Information and Digital Technology
Sample HSC examination questions
for candidates undertaking the
Web and software applications stream

The first HSC examination for Information and Digital Technology will be held in 2014.

The Information and Digital Technology examination specifications can be found in the Assessment and Reporting in Information and Digital Technology document at: www.boardofstudies.nsw.edu.au/syllabus_hsc/information-digital-technology.html

The HSC examination in Information and Digital Technology is based on the HSC Content (mandatory and stream focus areas) and employability skills for the Certificate III qualification.

There will be three separate written papers, one for each of the three HSC streams in the syllabus; Web and software applications; Networking and hardware; and Digital animation. Candidates will be required to complete the paper based on the stream they have studied.

The written paper is worth 80 marks. The examination mark for each candidate will be converted to a mark out of 100. The paper will consist of four sections:

- Section I (objective response questions)
- Section II (short-answer questions)
- Section III (structured extended response question) and
- Section IV (extended response question).

There is no expectation that all of the HSC Content and employability skills for the Certificate III qualification in the Information and Digital Technology Curriculum Framework will be examined each year. The examination will test a representative sample of the HSC Content and relevant employability skills in any given year.

The following sample questions provide examples of some questions that may be set in HSC examinations for Information and Digital Technology – Web and software applications. Each question has been mapped to an HSC Content focus area to show how the sample question relates to syllabus outcomes and content. Where appropriate, the employability skill(s) being assessed are indicated.
Answers for the objective response questions have been italicised. Marking guidelines for one short-answer question (Section II) and one extended response question (Section IV) are provided. The marking guidelines indicate the criteria associated with each mark or mark range. In the examination, students will record their answers to Section III and Section IV in a separate writing booklet.

A rubric indicating general criteria for judging performance for the extended response question in Section IV has been included with the sample question. These criteria apply only to Section IV and are used to assess responses to the extended response question. These criteria are in addition to criteria specific to each question.

The sample questions and marking guidelines provide teachers and students with guidance as to the sort of questions to expect and how they may be marked. They are not meant to be prescriptive. Each year the structure of the examination will conform with the examination specifications. However, the number and type of questions in the examination may focus on different syllabus outcomes and content, or have a different range and balance than those given in this sample set of questions.
Section I  (20 marks)

There will be objective response questions to the value of 20 marks.

Ten questions will be based on the HSC mandatory focus areas and will be the same for all three papers. Ten questions will be specific to the Web and software applications HSC stream focus area.

Candidates are given four possible answers (A, B, C or D) from which to choose the correct (or best) one. This type of question requires the candidate to have a degree of certainty about their knowledge and understanding of the subject.

The purpose of the other answers (distractors) is to present a range of options that appear to be feasible. Some could be correct in a given set of circumstances but are not the best overall answer. In other cases, distractors may be partially right with some element of incorrect information.

Section I sample questions

Question 1

HSC Content – focus area assessed:  Working in the industry

Employability skill assessed:  Communication

A closed-question survey has been developed to obtain feedback from 3000 customers whose details are in a company database.

What would be the most efficient method of conducting the survey?

(A)  Emails

(B)  Interviews

(C)  Memoranda

(D)  Group meetings
Question 2

HSC Content – focus area assessed: Web and software applications
Employability skill assessed: Technology

A form letter is to be sent to many recipients.
The most effective way to personalise each letter with individual names and addresses is to use:
(A) mail merge.
(B) a form wizard.
(C) automatic referencing.
(D) copy and paste special.

Question 3

HSC Content – focus area assessed: Diagnostic testing

A user wants to detect and clean a virus-infected file as it is opened.
Which of the following would best achieve this?
(A) Schedule a local virus scan
(B) Utilise a real-time virus scan
(C) Perform a scheduled network virus scan
(D) Perform a complete virus scan of all hard disks

Question 4

HSC Content – focus area assessed: Web and software applications
Employability skill assessed: Technology

Which of the following is a feature or characteristic of macros?
(A) They can be hyperlinked to a file.
(B) They can be saved as a separate file.
(C) They can only be used to carry viruses.
(D) They can be embedded in a spreadsheet.
**Question 5**

*HSC Content – focus area assessed: Web and software applications*

Which of the following is the correct order for HTML tags in a web page?

(A) `<head><html><title></title><body></body></html></head>`

(B) `<html></html><head></head><title></title><body></body>`

(C) `<head></head><html></html><title></title><body></body>`

(D) `<html><head><title></title></head><body></body></html>`
Section II  (30 marks)

- There will be approximately five short-answer questions.
- 15 marks will be based on the HSC mandatory focus areas and will be the same for all three papers.
- 15 marks will be specific to the Web and software applications HSC stream focus area.
- Questions may contain parts.
- There will be approximately 12 items in total.
- At least two items will be worth from 4 to 8 marks.

Section II sample questions

**Question 6 (6 marks)**

*HSC Content – focus area assessed:* Operating system software

*Employability skill assessed:* Technology

(a) Define the term *operating system.*

……………………………………………………………………………………………………..

……………………………………………………………………………………………………..

(b) Compare open-source operating system software with commercial operating system software for desktop devices in terms of the following features.

(i) Hardware requirements……………………………………………………………..

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……………………………………………………………………………………………………

(ii) Licensing agreements……………………………………………………………..

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Question 7 (3 marks)

HSC Content – focus area assessed: Web and software applications
Employability skill assessed: Technology

What are the advantages of using styles in word processing applications? Provide at least TWO examples.

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**Question 8 (6 marks)**

*HSC Content – focus area assessed:* Web and software applications  
*Employability skill assessed:* Technology

The quantities and cost of stationery purchased by a business are shown in the spreadsheet extract.

**Stationery Purchases**

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>GST rate</td>
<td>10%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Item name</td>
<td>Quantity</td>
<td>Cost per item</td>
<td>Total cost</td>
<td>GST amount</td>
<td>Total cost including GST</td>
</tr>
<tr>
<td>4</td>
<td>Pack of pens</td>
<td>4</td>
<td>$4.00</td>
<td>$16.00</td>
<td>$1.60</td>
<td>$17.60</td>
</tr>
<tr>
<td>5</td>
<td>Pack of 20 pencils</td>
<td>6</td>
<td>$5.00</td>
<td>$30.00</td>
<td>$3.00</td>
<td>$33.00</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(a) Why is a spreadsheet an appropriate application for the business to record the above information?

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..................................................................................................................................................
..................................................................................................................................................

(b) Provide a formula for cell D4.

..................................................................................................................................................
(c) How does absolute cell referencing differ from relative cell referencing?

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Marking guidelines

**Question 8 (a)**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Marks</th>
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</thead>
<tbody>
<tr>
<td>Provides TWO reasons for using a spreadsheet in the given context</td>
<td>2</td>
</tr>
<tr>
<td>Provides ONE reason for using a spreadsheet in the given context</td>
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</tr>
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</table>

**Question 8 (b)**

<table>
<thead>
<tr>
<th>Criteria</th>
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</thead>
<tbody>
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<td>Provides a suitable formula</td>
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</table>

**Question 8 (c)**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrates clear understanding of the difference between absolute referencing and relative referencing</td>
<td>3</td>
</tr>
<tr>
<td>Demonstrates some understanding of the difference between absolute referencing and relative referencing</td>
<td>2</td>
</tr>
<tr>
<td>Demonstrates limited understanding of the difference between absolute referencing and relative referencing</td>
<td>1</td>
</tr>
</tbody>
</table>
Section III  (15 marks)

- There will be one structured extended response question based on the Web and software applications HSC stream focus area, and can also draw from the HSC mandatory focus areas.
- The question will have two or three parts, with one part worth at least 8 marks.
- The question will have an expected length of response of around four pages of an examination writing booklet (approximately 600 words) in total.

Question 9 (15 marks)

HSC Content – focus areas assessed:  Web and software applications
Working in the industry

Employability skills assessed:  Communication
Planning and organising
Technology

A web-design company has been approached by a softball club wanting a new website for club members, players and supporters.

The club has the following requirements:
- the manager wants to be able to upload new images each week
- staff will need to upload regular match reports and information about social events
- players will need to be able to fill in forms, as required
- the coach will need to update information about the time and location of matches.

(a) What communication strategies could the web-design company use with its client to ensure that project requirements are met?  

(b) Describe how the web-design company could provide user support once the new website is operational.  

(c) Explain how the project requirements affect the development of content for this website.
Section IV  (15 marks)

- There will be one extended response question based on the HSC mandatory focus areas and will be the same for all three papers.
- The question will have an expected length of response of around four pages of an examination writing booklet (approximately 600 words).

In your answer you will be assessed on how well you:
- demonstrate knowledge and understanding relevant to the question
- communicate ideas and information using relevant workplace examples and industry terminology
- present a logical and cohesive response.

**Question 10 (15 marks)**

**HSC Content – focus area assessed:** Diagnostic testing  
**Employability skills assessed:** Communication  
             Problem-solving  
             Technology

A recent survey has identified that new ICT support staff have limited understanding about running standard diagnostic tests.

A training program is being developed to address this issue. The following have been considered for inclusion:
- basic diagnostic procedures
- major areas in which computer problems arise
- sources of technical data and information for fault finding
- the problem-solving process involved.

Prepare a detailed reference guide with relevant information on each of the areas to be included in the training program.
### Marking guidelines

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Marks</th>
</tr>
</thead>
</table>
| • Addresses all components of the question  
• Provides a cohesive well-reasoned response that reflects a high level of organisation, judgement, synthesis and problem-solving  
• Demonstrates an in-depth understanding of ICT functions with reference to the scenario used in the question  
• Consistently uses precise ICT terminology to a professional level  
• Communicates in the manner required by the question consistently using standard industry formats | 13–15   |
| • Addresses most components of the question  
• Provides a cohesive well-reasoned response showing significant organisational and problem-solving skills  
• Demonstrates a detailed understanding of ICT functions with reference to the scenario used in the question  
• Uses precise ICT terminology to a level acceptable in industry  
• Communicates in the manner required by the question using standard industry formats | 10–12   |
| • Addresses most components of the question  
• Provides a response displaying some organisational and problem-solving skills  
• Demonstrates a basic understanding of IT functions with limited reference to the scenario used in the question  
• Uses basic IT terminology  
• Communicates in the manner required by the question using elements of industry formats | 7–9     |
| • Addresses some components of the question  
• Provides a response displaying limited organisational and problem-solving skills  
• Demonstrates a limited understanding of ICT functions  
• Uses some ICT terminology  
• Communicates in the manner required by the question using few elements of industry formats | 4–6     |
| • Addresses minimal components of the question  
• Provides a response displaying limited organisation  
• Communicates in the manner required by the question using few elements of industry formats | 1–3     |