2007 HSC Notes from
the Marking Centre
Information Processes and Technology

Contents

2007 HSC NOTES FROM THE MARKING CENTRE INFORMATION PROCESSES AND TECHNOLOGY

Introduction

This document has been produced for the teachers and candidates of the Stage 6 course in Information Processes and Technology. It contains comments on candidate responses to the 2007 Higher School Certificate examination, indicating the quality of the responses and highlighting their relative strengths and weaknesses.

This document should be read along with the relevant syllabuses, the 2007 Higher School Certificate examinations, the marking guidelines and other support documents which have been developed by the Board of Studies to assist in the teaching and learning of Information Processes and Technology.

Candidates need to be familiar with the Board's Glossary of Key Words (www.boardofstudies.nsw.edu.au/syllabus_hsc/glossary_keywords.html) which contains some terms commonly used in examination questions. However, candidates should also be aware that not all questions will start with or contain one of the key words from the glossary. Questions such as 'how?', 'why?' or 'to what extent?' may be asked or verbs may be used which are not included in the glossary, such as 'design', 'translate' or 'list'.

Candidates are reminded that the mark value allocated for each question part, along with the 'key words' used in each question part, indicate the type of response required and the depth of that response.

Section I

Question	Correct Response		Question	Correct Response
1	D		11	B
2	C		12	A
3	D		13	C
4	A		14	B
5	A		15	B
6	B		16	D
7	C		17	D
8	A		18	B
9	C		19	D
10	A		20	C

Section II

Question 21

(a)   Better responses successfully identified a sufficient number and category of items to achieve maximum marks. Many responses provided detailed descriptions of the setting-up process which was not a requirement of the question.

(b)   Better responses clearly demonstrated an understanding of the use of appropriate organisation of data in a decision tree.

Mid-range responses provided responses in the form of a decision tree but had errors in the overall decision logic.

Weaker responses either re-wrote the data in table form or provided decision trees that had a number of ambiguous pathways.

(c)   Better responses recognised that upload speed was not a significant requirement for the family in the scenario but monthly download allowance was a more important feature. These responses clearly explained the large file sizes associated with downloading podcasts, radio, television and music online.

Mid-range responses were able to identify *Cable Extra* as the most appropriate plan but their justification needed greater depth with regard to the files sizes involved in the downloading process.

Weaker responses often mixed the concepts of uploading and downloading and chose the *Cable Light Plus* plan because of its increased upload speed and reduced price compared to the *Cable Extra plan*.

Question 22

(a)   Better responses identified the purpose, data/information and technology of the tracking system and predicted other technologies not in stimulus material. Specifically, these responses differentiated between data and information as well as providing examples from the hardware and software components of technology.

Weaker responses only paraphrased sections from stimulus material. They did not clearly distinguish the items from each of the three components and demonstrated a limited understanding of the radio frequency identification (RFID) system.

Candidates are advised that a diagrammatic representation of an information system could assist in their identification of the components of the system.

(b)   Better responses extracted the required information and clearly discussed the collecting, processing and display processes within the scenario. These responses provided clear examples both from the scenario and their overall knowledge of an information system.

        Mid-range responses provided a description of collecting and displaying but had difficulty articulating the concept of processing.

        Weaker responses rephrased information provided in the scenario which demonstrated a limited understanding of the system.

        Candidates needed to recognise that audio was a form of display as provided in the stimulus material.

        Candidates who answered this part in the form of a diagram needed to ensure that their labels were fully described.

(c)   Better responses demonstrated a clear understanding of the technical capabilities of an RFID system, and predicted credible uses of tracking individuals and describing them in detail. These responses also clearly demonstrated a variety of implications for each credible use demonstrating a deeper understanding of social and ethical issues.

        Weaker responses did not predict plausible uses of RFID systems, recommending systems that were more related to GPS navigation systems. These responses relied on the examples provided and discussed implications for one specific issue.

Question 23

(a)   Better responses combined the appropriate fields from each of the databases into a correct schema (ERD) with two tables, clearly indicating the primary key for each table and the foreign key that linked the two tables. The better responses also indicated the relationship between the tables and did not have any data redundancy.

        Mid-range responses often did not use two tables but used three or more tables instead, thereby introducing data redundancy to the new database structure. Many of the mid-range responses did not correctly identify all of the appropriate fields that were required from each of the original flatfile databases.

        Weaker responses did not provide a database schema or ERD but often attempted to answer this part by providing a single data dictionary combining the two flatfile databases. Many weaker responses appeared not to understand the concept of two different companies merging and the consequences of the merger on the company's data. These responses attempted to answer this part by simply connecting all of the fields of the original databases with connecting lines or, in some cases, with an intermediate table with two or three fields – without removing any of the original fields.

(b)   Better responses demonstrated a clear understanding of systems conversion methods. These responses recommended a conversion method for the scenario and fully justified the use of the chosen method over the other conversion methods in relation to the scenario. Better responses recommended a direct conversion with the justification that the new relational database structure was not all that different to the two previous flatfile databases. They recognised that a single relational database cannot be broken down into modules and so a phased conversion was not appropriate for the scenario.

Mid-range responses often recommended a conversion method and indicated why this conversion method would work for the scenario, but did not fully justify the use of the chosen method over other possible conversion methods. Many mid-range responses recommended a conversion method and provided the general features of that conversion method (and sometimes of all four conversion methods) without thought to the details of the scenario.

Weaker responses provided a conversion method but did not justify its use. It was also evident that many of these responses demonstrated confusion between phased, parallel and pilot conversion methods. Weaker responses did not take into consideration the size of the original two companies, or the fact that one company was taking over the other company and would be working with a single database when answering this part. Many weaker responses were too vague in this part – simply stating that 'the system would be slowly converted' did not meet the requirements of the question.

(c)   Better responses recognised that view 1 was a 'form view' and view 2 was a 'report view' from the database in the scenario. These explained the differences between the views and related specific differences in the views to the roles of the people involved in the information processes. Better responses recognised that view 1 displayed a single record from the database in the question and that the users of view 1 could edit the data for not only that single record but also for other records in the database.

Mid-range responses did not address enough of the differences between the views and did not recognise the views as being a 'form view' and a 'report view' from the database. These responses often described differences in the two views but did not relate these differences to the roles of the people involved in the information processes for this system. Some mid-range responses stated why the two views needed to be different but did not use specific examples from the views to substantiate their statements.

Weaker responses often attempted to explain the differences in the two views in terms of screen design principles rather than relating the differences to the use of data from a database. Many responses confused the scenario so that view 1 was seen as the view of an 'online chemist shop' and view 2 was what was seen by a customer of an 'online chemist'.

Question 24

Better responses were clear and unambiguous, related to the scenario, and displayed candidates' understanding of networks and their development.

(a)   Candidates needed to clearly show that they understood the nature of processing in a client/server network. Better responses clearly stated that processing was away from the client in the classroom, with usernames and passwords being validated in the server.

Some responses identified the server as the processor of the login details, but a generic statement of 'accessing the application software from the centrally located PCs' indicated that they were unsure of where the processing was occurring, as required by the question. Responses needed to indicate where the processing occurred.

Better responses also indicated unambiguously that the application software was running on the centrally located PCs, with the clients in the classroom only acting as an interface to the user.

Weaker responses simply rewrote the information from the stimulus material, which did not clearly display the candidate's knowledge.

Candidates are advised not to restate the question.

(b)   Weaker responses identified some relevant points on the constraints/issues in the question, without any real discussion, while others discussed at length irrelevant issues, such as ergonomics, viruses or students damaging computers.

Better responses discussed the constraints/issues as outlined in the question, providing other relevant issues such as organisational and scheduling feasibility. These responses also made clear reference to the network scenario provided, discussing the fact that 60 clients with 40 PCs was an issue when more than 40 students accessed the network.

Better responses also gave some positive and negative discussion on the scenario in the question, realising that 40 PCs is a cheaper option than having 60 that may not always be used. These responses also referred to the client/server relationship as a suitable network solution.

Weaker responses offered only one point about each of the constraints/issues, with minimal or no discussion – these responses clearly needed more depth and breadth.

Section III

Candidates were required to answer TWO questions only from this section. A number of candidates attempted more than two questions. Candidates should be discouraged from attempting more than two questions, as the time they waste on the extra question/s could be better spent fully answering the two questions required.

Question 25 – Transaction Processing Systems

Better responses demonstrated an understanding of the complexities of a transaction processing system and related these to the specific scenario.

(a) (i)   Many responses could not define *data validation*.

            Better responses clearly defined the term *data validation* and provided an appropriate example, including its significance in either the definition or example.

            Weaker responses demonstrated little understanding of the term *data validation* by only providing a limited example or definition.

     (ii)   Better responses clearly articulated the main differences between real time and batch transaction processing, using appropriate examples related to transaction processing systems.

            Weaker responses only provided examples or appropriate definitions of only one of the terms. A number of responses demonstrated an understanding of both terms but provided poor examples to support their answer.

(b) (i)   Some responses went beyond the scope of the scenario by suggesting solutions that were not available under the current smart card system, ie photo identification, fingerprints, or not feasible for this system, eg DNA.

            Better responses provided clear and accurate strategies to overcome both problems, by relating their responses to solutions that could be implemented within the scope of the smart card scenario.

            Weaker responses provided some limited strategies for one or both scenarios but were not specific to the smart card system.

     (ii)   Better responses clearly described both the information processes of collecting and processing and related them specifically to the scenario given.

            Mid-range responses described collecting well, but had difficulties with the concepts of processing.

            Weaker responses were able to identify some collecting and/or processing in general terms.

(c)   Better responses clearly explained the issues that could arise in the scenario provided by discussing all required issues clearly with points for and/or against. Better responses dealt thoroughly with data accuracy, integrity and control.

            Mid-range responses demonstrated an adequate understanding of the scenario but only provided limited discussion of some of the issues related to the use of the smart card and/or data.

Weaker responses demonstrated a limited understanding of the use of the smart card and issues related to its use in the scenario by identifying one or some issues without discussion.

Candidates are reminded that examples need to be given that relate to transaction processing systems. A number of candidates seemed to understand this topic but did not give appropriate examples and/or did not relate their responses to the scenario given.

Question 26 – Decision Support Systems

(a) (i) Better responses were able to clearly identify the features and characteristics of a spreadsheet and how it is used in the area of prediction. These responses contained clear examples.

Weaker responses did not provide characteristics and features of spreadsheets. They gave a limited example or provided a limited feature/characteristic of a spreadsheet.

Some weaker responses confused a spreadsheet with an expert system or neural network.

(ii) Many responses confused *data matching* with *data mining*, and some responses included explanations of the matching of patterns and trends in data.

Better responses clearly identified the features and characteristics of *data matching*. They also contained clear and valid examples.

Weaker responses only gave a limited example or provided a limited feature/characteristic of *data matching*. Most weaker responses showed a limited understanding of the process of data matching.

(b) (i) Some responses confused the 'structured' nature of the website with the categorisation of the type of situation, ie structured, semi-structured and unstructured. Some responses identified the example as 'structured' and provided a very clear and reasonable justification, such as using a set algorithm to reach a conclusion.

Better responses identified semi-structured correctly and went on to explain why this system was not either structured or unstructured with relation to the scenario.

Weaker responses classified the system although their justification was limited.

(ii) Better responses addressed the three components (collecting, organising and processing) in detail with reference to key terminologies (knowledge base, inference engine) in expert systems in the context of the scenario.

Mid-range responses demonstrated understanding of the characteristics and features of any two components in a decision support system with reference to the scenario.

Weaker responses gave a limited description of a component.

Some responses confused collecting and organising by the knowledge engineer to create the knowledge base with the collecting of the user's responses for the database of facts.

(c)   Typical responses demonstrated an adequate understanding of some of the issues and implications. Better responses related at least one issue back to the scenario.

Better responses demonstrated a clear understanding of issues and implications of these with reference to the scenario. These responses also provided multiple points for and/or against the use of this particular expert system.

Weaker responses demonstrated a limited understanding of an issue with respect to an expert system.

Question 27 – Automative Manufacturing Systems

Better responses related their answers to the automated manufacturing system situation described in the scenario. Candidates are reminded that they should relate their answers to the stimulus material in the question and avoid over-generalised responses.

(a)   (i)   Better responses provided both a clear definition of a *block diagram* and gave a reason why they were used to describe an automated manufacturing system. Many of these better responses used a diagram to illustrate a block diagram of a simple system to enhance their answers.

Mid-range responses gave a definition of a *block diagram* and indicated that symbols are used to represent inputs and outputs into an automated manufacturing system.

Weaker responses provided a limited definition indicating that a block diagram was a drawing of an automated manufacturing system.

(ii)   Better responses clearly stated a number of stages in mail sorting where barcodes could be used in sorting mail.

Mid-range responses limited their response to one stage of the mail sorting operation where barcodes could be scanned to assist with the movement of mail to its destination.

Weaker responses demonstrated limited understanding that barcodes could be used to represent a destination address.

(b)   (i)   Better responses described how CAD/CAM could be used together to design and manufacture mobile phones. They explained how CAD could be used to design the phone using computer hardware and software and how a model of the final product could be displayed. The dimensions of the product were then stored on a database and transmitted to the CAM system

where computer-controlled machines manufactured various components for the mobile phones.

Mid-range responses described how CAD or CAM could be used in the manufacture of mobile phones.

Weaker responses only expanded the acronym for CAD/CAM and did not relate their answers to the production of mobile phones.

    (ii)   Better responses identified two computer-controlled tools and related how sensors could collect data to be used by the tools to manufacture mobile phones.

            Mid-range responses identified one computer-controlled tool only and gave a limited explanation about how the sensor operated.

            Weaker responses simply named one or two computer-controlled tools and did not relate them to sensors or mobile phone production.

(c)   Better responses discussed the issues for both staff and supervisors in the assembly line production of mobile phones. These responses then expanded their answers to include a number of issues.

    Mid-range responses generally discussed issues by listing issues for the staff and the supervisor. Such responses often only discussed one of these issues.

    Weaker responses only identified an issue for staff or the supervisor.

Question 28 – Multimedia Systems

(a)   (i)   In this question, candidates needed to have a clear understanding of the differences between a head-up display device and a headset.

            Better responses gave a clear description of a head-up display, including features such as projection of information onto a transparent surface. The best responses then linked the description of a head-up display device with a clear and unmistakable example in virtual reality.

            Weaker responses lacked the specific features of a head-up display device and focused more on three-dimensional virtual environments.

    (ii)   Better responses provided a clear description of morphing as a gradual animation between two distinct images and clearly described distorting as the manipulation of a single image to alter its final appearance.

            Better responses clearly highlighted a difference between morphing and distorting, such as the number of images used in the process.

Weaker responses defined either morphing or distorting but not both.

(b) (i) Better responses demonstrated an essentially correct calculation and provided an explanation for most of the numbers, eg multiplying the horizontal and vertical pixels, converting 256 colours into a bit depth of 8, then converting bytes in kilobytes.

Mid-range responses demonstrated the multiplication of the horizontal and vertical pixels and the bit depth of 8, but did not include a conversion to bytes as well as converting to kilobytes.

Weaker responses simply repeated the numbers from the question in their calculation using 256 colours rather than the correct bit depth.

(ii) Better responses completed a majority of cells with accurate information and realised the classification required a single word response, either hardware or software. They provided appropriate audio/video requirements as well as a related iPhone component for that requirement.

Weaker responses simply copied from the stimulus material and lacked the depth of knowledge required. They gave vague requirements with limited characteristics and features.

(c) Typical responses provided descriptions of the issues listed in the question, with some discussion in the context of the iPhone services.

Better responses discussed a range of issues and specifically related each issue back to the appropriate service.

Mid-range responses discussed the issues in generic terms without referring to the stimulus material as required, indicating an understanding of social and ethical issues in this subject.

Weaker responses did not provide a range of distinct issues, such as those given in the question.

Information Processes and Technology
2007 HSC Examination Mapping Grid

Question	Marks	Content	Syllabus outcomes
Section I			
1	1	Communication Systems	H1.1
2	1	Information Systems and Databases	H3.1
3	1	Communication Systems	H1.1
4	1	Project Work	H1.1
5	1	Project Work	H5.2
6	1	Information Systems and Databases	H1.1
7	1	Information Systems and Databases	H1.1
8	1	Communication Systems	H1.1
9	1	Information Systems and Databases	H1.1
10	1	Communication Systems	H1.1
11	1	Project Work	H5.1
12	1	Information Systems and Databases	H2.1
13	1	Communication Systems	H1.1
14	1	Communication Systems	H1.1, H4.1
15	1	Information Systems and Databases	H1.1, H1.2, H2.1
16	1	Project Work	H5.2
17	1	Communication Systems	H1.1
18	1	Project Work	H6.2
19	1	Project Work	H6.2
20	1	Information Systems and Databases	H1.1

Question	Marks	Content	Syllabus outcomes
Section II			
21 (a)	3	Communication Systems	H1.1, H2.1, H6.1
21 (b)	3	Project Work	H6.2
21 (c)	3	Communication Systems	H1.1, H1.2, H6.1
22 (a)	3	Information Systems and Databases	H1.2
22 (b)	3	Information Systems and Databases	H1.2, H2.1
22 (c)	5	Communication Systems	H3.1, H5.2
23 (a)	5	Information Systems and Databases	H1.1, H1.2, H4.1
23 (b)	3	Information Systems and Databases	H4.1, H5.1, H6.2, H7.1
23 (c)	4	Project Work	H1.1, H1.2, H4.1
24 (a)	3	Communication Systems	H1.1, H2.1
24 (b)	5	Project Work	H1.1, H6.1, H6.2, H7.1
Section III			
25 (a) (i)	3	Transaction Processing Systems	H1.1, H1.2
25 (a) (ii)	3	Transaction Processing Systems	H1.1, H1.2
26 (b) (i)	4	Transaction Processing Systems	H1.1, H1.2, H2.1, H2.2, H4.1
25 (b) (ii)	4	Transaction Processing Systems	H1.1, H1.2, H2.1
25 (c)	6	Transaction Processing Systems	H1.2, H3.1, H3.2
26 (a) (i)	3	Decision Support Systems	H1.1, H1.2
26 (a) (ii)	3	Decision Support Systems	H1.1, H1.2
26 (b) (i)	3	Decision Support Systems	H1.1, H1.2
26 (b) (ii)	5	Decision Support Systems	H1.1, H1.2
26 (c)	6	Decision Support Systems	H3.1, H4.1
27 (a) (i)	3	Automated Manufacturing Systems	H1.1, H2.1
27 (a) (ii)	3	Automated Manufacturing Systems	H1.1, H1.2, H2.1
27 (b) (i)	4	Automated Manufacturing Systems	H1.1, H1.2, H4.1

Question	Marks	Content	Syllabus outcomes
27 (b) (ii)	4	Automated Manufacturing Systems	H1.1
27 (c)	6	Automated Manufacturing Systems	H3.1, H3.2, H5.2
28 (a) (i)	3	Multimedia Systems	H1.1
28 (a) (ii)	3	Multimedia Systems	H1.1
28 (b) (i)	3	Multimedia Systems	H1.1
28 (b) (ii)	5	Multimedia Systems	H1.1, H1.2, H2.1
28 (c)	6	Multimedia Systems	H3.1, H5.2

2007 HSC Information Processes and Technology Marking Guidelines

Section II

Question 21 (a)

Outcomes assessed: H1.1, H2.1, H6.1

MARKING GUIDELINES

Criteria	Marks
• Response identifies at least two correct items from either hardware, software or security that the family would need to utilise a cable service. Better answers will include a cable modem/router or will include an item from hardware, software and security	2–3
• Response correctly identifies at least one item the family would need to utilise for a cable service	1

Question 21 (b)

Outcomes assessed: H6.2

MARKING GUIDELINES

Criteria	Marks
• Response is in the format of a decision tree and correctly shows the majority of decisions. Better answers will correctly show all of the decisions	2–3
• Response is in the format of a decision tree, but is incomplete or not correct	1

Question 21 (c)

Outcomes assessed: H1.1, H1.2, H6.1

MARKING GUIDELINES

Criteria	Marks
• Response recommends one of the two plans the family is considering and provides a credible justification. Better responses will provide a thorough justification or provide more than one appropriate reason with justification for their recommendation	2–3
• Response provides a weak justification for either plan or states the cable extra plan	1

Question 22 (a)

Outcomes assessed: H1.2

MARKING GUIDELINES

Criteria	Marks
• Response demonstrates a good understanding of the prisoner tracking system by correctly identifying items in the majority of aspects required by the question. Better responses will identify items from each aspect and relate it to the senario	2–3
• Response demonstrates a limited understanding by identifying only two items from the aspects required in the question	1

Question 22 (b)

Outcomes assessed: H1.2, H2.1

MARKING GUIDELINES

Criteria	Marks
• Response demonstrates a sound understanding of the information processes in this context by describing collection, processing and display data. Better answers will describe all processes and link closely to the scenario	2–3
• Response demonstrates a limited understanding of the information processes in this context by describing only one process	1

Question 22 (c)

Outcomes assessed: H3.1, H5.2

MARKING GUIDELINES

Criteria	Marks
• Response demonstrates a clear understanding of how RFID could be used and its implications, by predicting credible use of RFID for tracking individuals and discussing an implication(s) for individuals who are tracked. Better responses will discuss one or more implication(s) for the predicted use of RFID for tracking	4–5
• Response demonstrates an adequate understanding of how RFID could be used and its implications, by predicting a plausible use of RFID for tracking individuals and/or discussing implications for individuals who are tracked. Better answers will provide a prediction with at least one clear discussion of the implication	2–3
• Response demonstrates a limited understanding of how RFID could be used to track individuals and its implications, by making a less credible prediction or discussing one implication poorly	1

Question 23 (a)

Outcomes assessed: H1.1, H1.2, H4.1

MARKING GUIDELINES

Criteria	Marks
• Response combines the appropriate fields of the two databases into one relational database using more than one table. Better answers will have fields and primary key(s)/key fields identified and no data redundancy	4–5
• Response demonstrates an adequate understanding of combining most of the fields in the two databases. Better answers will use more than one table and some indication of keys.	2–3
• Response indicates a limited understanding of combining the fields in the two databases into one database structure by providing a small number of appropriate fields in one table	1

Question 23 (b)

Outcomes assessed: H4.1, H5.1, H6.2, H7.1

Marking Guidelines

Criteria	Marks
• Response provides a clear justification for any of the four types of conversion. Better answers will recommend a conversion method with clear justification as to its merits over the other methods.	2–3
• Correctly identifies a conversion method OR provides a limited argument for a conversion method.	1

Question 23 (c)

Outcomes assessed: H1.1, H1.2, H4.1

MARKING GUIDELINES

Criteria	Marks
• Response demonstrates a clear understanding of the differences between the two different views AND explains the reasons for the differences. Better responses will relate the roles of the people involved to the differences in the views	3–4
• Response demonstrates a limited understanding of the differences between the two views. OR • Discussion without differences OR • Poorer responses will identify differences with no discussion	1–2

Question 24 (a)

Outcomes assessed: H1.1, H2.1

MARKING GUIDELINES

Criteria	Marks
• Response clearly indicates the relationship between the client and server(s) in terms of processing when a user logs on and accesses an application package. Better responses will do this for both log on and application package access	2–3
• Response describes **where** some processing takes place OR • Response describes **what** processing takes place	1

Question 24 (b)

Outcomes assessed: H1.1, H6.1, H6.2, H7.1

MARKING GUIDELINES

Criteria	Marks
• Response identifies issues included in the feasibility study and provides points for and/or against each of these issues. Better responses will relate an issue to the network solution	4–5
• Response identifies relevant issues included in the feasibility study with limited or no discussion. Better responses will identify the issues for some areas	2–3
• Response identifies at least one relevant issue	1

Question 25 (a) (i)

Outcomes assessed: H1.1, H1.2

MARKING GUIDELINES

Criteria	Marks
• Response correctly defines data validation and gives an appropriate example. Better responses will provide a clear explanation of the significance.	2–3
• Response provides a limited definition of data validation OR • Response provides an appropriate example only	1

Question 25 (a) (ii)

Outcomes assessed: H1.1, H1.2

MARKING GUIDELINES

Criteria	Marks
• Response provides a clear difference between real time and batch processing. Better responses will provide clear examples of both.	2–3
• Response provides a limited explanation of the difference between real time and batch processing OR • Response provides an example of either batch processing or real time processing	1

Question 25 (b) (i)

Outcomes assessed: H1.1, H1.2, H2.1, H2.2, H4.1

MARKING GUIDELINES

Criteria	Marks
• With reference to both problems, response sketches in general terms and indicates the main features of appropriate strategies	4
• Response makes reference to both problems and provides the main features of an appropriate strategy	3
• Response provides a limited outline of strategy(ies) for both problems OR • Response provides the main features for one strategy	2
• Response provides limited outline for one strategy	1

Question 25 (b) (ii)

Outcomes assessed: H1.1, H1.2, H2.1

MARKING GUIDELINES

Criteria	Marks
• Provides clear characteristics and features for both processes	4
• Makes reference to both processes and provides clear characteristics and features for one process	3
• Provides limited characteristics and features for both processes OR • Provides clear characteristics and features for one process	2
• Provides limited characteristics and/or features for one process	1

Question 25 (c)

Outcomes assessed: H1.2, H3.1, H3.2

MARKING GUIDELINES

Criteria	Marks
• Response clearly identifies points for and against the strengths and weaknesses of the data associated with the smart card. Better responses will thoroughly deal with data accuracy, integrity	5–6
• Response identifies issues associated with data and/or the smart card system. Better responses will consider some of the issues, points for and against	3–4
• Response identifies issues related to data. Poorer responses may only identify one issue	1–2

Question 26 (a) (i)

Outcomes assessed: H1.1, H1.2

MARKING GUIDELINES

Criteria	Marks
• Response identifies and provides characteristics and features of spreadsheets that assist decision making. Better answers provide a clear example	2–3
• Response provides a limited description/example OR identifies a feature of spreadsheets that relate to how they could assist decision making	1

Question 26 (a) (ii)

Outcomes assessed: H1.1, H1.2

MARKING GUIDELINES

Criteria	Marks
• Response identifies and provides characteristics and features of data matching. Better answers provide a clear example	2–3
• Response provides a limited description OR identifies a feature of data matching	1

Question 26 (b) (i)

Outcomes assessed: H1.1, H2.1

MARKING GUIDELINES

Criteria	Marks
• Response provides a clear and reasonable argument for any of the three types of situations.	2–3
• Response correctly identifies this as a semi-structured situation OR provides a limited argument for any of the three types of situations	1

Question 26 (b) (ii)

Outcomes assessed: H1.1, H1.2

MARKING GUIDELINES

Criteria	Marks
• Response demonstrates a clear understanding of the decision support system by providing characteristics and features of collecting and organising, and processing. Better responses should provide a context for all of components and could include reference to key terminology such as knowledge base and inference engine	4–5
• Response demonstrates an adequate understanding of the decision support system by providing the characteristics and features of two components identified in the question and relate them to the scenario	3
• Response demonstrates a limited understanding of the decision support system by identifying the characteristics and features of one of the components identified in the question. Better answers will provide a limited understanding of collecting and organising, and processing OR • Response demonstrates a clear understanding of one component	1–2

Question 26 (c)

Outcomes assessed:H3.1, H4.1

MARKING GUIDELINES

Criteria	Marks
• Response demonstrates an adequate understanding of most, and a clear understanding of some of the issues and implications by providing multiple points for and/or against the use of this type of expert system. Better responses will demonstrate a clear understanding of most issues with reference to the senario	5–6
• Response demonstrates an adequate understanding of some of the issues and implications for and/or against the use of this type of expert system. Better responses will demonstrate an adequate understanding of more than one issue	3–4
• Response demonstrates a limited understanding of an issue by providing an argument for or against the use of this type of expert system. Better responses will attempt to address more than one issue.	1–2

Question 27 (a) (i)

Outcomes assessed: H1.1, H2.1

MARKING GUIDELINES

Criteria	Marks
• Response provides a complete definition for a block diagram. Better answers will state why block diagrams are used to represent Automated Manufacturing Systems.	2–3
• Response provides a limited definition of a block diagram or description	1

Question 27 (a) (ii)

Outcomes assessed: H1.1, H1.2, H2.1

MARKING GUIDELINES

Criteria	Marks
• Response provides characteristics and features of the use of barcodes and sorting mail. Better answers will describe the use of barcodes at more than one stage in the sorting process	2–3
• Response indicates a limited understanding of barcodes OR • Response does not link barcodes to mail sorting systems	1

Question 27 (b) (i)

Outcomes assessed: H1.1, H1.2, H4.1

MARKING GUIDELINES

Criteria	Marks
• Response relates CAD/CAM's relevance to the manufacture of mobile phones. Better responses will describe CAD and CAM and relate both to mobile phone manufacture	3–4
• Response expands the acronym CAD/CAM and makes a reference to mobile phone manufacture. Poorer responses may only expand the acronym	1–2

Question 27 (b) (ii)

Outcomes assessed: H1.1

MARKING GUIDELINES

Criteria	Marks
• Response identifies one computer controlled tool that could be used to assemble mobile phones and how they collect data using sensors. Better responses will clearly identify two computer controlled tools and indicate how the sensors operate and how the tools to which they are attached are used in phone production	3–4
• Response identifies two computer controlled tools with limited understanding of how the sensors operate or identifies how sensor(s) operate in the production of mobile phones. Poorer responses may not refer to the production of mobile phones or may just identify computer controlled tool(s)	1–2

Question 27 (c)

Outcomes assessed: H3.1, H3.2, H5.2

MARKING GUIDELINES

Criteria	Marks
• Response clearly identifies issues that arise for more than one aspect involved in the manufacture of mobile phones. Points for and/or against these should be included. Better responses will discuss all nominated aspects of the question.	5–6
• Response identifies issues for the people and supervisor involved in the manufacture of mobile phones. Better responses will discuss points for and/or against one of these	3–4
• Response identifies issues for people or supervisor involved in the manufacture of mobile phones. Poorer responses may only identify one issue.	1–2

Question 28 (a) (i)

Outcomes assessed: H1.1

MARKING GUIDELINES

Criteria	Marks
• Response provides a clear description of a head-up display and/or provides a clear example of its use in virtual reality. Better answers will provide a clear description and clear example	2–3
• Response provides a limited description of head-up display OR • Response provides an example	1

Question 28 (a) (ii)

Outcomes assessed: H1.1

MARKING GUIDELINES

Criteria	Marks
• Demonstrates a good understanding of morphing and distorting by describing the two processes. Better answers will clearly identify the DIFFERENCES between the two processes	2–3
• Provides a limited description of at least one process	1

Question 28 (b) (i)

Outcomes assessed: H1.1

MARKING GUIDELINES

Criteria	Marks
• The working is essentially correct AND an explanation is provided for the majority of numbers	3
• Working shown is a correct calculation, with no explanation OR • A part of the final working with no explanation	2
• Incorrect working and/or with limited explanation	1

Question 28 (b) (ii)

Outcomes assessed: H1.1, H1.2, H2.1

MARKING GUIDELINES

Criteria	Marks
• Demonstrates a clear understanding of the audio/video requirements of the iPhone by completing the majority of the table. Better responses will provide a clear description for each of the information processes in the table	4–5
• Demonstrates an adequate understanding of the audio/video requirements of the iPhone by completing at least two sets (ie rows) of information processes	3
• Demonstrates a limited understanding of the audio/video requirements of the iPhone by completing at least one whole information process (ie row). Poorer answers will meaningfully complete at least 2 cells in the table without repetition from the same column	1–2

Question 28 (c)

Outcomes assessed: H3.1, H5.2

MARKING GUIDELINES

Criteria	Marks
• Response shows a clear understanding of issues associated with the services of iPhone technologies through a thorough discussion of multiple issues. Better answers will identify a range of issues that arise out of the capabilities of the iPhone and its services	5–6
• Responses include discussion of more than one issue and adequately relate them to iPhone technology/services. Better responses will include discussion of multiple issues and relate these to iPhone technology/services	3–4
• Response identifies at least one issue and relates it to the iPhone technology/service. Poorer responses may only identify one issue without relating it to the iPhone technology/services	1–2