BOARD OF STUDIES
NEW SOUTH WALES

2010 HSC Information Processes and Technology Marking Guidelines

Section I

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

Section II

Question 21 (a)

Criteria	Marks
• Provides a context diagram including labelled data flows, processes and external entities indicating understanding of the solution	2
• Provides an attempt at a context diagram indicating limited understanding of the solution	1

Question 21 (b)

Criteria	Marks
• Identifies information technology (hardware and software) components demonstrating understanding of the system	2
• Identifies component of hardware or software	1

Question 21 (c)

Criteria	Marks
• Provides justification for conversion with reference to the scenario demonstrating clear understanding of the context	3
• Provides description of appropriate conversion	2
• Identifies a feature of conversion	1

Question 21 (d)

Criteria	Marks
• Provides description of a social and/or ethical issue in relation to the system, considering the position of owner/driver or government	2
• Identifies a social or ethical issue	1

Question 22 (a)

Criteria	Marks
• Provides description of a difference between thin and fat clients indicating understanding of both clients	2
• Identifies features of a fat client OR • Identifies features of a thin client	1

Question 22 (b) (i)

Criteria	Marks
• Provides data dictionary indicating understanding of the context of including field name, data type and data size	2
• Provides data dictionary indicating basic understanding and/or relevant data from the context	1

Question 22 (b) (ii)

Criteria	Marks
• Provides explanation of how the message is sent and received, including how message is organised into packets in context	3
• Provides description of the message transmission or receipt, with reference to packets	2
• Identifies feature(s) of transmission and/or receipt of messages OR • Identifies features of packet(s)	1

Question 22 (b) (iii)

Criteria	Marks
• Provides explanation of a suitable error detection technique in context	3
• Provides description of an error detection technique	2
• Identifies feature(s) of error detection	1

Question 23 (a)

Criteria	Marks
• Identifies a technique to reduce data entry errors and why technique is appropriate in relation to the context	2
• Identifies features of data entry errors	1

Question 23 (b)

Criteria	Marks
• Provides an explanation of why the screen elements in question 3 and question 7 were used	2
• Identifies feature(s) of screen elements	1

Question 23 (c)

Criteria	Marks
• Provides design of screen, including a graph indicating understanding of the context	3
• Attempts design of screen indicating limited understanding of context	2
• Identifies features of the screen	1

Question 23 (d)

Criteria	Marks
• Provides clear description of the analysing processes needed by the Carbon Footprint Calculator in order to generate information	3
• Provides description of analysing processes	2
• Identifies feature(s) of analysing processes	1

Question 24 (a)

Criteria	Marks
• Provides a clear description of ONE social and ONE ethical issue that may arise from the downloading of digital books	3
• Provides a description of a social and/or ethical issue indicating limited understanding of the context	2
• Identifies a social or ethical issue	1

Question 24 (b)

Criteria	Marks
• Provides a discussion of issues of feasibility in relation to the scenario	3
• Provides a description of an issue(s) of feasibility	2
• Identifies an aspect of feasibility	1

Question 24 (c)

Criteria	Marks
• Explanation demonstrates a high level of understanding of transmission of a digital book being utilised in this context • Reference is made to all necessary protocols	5
• Discussion demonstrates a good level of understanding of transmission of a digital book • Reference is made to most of the protocols correctly in the context	4
• Response demonstrates a satisfactory level of understanding of transmission of a digital book through a description of some protocols	3
• Provides a limited description • Identifies correct protocols	2
• Recognises a protocol used within any communication system	1

Section III

Question 25 (a) (i)

Criteria	Marks
• Demonstrates understanding of an RFID tag	1

Question 25 (a) (ii)

Criteria	Marks
• Provides a description of the use of transaction logs	2
• Gives an example of a transaction log OR identifies features of a transaction log	1

Question 25 (b) (i)

Criteria	Marks
• Identifies characteristics of a Transaction Processing System demonstrating an understanding of real time processing being used	2
• Identifies characteristics of a Transaction Processing System OR shows some understanding of real time processing	1

Question 25 (b) (ii)

Criteria	Marks
• Provides an explanation of batch processing demonstrating understanding of when batch processing is a more appropriate solution	3
• Provides a description of batch processing demonstrating limited understanding of when batch processing is a more appropriate solution	2
• Identifies feature(s) of batch processing	1

Question 25 (c) (i)

Criteria	Marks
• Provides a substantially correct data flow diagram	3
• Provides a data flow diagram indicating some relevance to the problem	2
• Provides an attempt indicating some understanding of a data flow diagram	1

Question 25 (c) (ii)

Criteria	Marks
• Provides a description indicating a clear understanding of both collecting AND storing/retrieving in relation to the parking system	4
• Provides a description indicating understanding of collecting AND storing/retrieving, demonstrating understanding of the parking system	3
• Provides a description of collecting OR storing/retrieving demonstrating limited understanding of the parking system	2
• Identifies a feature of collecting OR storing and retrieving	1

Question 25 (c) (iii)

Criteria	Marks
• Predicts a valid application and provides a clear description of how the technology in the scenario will be used with consideration of security and changing nature of work	5
• Predicts a valid application and provides a description of how the technology in the scenario will be used with consideration of security and changing nature of work	4
• Predicts an application and provides a limited description of how the technology in the scenario will be used with consideration of security and changing nature of work	3
• Provides a description of a new or existing system, outlining how the technology in the scenario is used with consideration of security or changing nature of work	2
• Identifies a new or existing system that utilises technology in the scenario OR • Lists issue(s) related to a Transaction Processing System	1

Question 26 (a) (i)

Criteria	Marks
• Demonstrates understanding of data warehouse	1

Question 26 (a) (ii)

Criteria	Marks
• Provides characteristics of a semi-structured Decision Support System	2
• Identifies feature(s) of a semi-structured Decision Support System	1

Question 26 (b) (i)

Criteria	Marks
• Identifies a type of inference engine and provides an appropriate example	2
• Identifies an example of an inference engine OR • Provides a limited description of a type of inference engine	1

Question 26 (b) (ii)

Criteria	Marks
• Provides a discussion of how group decision support systems are used and how they are used to support decision-making	3
• Provides a description of how group decision support systems are used, demonstrating a limited understanding of how they are used to support decision-making	2
• Identifies feature(s) of group Decision Support Systems	1

Question 26 (c) (i)

Criteria	Marks
• Provides an explanation as to how the data from reports is used to assist a website manager, indicating understanding of the tool	3
• Provides discussion of how the data from the tool is used to assist a website manager, indicating limited understanding of the tool	2
• Identifies feature(s) of the data from reports	1

Question 26 (c) (ii)

Criteria	Marks
• Provides a description indicating a clear understanding of analysing and collecting in relation to the use of the web analysis tool	4
• Provides a description indicating understanding of analysing and collecting in relation to the use of the web analysis tool	3
• Provides a description of analysing or collecting which displays limited understanding of the use of the web analysis tool	2
• Identifies a feature of analysing or collecting	1

Question 26 (c) (iii)

Criteria	Marks
• Predicts a valid application and provides a clear description of how the technology in the scenario will be used with consideration of responsibility for decisions and performing data mining	5
• Predicts a valid application and provides a description of how the technology in the scenario will be used with consideration of responsibility for decisions and performing data mining	4
• Predicts an application and provides a limited description of how the technology in the scenario will be used with consideration of responsibility for decisions and performing data mining	3
• Provides a description of a new or existing system outlining how the technology in the scenario is used with consideration of responsibility for decisions OR performing data mining	2
• Identifies a new or existing system that utilises the technology in the scenario OR • Lists issue(s) related to a Decision Support System	1

Question 27 (a) (i)

Criteria	Marks
• Demonstrates an understanding of a direct user in the context of an Automated Manufacturing System	1

Question 27 (a) (ii)

Criteria	Marks
• Provides a description of a scenario that utilises RFID tags	2
• Identifies a feature of RFID tags	1

Question 27 (b) (i)

Criteria	Marks
• Identifies an actuator and an appropriate system for which it can be used	2
• Identifies a feature of an actuator or system	1

Question 27 (b) (ii)

Criteria	Marks
• Provides a clear description of processes represented by the block diagram	3
• Describes the processes represented by the block diagram	2
• Identifies features of a process	1

Question 27 (c) (i)

Criteria	Marks
• Provides an explanation of why this system is human or machine-centred	3
• Provides a description of the relationship between human and machine-centred systems	2
• Identifies feature(s) of human or machine-centred systems	1

Question 27 (c) (ii)

Criteria	Marks
• Provides a description indicating a clear understanding of collecting and displaying of the robotic system	4
• Provides a description indicating understanding of collecting and displaying of the robotic system	3
• Provides a description of collecting or displaying indicating a limited understanding of the robotic system	2
• Identifies a feature of collecting or displaying	1

Question 27 (c) (iii)

Criteria	Marks
• Predicts a valid application and provides a clear description of how the technology in the scenario will be used with consideration of job flexibility and changing skills	5
• Predicts a valid application and provides a description of how the technologies in the scenario will be used with consideration of job flexibility and changing skills	4
• Predicts an application and provides a limited description of how the technology in the scenario will be used with consideration of job flexibility and changing skills	3
• Provides a description of a new or existing system, outlining how the technology in the scenario is used with consideration of job flexibility OR changing skills	2
• Identifies a new or existing system that utilises the technology in the scenario OR • Lists issues related to Automated Manufacturing Systems	1

Question 28 (a) (i)

Criteria	Marks
• Demonstrates understanding of 'interactivity'	1

Question 28 (a) (ii)

Criteria	Marks
• Provides characteristics of linear and non-linear storyboards	2
• Provides a feature of linear or non-linear storyboards	1

Question 28 (b) (i)

Criteria	Marks
• Identifies characteristics of video file formats suitable for embedding into a web page	2
• Identifies a video file format or one characteristic of a video file format	1

Question 28 (b) (ii)

Criteria	Marks
• Provides a clear description of situations where path-based and cell-based animation are used	3
• Provides a description of a situation where path-based and cell-based animation are used	2
• Identifies a feature of path-based or cell-based animation	1

Question 28 (c) (i)

Criteria	Marks
• Provides an explanation of the need for data compression on the files storing multimedia content	3
• Provides a description of the need for data compression of files storing multimedia content	2
• Identifies feature(s) of data compression or multimedia files	1

Question 28 (c) (ii)

Criteria	Marks
• Provides a description indicating a clear understanding of collecting and displaying of the skiing game	4
• Provides a description indicating understanding of collecting and displaying of the skiing game	3
• Provides a description of collecting or displaying indicating a limited understanding of the skiing game	2
• Identifies a feature(s) of collecting OR displaying	1

Question 28 (c) (iii)

Criteria	Marks
• Predicts a valid application and provides a clear description of how the technology in the scenario will be used with consideration of future multimedia systems and virtual worlds	5
• Predicts a valid application and provides a description of how the technology in the scenario will be used with consideration of future multimedia systems and virtual worlds	4
• Predicts an application and provides a limited description of how the technology in the scenario will be used with consideration of future multimedia systems and virtual worlds	3
• Provides a description of a new or existing system outlining how the technology in the scenario is used with consideration of future multimedia systems or virtual worlds	2
• Identifies a new or existing system that utilises the technology in the scenario OR • Lists issue(s) related to multimedia	1

Information Processes and Technology

2010 HSC Examination Mapping Grid

Question	Marks	Content	Syllabus outcomes
Section I			
1	1	Information system and databases	H1.1
2	1	Issues related to information systems	H3.1, H5.2
3	1	Communication system	H2.1
4	1	Information system and databases	H1.2
5	1	Project management	H7.1
6	1	Project management	H6.2
7	1	Information system and databases	H5.1, H6.2
8	1	Information system and databases	H1.2, H5.1, H6.1
9	1	Information system and databases	H2.1
10	1	Information system and databases	H1.1, H5.1
11	1	Communication system	H4.1
12	1	Project management	H1.2
13	1	Project management	H1.2
14	1	Testing, evaluating	H6.1
15	1	Communication system	H1.2
16	1	Project management	H6.2
17	1	Communication system	H2.2, H5.1
18	1	Tools for information processing	H1.2, H2.1
19	1	Information system and databases	H1.1, H1.2, H2.1
20	1	Communication system	H2.2
Section II			
21 (a)	2	Project management	H2.1
21 (b)	2	Project management	H1.1
21 (c)	3	Project management	H5.1
21 (d)	2	Project management	H5.2
22 (a)	2	Communication systems	H1.1
22 (b) (i)	2	Information systems and database	H5.1
22 (b) (ii)	2	Communications systems	H1.2, H2.1
22 (b) (iii)	3	Communications systems	H1.2, H2.1
23 (a)	2	Information systems and database	H3.1
23 (b)	2	Information systems and database	H5.1
23 (c)	3	Information systems and database	H1.2
23 (d)	3	Information systems and database	H1.2
24 (a)	3	Communication systems	H3.2, H5.2
24 (b)	3	Project management	H5.1
24 (c)	5	Communication systems	H2.1
Section III			
25 (a) (i)	1	Transaction Processing Systems	H1.1
25 (a) (ii)	2	Transaction Processing Systems	H1.1
25 (b) (i)	2	Transaction Processing Systems	H1.1, H1.2
25 (b) (ii)	3	Transaction Processing Systems	H1.2
25 (c) (i)	3	Transaction Processing Systems	H2.1

Question	Marks	Content	Syllabus outcomes
25 (c) (ii)	4	Transaction Processing Systems	H2.1
25 (c) (iii)	5	Transaction Processing Systems	H5.2
26 (a) (i)	1	Decision Support Systems	H1.1
26 (a) (ii)	2	Decision Support Systems	H1.1
26 (b) (i)	2	Decision Support Systems	H1.1, H2.1
26 (b) (ii)	3	Decision Support Systems	H1.1
26 (c) (i)	3	Decision Support Systems	H3.2
26 (c) (ii)	4	Decision Support Systems	H2.1
26 (c) (iii)	5	Decision Support Systems	H4.1
27 (a) (i)	1	Automated Manufacturing Systems	H1.1
27 (a) (ii)	2	Automated Manufacturing Systems	H4.1, H6.1
27 (b) (i)	2	Automated Manufacturing Systems	H6.1
27 (b) (ii)	3	Automated Manufacturing Systems	H1.1, 2.1
27 (c) (i)	3	Automated Manufacturing Systems	H1.1, H6.1
27 (c) (ii)	4	Automated Manufacturing Systems	H1.2, H2.1
27 (c) (iii)	5	Automated Manufacturing Systems	H3.1, H4.1
28 (a) (i)	1	Multimedia Systems	H1.1
28 (a) (ii)	2	Multimedia Systems	H5.1, H5.2
28 (b) (i)	2	Multimedia Systems	H1.1
28 (b) (ii)	3	Multimedia Systems	H4.1, H5.1
28 (c) (i)	3	Multimedia Systems	H1.1
28 (c) (ii)	4	Multimedia Systems	H1.1, H1.2, H2.1
28 (c) (iii)	5	Multimedia Systems	H1.1, H3.1, H3.2