to give one advantage AND one disadvantage of EACH of the two information sources identified in part (b) of the question. Many students gave just one advantage and one disadvantage of ONLY ONE information source. In some instances, the advantage and disadvantage given were not for the same information source identified.

Question 12

This question was designed to test candidates' knowledge and understanding of interactive online services. Most candidates generally did this item poorly.

Part (a) asked the candidates what is meant by 'interactive online services.' Many students failed to appreciate that this referred to a 'dialogue' between the computer system and the user done in 'real-time.'

In Part (b), many described activities and services that were not interactive, such as the completion of online application forms, online shopping and online banking. Examples of **interactive** online services include the following:

- Text based chat
- Internet Relay Chat (IRC)
- Instant Messaging
- Online Gaming
- Multimedia chat
- Video-conferencing with two-way communication.

In Part (c), as most candidates focussed on 'online services' rather than '**interactive** online services', the benefits discussed were not applicable.

Question 13

This question examined candidates' knowledge and understanding of Internet/web concepts. This item was done at an acceptable level by most candidates.

A number of candidates gave responses concerning what each item is rather than providing an explanation of the main function of the item. In addition, the response given by most candidates regarding Virtual Private Networks (VPN) indicated that they were unfamiliar with this concept.

Question 14

The question assessed candidates' ability to construct web pages. This question was generally poorly done by most candidates. A few candidates scored full marks.

Most candidates generally did well on part (a). However, many candidates were unable to describe the actual steps to be done in order to publish a report such as a research paper, which was already in electronic format, on the Web. A few candidates misinterpreted the question and discussed considerations such as colours, navigation and copyrights that someone should bear in mind when constructing a webpage.

An example of some possible steps:

- Convert to HTML document
- Organise into web pages
- Edit or change the size, alignment, font and colour of the text to improve 'look' of pages
- Add images, if appropriate
- Upload to web or host server
- Add links to other websites, if appropriate.

Question 15

The question tested candidates' ability to distinguish between the Intranet and Internet. This question was generally done at an acceptable level by most candidates. A few of candidates scored full marks.

For part (a), most candidates were aware that the Intranet restricts access to users within an organisation or firm unlike the Internet, which grants access to anyone with a computer, modem and ISP account.

For part (b), most candidates could identify a situation however, only a few of the candidates could adequately describe the situation. It was apparent that they did not recognise the similarities between the Intranet and Internet. These candidates viewed the Intranet in terms of a local area network rather than a network that uses the same infrastructure, protocols and standards as the Internet. They therefore failed to recognize that tasks performed on the Internet could also be done on the Intranet. As such, a firm may opt to publish the findings of a survey regarding employees' perception of management-workers relationship on the Intranet rather than on the Internet. In this way, the findings would remain confidential, as access is restricted to only employees of the entity.

For part (c), most candidates simply stated the limitation but failed to justify why this could be viewed as a limitation. A few candidates seemed unsure of the meaning of the word 'limitation'.

PAPER 02**Section I - Information Systems****Question 1**

This question was designed to test candidates' knowledge and understanding of automation in relation to Information Technology and the implications for business entities and the society when organisations embark on automation. The candidates were also asked to propose strategies that would minimize or eliminate the negative impact of automation. The question was attempted by approximately eighty-five percent of the candidates and was generally done at an acceptable level by most candidates.

In parts (a), most candidates defined automation in its widest sense; the use of machines, rather than in relation to Information Technology; the use of computers and related equipment to transform data into information, to store and maintain data.

In part (b), most candidates performed satisfactorily. They were able to identify positive and negative implications that could result from an entity automating its processes. A number of candidates gave reasons to support their statements but this was not required for this part of the question. These candidates need to be aware of the distinction between **state** and **discuss**.

In part (c), a number of candidates could not show why the implication was negative or positive. Their arguments lacked depth or were vague and as such the discussion was incomplete; For example, in discussing greater efficiency as a positive implication, the candidate was expected to mention an increase in output from the same quantity of input arising from fewer human errors, a reduction in time to achieve result and/or reduction in waste or number of times of re-work.

In part (d), most candidates were unable to identify and discuss effective strategies to mitigate against the negative implication.

Question 2

This question examined candidates' knowledge and understanding of the hardware subsystems – input, processor, memory, (auxiliary or secondary storage), and output – of the computer system, and the relationship between subsystems. Approximately fifteen percent of the candidates attempted this question. Most candidates performed at an acceptable level.

Part (a) was generally well done by most candidates. A few candidates incorrectly named devices, for example, keyboard/mouse, printer/plotter rather than giving the name of the subsystem. As such, these candidates failed to score the marks allocated.

Part (b) was poorly done by most candidates as they responded with only a sketch and not a **labelled** diagram. To show the relationship between a pair of subsystems, candidates should use an arrow, with the arrowhead indicating the direction of flow of data/information between the two subsystems.

Part (c) was satisfactorily done by most candidates. Some candidates lost marks because their discussion was not well organised and complete.

Part (d) was poorly done by most candidates. Candidates were expected to show how a named example (plotter, mouse, etc.) was appropriate to the firm's requirements – an architectural firm that designs house plans for its clients. Without naming a particular device of the subsystem, the candidates were unable to adequately address the appropriateness to the firm.

Section II - Information Processing and Presentation

Question 3

This question assessed the candidates' knowledge and understanding of the purpose and features of three named software packages, as well as problems that could arise when persons use the packages. The item was attempted by approximately seventy percent of the candidates and was generally done at an acceptable level by most candidates.

In Part (a) most candidates were able to describe scenarios where persons could use spreadsheets and database management systems. However, for financial packages, many of them described scenarios which were more suited to spreadsheets.

Parts (b) and (c) were generally well done by most students.

Question 4

The question examined candidates' application of the steps in problem solving that a musician would take in moving from handwriting his music to writing the music electronically using a software program. Approximately thirty percent of the candidates did this question. Most candidates performed at an acceptable level.

In part (a) most candidates listed the stages of the systems development life cycle. What was required were the steps involved in problem-solving – problem definition, analysis, evaluation of possible solutions, selection, implementation and review.

Part (b) was fairly well done. Several candidates however, could not distinguish between custom-written packages and “off-the-shelf” packages.

Part (c) was well done by most students.

Section III - Information and Communication Skills

Question 5

This question was designed to test the candidates' ability to construct web pages as well as their knowledge and understanding of the use of hyperlinks in web page development. The question was attempted by approximately twenty percent of the candidates. Most candidates performed poorly.

In part (a) most candidates did not explain that hyperlinks can be a word or phrase or graphic (image) that directs users to another web page for additional information.

In part (b) (i) most candidates could not adequately explain any three of the keywords, tags or lines in the given section of HTML code. It would appear that this was not addressed by many teachers/students.

Part (c) asked candidates to discuss two benefits of using hyperlinks in documents. This was fairly well done. Very few students referred to the help hyperlinks provided to users in focussing on a topic amidst the large volume of data on the Internet, or that hyperlinks help to reduce the time taken to locate required information.

Part (d) required candidates to discuss problems associated with using hyperlinks in web pages. This section was poorly done. Some students were able to briefly discuss some problems but most were not able to provide feasible solutions.

Candidates generally demonstrated a lack of knowledge of the technical terms in the question. Explanations and discussions lacked coherence.

Question 6

This question was attempted by eighty percent of the candidates. It assessed candidates' ability to critically assess extracts of information by examining the source of the information. This question was generally poorly done.

In parts (a) and (b), most candidates understood what was meant by the term 'characteristics of information' and listed six characters of information, respectively.

In Part (c), most candidates did not critique the information sources but rather the statements (information) from the sources. For example, in part (i), many candidates examined the accuracy of the statement and ignored the fact that the information source was not cited. Therefore, making certain assumptions, it could be argued that the information may or may not be accepted.

PAPER 03/1 - INTERNAL ASSESSMENT

This project allowed candidates to examine the potential uses and issues related to a particular emerging technology and determine its applicability to their environment (school, community, country or the Caribbean region). Additionally, it enabled the candidates to demonstrate skills and competencies from each of the three modules.

The candidates who scored highly used the sub-headings in the marking schemes of the modules to structure and organise their report and web pages. This allowed them to focus on the areas that were relevant to the study.

Some candidates submitted very good papers, indicating that they:

- (a) carefully selected a topic relevant to the specific objectives of the syllabus;
- (b) conducted a thorough review of the emerging technology;
- (c) collected and analysed data that had relevance to their study.

In addition, these candidates demonstrated mastery of the tools used to collect, store, analyse and present their findings, and were able to make recommendations that were supported by data.

Some of the more appropriate topics submitted for moderation included:

- Wi-Fibre G 2.7 (Communications infrastructure)
- 3G Mobile (Communications infrastructure)
- Near Field Communications (Communications infrastructure)
- Online Office suites (Application software)
- RFID Technology (Hardware: Input sensing technology)
- 3-D Printing (Hardware: Hard copy output technology)
- Holographic storage (Hardware: mass storage)
- Multi-core processors - Dual & Quad Core: (Hardware: Processors)
- Nanotechnology (Hardware)
- Apple iPhone (Communication device: smartphone)

Very popular topics that were inappropriate due to when the technology emerged include:

- Mobile telephones (emerged in the 1970s)
- Global Positioning Systems (emerged in the 1970s)
- Digital cameras (emerged in the 1980s)
- MP3 playback devices (emerged in the 1990s)
- Compact flash (emerged in the 1990s)

However, it should be noted that, where the latest model or enhancement of any of the technologies listed above has emerged within the past 36 months, then the technology would be appropriate, for example, the Apple iPod Nano for MP3 playback devices.

The following topics are outside the scope of the syllabus and as such, these and similar topics should not be considered:

- Touchless Trashcan: although uses a chip, the information processing capabilities are extremely limited; the opening of lid when the hand or trash is within 6 inches of the lid, and the closing of the lid 3 seconds after the hand is removed.
- Floating Bed
- Mitsubishi Evolution X

Section I - Review of Emerging Technology

Many candidates failed to describe all the details of the emerging technology. Consequently, it was difficult to establish whether the selected technology could really be categorized as emerging in the candidates' environment. A good response describing the technology should ideally include:

- details of who developed the technology
- when the technology was released (or the proposed release date)
- details of the information systems sub-category in which the technology may be placed
- key features of the technology.

A statement including an identification of the user's environment (school, community, country, Caribbean region) should also be included.

Some candidates did not identify a comparable existing technology and as such were not able to provide a complete description of similarities and differences. For example, a digital camera was erroneously identified as comparable existing technology to a web camera. A video camera would have been a more appropriate response. For those who identified comparable technologies (VOIP vs. POTS/PSTN, Bluetooth vs. infrared, compact flash vs. external IDE drives), similarities and differences were adequately identified and described.

Regarding **potential uses** of emerging technologies, it is not adequate to simply state the intended function of the device (if a device is being discussed) but rather:

- (a) to suggest innovative ways as to how the technology could be used in the user's environment to solve day-to-day problems;
- (b) to fully discuss the suggested potential uses.

Concerning potential drawbacks, candidates may choose to fully explain drawbacks based either on their literature review or on the proposed uses (in their own environment) of the technology.

Section II - Applicability of Technology

This section was generally poorly done. Many candidates failed to recognize the link between Sections 1 and 3 of the project and as such did not collect data that would help to arrive at a conclusion as to the technology's applicability. In quite a few cases, absolutely no data were collected, however candidates went on to make recommendations that could not be supported.

As in previous years, candidates continue to confuse data types with data fields. Data types refer to text, numeric, date/time, currency, boolean, and so on. Data fields refer to the names given to data elements within a table, for example, in a table called student, some data fields could be named, date of birth, gender, address and telephone. The syllabus guideline clearly indicates that marks will be awarded for **identification and justification of ALL relevant data and sources**. Candidates were therefore required to identify:

- the data item that would be collected; for example the number of persons in the environment that faced a particular problem that would be suitable for solving by the use of the emerging technology
- the data type of the data being collected; for example, **numeric** in the above bulleted example
- the source from which the data could be collected.

All relevant data and sources identified must be justified for maximum marks to be awarded.

Some candidates collected and analysed data that had little or no relevance to their study. Also, graphs and tables were included in their reports without any justification for their inclusion.

For Data Processing Methods (Task 2.3), this was inadequately addressed by many candidates who only described how the word processor was used to edit and format textual data that was obtained from web sites on the Internet. This task refers to how **all data** collected from the user's environment were processed. For example, regarding numeric data, this could include tabulation of the data in a spreadsheet, development of a range of formula to compute meaningful indices or simply finding the average of a set of values or plotting a graph. Teachers are encouraged to use the *Recommended Teaching Activities in the Syllabus* to foster an appreciation of the features provided by software tools that may be used to solve a range of everyday problems.

Section III - Summary of Research

This section was also poorly done. In the absence of data collection and analysis in Section II, very little meaningful work could be accomplished in this section. The examiners noted an increased number of candidates who raised validity issues worthwhile of mention. Of those that did so, a few of them undertook a comprehensive discussion indicating whether the findings were worthwhile or not.

Many candidates failed to identify possible follow-up projects but rather make suggestions (to the developer) as to how the technology could be improved. The intent here is for candidates to identify a project that could be done in continuation of the current research to assess the applicability of the technology in the environment. As an example, a candidate who discussed *Voice Over Internet Protocol (VOIP)* and concluded that it was applicable to their country suggested that a follow-up project could be '*to assess the service and satisfaction levels associated with the use of VOIP*'.

Candidates should be reminded that the Layout of References must be done using the APA or MLA style and that ALL references used (including personal contacts) should be listed.

PAPER 3/2 – ALTERNATE PAPER

Section I - Review of Emerging Technology

The question tested candidates' knowledge and understanding of the emerging technology that they studied. Most candidates performed poorly.

In Part (a), most candidates merely identified the emerging technology rather than providing a description of the technology.

In Part (b), most candidates listed a number of uses of the technology. The main purpose of the technology was not discussed. An appropriate response, for example, with regard to the Bluetooth technology would be as follow:

To provide connection and exchange of data within a restricted range of less than 100 metre and using a relatively low bandwidth.

In Part (c), most candidates responded with a statement or partial discussion of each benefit.

Section II - Applicability of Technology

The question assessed candidates' ability to use IT tools to determine the applicability of the emerging technology in their environment. Most candidates performed poorly.

The candidates' responses suggested an unawareness of the following:

- Data types in relation to Information Technology. Responses such as 'primary data' and 'factual data' were given;
- Data collection methods – the use of questionnaires; interviews; observation; investigation/research;
- Data storage methods – the use of programs such as DBMS, spreadsheets, and statistical tools.
- Data analysis methods – the use of graph, charts, tables, and other features to display trends and patterns.

Therefore, the basis of their discussion and explanation was inaccurate.

Section III - Information and Communication Skills

The question tested candidates' knowledge and understanding of IT tools which could be used to communicate the findings of the research with the Public. Most candidates did poorly.

Most candidates described features of the tools identified in Part (a), rather than to show **how** they would use the features of the tools to present the information relating to the findings to the Public. Discussion of the problems when using a tool was, to a large extent, not organised, or merely simply a statement of problems.