**General Certificate of Education (A-level)
June 2011**

ICT   INFO1

(Specification 2520)

Unit 1: Practical Problem Solving in the Digital World

Final

Mark Scheme

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all examiners participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for standardisation each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, examiners encounter unusual answers which have not been raised they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

GENERAL GUIDANCE NOTES FOR EXAMINERS

Overall guidelines

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. 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.

4. Rules on positioning of ticks and marks are to aid in checking and remarking of scripts.

5. 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.

6. 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.

7. One-word answers, where acceptable, will be indicated on the question paper.

8. The meaning of ICT-specific words and phrases are generally as defined by *BCS Glossary of Computing and ICT* (current edition).

Specific marking guidelines

9. The basic rule is one mark one tick. The tick to be positioned at the point where the mark is gained in the answer and definitely not in the margin.

10. The only figures in the margin should be sub-totals for parts of questions and a final total for the whole question in the box provided.

11. All writing must be marked as read, either by the presence of ticks or by striking through the script with a vertical line.

12. Where candidates have added extra to their answers on additional pages, the total mark should be indicated as 'including x marks from supplementary page y'. The total mark should be written in the appropriate printed box on the question paper.

13. The use of the following symbols/marks 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. 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.

    c. 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.

    d. For questions where candidates' answers are assessed for QWC, no individual ticks should be written on the script as it should be marked holistically.

14. Markers are responsible for checking:

    a. The transposition of marks to the front cover

    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.

SECTION A

1	State **two** input devices that can be used with a games console.	*(2 marks)*
	Guidance for examiners on how to mark this question One mark per device.	
	Example answer Joystick (1) Musical instrument (1)	

2	For each of the following tasks, name and justify what you consider to be a suitable output device to use.	
	The output devices you give for each task must be different.	
	a) Displaying your holiday photographs.	*(2 marks)*
	b) Playing your latest music download.	*(2 marks)*
	c) Producing an ICT essay.	*(2 marks)*
	Guidance for examiners on how to mark this question	
	For a) b) and c)	
	Output device 1 mark	
	Justification 1 mark	
	Example answer	
	a) I would display my holiday photographs on a digital photo frame (1) this could provide a rolling display of photos. (1)	
	b) I would output my music on my mp3 player (1) as it is small and easy to carry around. (1)	
	c) I would print my essay on a printer (1) so that I could hand a hard copy to my teacher. (1)	

3	A software developer must consider the health and safety guidelines that apply to the use of software. Functions can be added to the software to try to prevent health problems. For each of the following health problems, state a software function and how that software function would help to prevent it.	*(4 marks)*
	Guidance for examiners on how to mark this question Features x2 How it prevents x 2	
	Example answer RSI can be prevented by including short cut keys (1) that will reduce the number of mouse clicks. (1) Stress can be prevented by providing online help (1) which will assist novice users when they are not sure what to do. (1)	

4	Presentation software can be used to produce many different types of presentation. Give an example of a presentation that you have created and explain how the functionality of the presentation software helped you to prepare it effectively.	(6 marks)
	Guidance for examiners on how to mark this question Description of presentation – 1 mark Functionality up to 3 marks Justification of why functionality used up to 4 marks Max 4 if no justification.	
	Example answer I used presentation software to accompany a speaking and listening presentation (1) and act as a visual aid. To do this, I was able to use the slide design function form which I could choose from a set of backgrounds (1) and layouts which in effect were a template. (1) This helped me prepare it effectively as I spent less time deciding upon the layout of each slide. (1) I was also able to format the text I had entered. (1) Editing the text enabled me to prepare it effectively as I was certain the text was clear and easy to read. (1)	

Question could be answered this way:

I used presentation software to create a presentation for a geography lesson. (1) I inserted some images of mountains (1) and some sound clips (1) which allowed me to produce a more effective presentation than just including text. (1) For a professional appearance I used a design template (1) and to ensure I kept the audience attention I used different slide transitions. (1)

SECTION B

5(a)	With reference to your Sample Work, explain what you included in your problem identification.	(6 marks)
	Guidance for examiners on how to mark this question **Check page reference first (no page reference or incorrect page reference no marks).** **No problem described no marks** Award marks for the following: • Identification of client, user and audience • Description of the problem • User skills • Listing of client requirements • Interpreting those requirements as input, processes and output • Examples	
	Example answer In my problem identification I included a description of the client and user (1) I listed the client requirements (1) the main requirement was that I produced a website for the company. (1) The client requirements included what the solution was to produce (1) and how the solution was to work. (1) I also interpreted the client requirements as input, processing and output. (1)	

5(b)	Explain, using examples of your client's requirements, why you needed to identify and clearly document what these requirements were.	(6 marks)
	Guidance for examiners on how to mark this question **Check page reference first (no page reference or incorrect page reference no marks)** **No client requirements no marks** Up to 4 marks for explaining the purpose Up to 4 marks for examples	
	Example answer The purpose of producing the list of client requirements was to discuss it with my client who agreed that was what they required (1) so that I knew exactly what I was to produce. (1) If the client requirements were not documented it is likely that something would be forgotten. (1) One requirement was to ensure all calculations were accurate (1) I was able to test this in the working solution. (1) Another requirement was to have a logo on every page. (1)	

5(c)	One reason for testing a solution is to ensure validity of data input.	
	What other reasons are there for testing?	*(3 marks)*
	Guidance for examiners on how to mark this question One reason one mark. An expanded reason can gain 2 marks.	
	Example answer Other reasons for testing are to ensure that the solution meets the client requirements (1) accuracy of output (1) and that the solution is usable by the user. (1)	

5(d)	With reference to your test plan, test data and testing evidence, describe and justify tests you have carried out for **two** different reasons.	*(10 marks)*
	Guidance for examiners on how to mark this question	
	Check page reference first (no page reference or incorrect page reference no marks)	
	Award marks for the following	
	• Description of the tests performed • Justification of why test was performed • Identification of the test data used • Justification for test data used • How the test is to be performed • Reporting on the result	
	Max 7 if only 1 reason is referred to	
	To achieve full marks must have justification	
	Example answer	
	One test I carried out was to ensure accuracy of output (1) this was test number 12 which tested the calculation of a total. (1) The data was 10, 5 and 15 (1) the expected result was 30, (1) the actual result was 30 (1) to check the calculation was correct I entered the numbers into a calculator (1) this gave 30 which proved the calculation was correct. (1)	
	Another test I did was to test the customer number range check. (1) I tested it with erroneous data (1) this should not have been accepted. (1)	

6	Your local under-16 sports team are setting up a website. The purpose of the website is to provide information on match dates, match results, the location of the sports club, the history of the sports club and sponsorship opportunities. The audience that they hope to reach would include current players, their parents, the team management and other teams in the under-16 league. They have provided you with a selection of the type of images, which you could use. These are shown on the insert. In the box provided on the facing page sketch a design for the homepage showing: • the types of images you plan to use • other objects you are including • where objects would be positioned In the space below justify your design, explaining how and why the objects in your design are used. Continue on page 12 if necessary.	*(17 marks)*
	Guidance for examiners on how to mark this question Marks to be awarded for candidate showing what they would include in the design of the homepage, including reference to the images provided. Marks to be awarded for candidate justifying why they included the stated objects in the design of the homepage. **Low mark range** A limited plan has been included. **0 – 3 marks** **Mid mark range** A limited plan including some of match dates, match results, the location of the sports club, the history of the sports club and sponsorship opportunities. Limited justification. **4 – 8 marks** **Good mark range** A reasonable plan has been provided covering most of match dates, match results, the location of the sports club, the history of the sports club and sponsorship opportunities. Some justification included. **9 – 13 marks** **High mark range** A comprehensive plan has been provided with justification and picture use has been explained. **14 – 17 marks**	

7	The mobile phone has become the most commonly used ICT device in the world today because of the range of software applications that can be used on it. Discuss this statement, including in your answer examples of software applications that can be used on mobile phones.	*(20 marks)*

Guidance for examiners on how to mark this question

Low mark range
Candidate shows little understanding and has referred to one software application that can be used on a mobile phone. At least one appropriate example has been used. The candidate has used a form and style of writing that is barely appropriate to its purpose. The candidate has expressed simple ideas clearly, but may be imprecise and awkward in dealing with complex or subtle concepts. Information or arguments may be of doubtful relevance or be obscurely presented. Errors in spelling, punctuation and grammar may be noticeable and intrusive to understanding, suggesting weaknesses in these areas. Text is barely legible.

0 – 5 marks

Mid mark range
Candidate discussion includes at least two software applications that can be used on a mobile phone. Appropriate examples have been used. Meaning is nearly always clear. The candidate has, in the main, used a form and style of writing, which is appropriate for its purpose; with some lapses. The candidate has expressed simple ideas clearly and reasonably fluently. Candidate has used sentences and paragraphs. Information or arguments are generally relevant. There may be some errors of spelling, punctuation and grammar. Text is legible.

6 – 10 marks

Good mark range
Candidate discussion includes a range of software applications that can be used on a mobile phone. Appropriate examples have been used. Some specialist vocabulary used has been explained. Meaning is clear. The candidate has, in the main, used a form and style of writing, which is appropriate for its purpose; with occasional lapses. The candidate has expressed moderately complex ideas clearly and reasonably fluently. Candidate has used well-linked sentences and paragraphs. Information or arguments are generally relevant and well structured. There may be occasional errors of spelling, punctuation and grammar. Text is legible.

11 – 15 marks

High mark range
Candidate discussion includes a wide range of software applications that can be used on a mobile phone. Appropriate examples have been used. Any specialist vocabulary used has been explained. Meaning is clear. The candidate has selected and used a form and style of writing appropriate to purpose and has expressed complex ideas clearly and fluently. Sentences and paragraphs follow on from one another clearly and coherently. There are few, if any, errors of spelling, punctuation and grammar. Text is legible.

16 – 20 marks

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