

GCE
AS and A Level

Information and Communication Technology

AS exams 2009 onwards
A2 exams 2010 onwards

Unit 2: **Specimen mark scheme**

Version 1.0





General Certificate of Education

Information and Communication Technology

INFO2 Living in the Digital World

Mark Scheme

2008 SPECIMEN QUESTION PAPER

The specimen assessment materials are provided to give centres a reasonable idea of the general shape and character of the planned question papers and mark schemes in advance of the first operational exams.

Further copies of this Mark Scheme are available to download from the AQA Website: www.aqa.org.uk

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GENERAL GUIDANCE NOTES FOR EXAMINERS

1. All examples accepted should be clearly related to the subject area and should not be “generalised” examples.
2. Attention should be paid to ensure that marks are not awarded for simple restating of the question or the stem, often involving the exact same terms.
3. The answers should be providing evidence of more than “man in the street” knowledge of ICT.
4. It should be remembered that scripts could be seen after they are marked and so consistency of approach and correct mechanics of marking are essential.
5. Rules on positioning of ticks and marks are to aid in checking and remarking of scripts.
6. Do not expect the candidate to use the exact wording given in the mark scheme. If you are in doubt as to the correctness of an answer given by the candidate, consult your Team Leader.
7. The answers given in the mark scheme are exemplars. Credit must be given for other correct answers not given in the mark scheme. Please refer to Team Leaders where there is any doubt.
8. Where a mark is only available if there is a previous correct response, i.e. a dependent mark, then this will be indicated on the mark scheme.
9. The meaning of ICT-specific words and phrases are as defined by *A Glossary of Computing Terms* (current edition) by the British Computer Society.

Specific marking guidelines

10. The basic rule is one mark, one tick. The tick is to be positioned at the point where the mark is gained in the answer and definitely **not** in the margin.
11. The only figures in the margin should be sub-totals for parts of questions and a final ringed total for a whole question.
12. Where questions are divided into parts a, b, c and so on, and a mark is indicated for each on the paper, a mark should be positioned at the end of the appropriate response in the margin.
13. There should in effect be a mark in the margin at every point there is one on the question paper and a number of ringed totals, which relates directly to the number of questions on the paper.
14. Where a question has only one part, the total for that question should be written once and then again and circled. This allows for easy checking that totalling and transcription of marks is correct.
15. All zero values should be crossed through.
16. All writing must be marked as read, either by the presence of ticks or by striking through the script with a vertical line.
17. All blank pages must be crossed through.
18. Where candidates have added to their answers later in the script, the total mark should be indicated as including x from Page y. The total mark should be in the position where the answer starts.
19. The use of the following symbols/signs is acceptable:

- a. BOD – where the benefit of the doubt is given for the point the candidate is making. This is generally where poor writing or English is an issue. Its widespread use should be avoided.
- b. Underlining of subject specific terminology, which is misused or incorrect e.g. encoding rather than encryption, information rather than data.
- c. Underlining can also be used to highlight clearly incorrect statements or the use of a generalised phrase such as quicker, user friendly and so on.
- d. An omission sign ^ should be used where the candidate has given insufficient information to gain a mark. This is particularly useful when a teacher or student looks at scripts against a mark scheme.
- e. It may be appropriate to indicate where the same point has been covered more than once by an arrow or where a point has been covered in several lines of prose by the use of brackets.
- f. The use of letters associated with ticks **may** be used to indicate different areas being marked in a question, particularly to indicate the different bullet points in an essay. **THIS WILL BE OUTLINED AT STANDARDISATION.**

22. NO other symbols or comments should be used.

23. Markers are responsible for checking

- a. The transposition of marks to the front sheet
- b. That all work has been marked on each script
- c. That all marks for individual questions are totalled correctly
- d. That the script total is transferred to the box at the top right of the script.
- e. That they **clearly** initial the script, under the total at the top right, so it is possible for the Principal Examiner to identify each markers work.

**Unless indicated otherwise, each bullet point is worth one mark
/ denotes an alternative word or phrase**

Quality of Written Communication

Candidates are reminded to

- ensure that text is legible and that spelling, punctuation and grammar are accurate so that meaning is clear;
- select and use a form and style of writing appropriate to purpose and to complex subject matter
- organise information clearly and coherently, using specialist vocabulary when appropriate.

and these criteria must be taken into account when awarding marks.

Section A

1	<i>Name four components of an ICT system.</i>	<i>(4 marks)</i>
	Any 4x1 from <ul style="list-style-type: none"> • Data • Information • People • Procedures • Software • Hardware 	
2	<i>Explain the type of processing that would be suitable for each of the following ICT systems:</i> <i>(a) monthly payroll</i> <i>(b) cinema ticket booking</i>	<i>(2 marks)</i> <i>(2 marks)</i>
2	(a) Batch processing (1) because the output is only required monthly (1) (b) Transaction Processing (1) to prevent double bookings (1)	
3	<i>a. What is an Intranet and what can it be used for?</i> <i>b. What is an Extranet and what can it be used for?</i>	<i>(2 marks)</i> <i>(2 marks)</i>
	(a) Intranets are available to employees of a company/Internal network (1) to use internal email (1) (b) Extranet would be available to an organisation and their trading partners (1) for sharing information (1)	

4	<p><i>One provision of an ICT system is fast repetitive processing.</i></p> <p><i>(a) What is the benefit of this?</i></p> <p><i>(b) Give two other provisions of ICT systems, and for each one, state a different benefit.</i></p>	<p><i>(1 mark)</i></p> <p><i>(4 marks)</i></p>
	<p>(a) Requires fewer employees as ICT enables the production of large numbers of customer bills in a shorter amount of time, therefore saving the company costs (1)</p> <p>(b) Any 2 x 2 Vast storage capacity (1) companies can now store detailed records (1) Improved security of data (1) electronic records are less likely to be lost or damaged than paper records(1) Improved presentation of information (1) which improves the company image an may lead to increased customers/profit (1)</p>	
5	<p><i>(a) Give one reason why data in ICT systems needs to be protected.</i></p> <p><i>(b) If you are disposing of an old computer, what would you do to try to stop anyone else from getting hold of the data?</i></p>	<p><i>(1 mark)</i></p> <p><i>(2 marks)</i></p>
	<p>(a) Data in ICT systems needs to be protected to meet the requirements of data protection legislation (1)</p> <p>(b) One possible answer would be: I would delete the data from the hard drive (1) this would have to be done multiple times to make sure no one else could get hold of it (1)</p>	

Section B

<p>6</p>	<p><i>All sections of question 1 should be answered with reference to figure 1</i></p> <p>(a) (i) List three tasks for which ICT professionals are being recruited.</p> <p>(ii) <i>All ICT professionals require certain personal characteristics to work effectively.</i></p> <p><i>Give two personal characteristics for a web designer to work effectively, and explain why you consider they would be essential.</i></p>	<p>(3 marks)</p> <p>(4 marks)</p>
	<p>(a)(i)</p> <ul style="list-style-type: none"> • Business analysis; • project management; • web development; • data base development; • customer relationship management; <p>NOT Java skills.</p> <p>(ii)</p> <ul style="list-style-type: none"> • Good oral communication skills (1) are required as the designers will need to discuss the project with the client using non-technical language, to ensure the client understands (1) • Good written communication skills (1) are required as designers will need to produce documentation which needs to be clear to allow maintenance and updating (1) • Problem solving skills (1) are required as the designers will need to consider alternative solutions to the problem (1) <p>Max 4</p>	

6	<p><i>(b) Several retailers, who are expanding their e-commerce operations, are mentioned in the article in Figure 1.</i></p> <p><i>Discuss the benefits and limitations of on-line shopping to the retailers and customers.</i></p>	(7 marks)
	<ul style="list-style-type: none"> • The retailers can reach a wider geographical area (1) which may lead to an increase in sales and profits (1) • Customers can shop from the comfort of their own home / 24 hours 7 days a week (1) saving the cost and time of travel / enabling shopping at more convenient times e.g. early morning. (1) • Clothes cannot be tried on when bought from an on-line store as they can be in a high street shop (1) leading to the customer having to return unsuitable goods (1) • Retailers do not need to rent/own a store/shop (1) reducing their overheads (1) <p>Max 7</p>	

6	<p><i>(c) The article in Figure 1 mentions that, “People with customer relationship management skills,” are needed.</i></p> <p><i>Explain two factors that you think should be considered when designing a web interface for use by customers that would support good customer management.</i></p>	(4 marks)
	<p>(c) Customers will have different levels of ICT skills (1) a simple menu system would give specific options to enable those with little skill to use the system / appropriate online help should be provided (1)</p> <p>Customers’ fear of using an online system (1) assurance of the site being secure / verification of the final order (1)</p> <p>2(2,1,0)</p>	

7	<p><i>ICT-related malpractice and crime can lead to breaches in data security.</i></p> <p><i>(a) Describe what is meant by malpractice and crime.</i></p>	(6 marks)
	<p>(a) Malpractice is bad practice (1) within an organisation when employees (1) go against the code of practice (1) Crime is against the law (1) it usually occurs from outside the organisation (1) by someone gaining unauthorised access to the organisation's data (1)</p>	
7	<p><i>(b) Discuss the measures that can be put in place to prevent security breaches in ICT systems.</i></p>	(10 marks)
	<p>(b) adherence to the organisation's code of practice (1) employees should not leave their work station logged on and unattended as this may lead to someone gaining unauthorised access (1) user names and passwords (1) + expansion/explanation (1) firewalls (1) + expansion/explanation (1) anti-virus software (1) + expansion/explanation (1) office security i.e. locked doors (1) + expansion/explanation (1) system access available during office hours only (1) + expansion/explanation (1)</p> <p>Max 10</p>	
7	<p><i>(c) A company should have a backup procedure in case data is lost due to a security breach.</i> <i>Describe five items that need to be considered when reviewing backup procedures.</i></p>	(10 marks)
	<p>What type of backup should be taken (1) full/incremental (1) How often should a backup be taken (1) + expansion/explanation (1) What backup medium should be used (1) + expansion/explanation (1) Where the backup should be stored (1) + expansion/explanation (1) Who should be responsible (1) + expansion/explanation (1)</p> <p>Max 10</p>	

8	<p><i>A multi-national company has recently set up a videoconferencing system to enable meetings to take place between the London and the New York offices.</i></p> <p><i>(a) Describe the benefits to the employees, the company and society of providing this facility?</i></p>	(10 marks)
	<p>(a) Greater productivity within the company (1) as there is no dead time when employees are travelling (1) The employees can arrange a meeting at short notice (1) + expansion/explanation (1)</p> <p>(1) The employees do not have to be away from home (1) + expansion/explanation (1) The company can save the cost of travel (1) + expansion/explanation (1) There could be fewer people flying which could benefit society as a whole (1) + expansion/explanation (1)</p> <p>Max 10</p>	
8	<p><i>(b) Describe the limitations that the employees may experience when videoconferencing</i></p>	(6 marks)
	<p>(b) lack of face to face contact (1) discussion may not be as effective as meeting in the same room (1) the system may crash (1) + expansion/explanation (1) picture may be stilted (1) + expansion/explanation (1)</p> <p>Max 6</p>	