

Foreword

The awarding bodies have prepared new specifications to comply with revised GCSE criteria. The specimen assessment materials accompanying new specifications are provided to give centres guidance on the structure and character of the planned assessments in advance of the first assessment. It is intended that the specimen assessment materials contained in this booklet will help teachers and students to understand, as fully as possible, the markers' expectations of candidates' responses to the types of tasks and questions set at GCSE level. These specimen assessment materials should be used in conjunction with CCEA's GCSE Information and Communication Technology (Full Course) specification.

GCSE Information and Communication Technology (Full Course) Specimen Assessment Materials

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**CONTROLLED ASSESSMENT
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**CONTROLLED ASSESSMENT
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General Certificate of Secondary Education

**Information and Communication Technology
(Full Course)**

**GUIDANCE ON
CONTROLLED
ASSESSMENT**

Guidance on Controlled Assessment

There are now more controls around internal assessment within GCSEs. Internal Assessment will now be referred to as Controlled Assessment. Levels of control are set for each of the three processes involved in controlled assessment. The three processes are:

- task setting: *ensures that tasks are valid and reliable by making them less predictable and formulaic;*
- task taking: *conditions under which tasks are taken – addresses issues of authenticity; and*
- task marking: *ensures high quality judgments in assessment.*

For each of the above processes, different levels of control are possible. These are defined as high, medium and limited/low, e.g. a high level of control for each process would be very similar to an existing examination. The result is that within any subject, varying levels of control are likely to be required across the three processes.

In GCSE ICT the levels of control for the above three processes are as follows:

Process	Level of Control	What this means
Task setting	High	CCEA sets the task.
Task taking	High	All work, except research, is done under informal supervision.
Task marking	Medium	Teachers mark the controlled assessment task using the criteria that we provide. CCEA moderates them.

There are two controlled assessment units for GCSE ICT (full course).

Unit 1: Tools and applications

The specimen controlled assessment tasks are included to help your students understand, as fully as possible, the types of tasks they may encounter and how marks will be awarded.

We provide guidance on time limits. Tasks are reviewed every year.

Further information on controlled assessment can be found in section 6 of the specification.

Unit 2: Using Multimedia and Games Technology

The specimen controlled assessment tasks are included to help your students understand, as fully as possible, the type of tasks they may encounter and how marks will be awarded.



**General Certificate of Secondary Education
2011**

**Information and Communication Technology
(Full Course)**

Unit 1: Tools and Applications

SPECIMEN

**CONTROLLED
ASSESSMENT**

Unit 1

Areas of Control	Detail of Control
Authenticity	Research can be carried out under limited control. All other elements of the tasks must be completed under informal supervision.
Feedback	Teachers must guide and supervise candidates in relation to the following: <ul style="list-style-type: none">• monitoring progress;• preventing plagiarism;• ensuring compliance with Health and Safety requirements;• ensuring work is completed in accordance with the specification requirements; and• work can be assessed in accordance with the procedures and the marking criteria. Candidates should reach their own conclusions.
Time Limit/Word Limit	Task 1: 9 hours Task 2: 6 hours Task 3: 7.5 hours
Collaboration	All tasks must be completed independently.
Resources	Candidates' access to resources is determined by those available to the centre. Centres should limit candidates' access to those needed for the task. Candidates must reference any resources that they access via the Internet.

Task 1

Scenario

A small music business called “Musical Performers” is owned by Simon, a retired musician, who runs the business from his home. The main function of the business is to employ musicians on a part time basis to perform at local venues such as clubs, shows, homes for the elderly and schools. Some of the musicians have informed the owner that it would be easier for him to store details in relation to their bookings electronically. In addition to this, Simon wants a more accurate way of calculating the amount of commission he receives for managing the performer’s bookings. Simon now wishes to make better use of the software on his computer. After some consideration he would like to:

- record information on the musicians and their performances;
- create an ICT solution to help analyse costs; and
- produce a summary of accounts in a presentation.

Task 1

Develop an ICT solution that meets the needs of Simon and his company.

Activity 1(a) (9 marks)

Planning

- Plan an effective structure for the ICT solution. Create a logo.

Activity 1(b) (8 marks)

Testing and Reporting

- Testing the solution. Make amendments to the solution based on the memo supplied (See Appendix 1).
- Search for all bookings in a particular month. Create a report using the results of this search. The report should be suitably grouped and sorted.

Activity 1(c) (18 marks)

Producing outputs

Produce outputs in an appropriate format that meets the needs of Simon and his company.

- Simon gets a lot of queries from clients who have a small budget. These clients usually want to book acts costing less than £50.00 per hour. Simon is going to prepare a list of performers who charge less than £50.00 per hour.
- Simon wishes to look for appropriate transport for all those Jazz performers who do not have their own transport. He wants to make sure that he can organise transport quickly if the act is booked.
- Musical Performers have been asked to provide a number of DJs and Jazz musicians for a large event in Portstewart. Simon wants to create an Event Pass for each DJ and Jazz musician using his ICT solution. The Event Pass should measure no more than 10cm x 10cm. The Event Pass should include the Performer ID, Performer Name and Music Type. The organisers have asked Simon to include the following information on the Event Pass:

Venue : The Strand, Portstewart

Time : 8.00pm – 11.00pm

Date : 1st July 2009

Create a personalised Event Pass for each DJ and Jazz musician which contains all of the required information. The Event Pass should include the logo created in Activity 1(a).

(Total Marks 35)

Task 1

Mark Scheme

Activity 1(a)	Marks
The candidate has successfully developed an appropriately structured relational database with all relevant fields. There is very good use of required database features for example linking tables, key fields, validation checks and data capture forms. The candidate has created a highly appropriate logo for inclusion in reports.	7–9
The candidate has developed an adequate relational database with some relevant fields. The candidate has used some database features appropriately for example two to three of the following: linking tables; key fields; validation checks and data capture forms. The candidate has created an appropriate logo for inclusion in reports.	4–6
The candidate has developed a database with limited or no use of appropriate fields. The candidate has used basic database features only. The candidate has created a logo.	1–3
Not worthy of credit.	0

Activity 1(b)	Marks
The candidate has carried out tests reflecting all information in the memo. They have input, edited and deleted information with a high degree of accuracy. The candidate has demonstrated that they can use the search facility effectively and they have created a report which is very user friendly.	6–8
The candidate has carried out tests reflecting most information in the memo. They have input, edited and deleted information with some degree of accuracy. The candidate has demonstrated that they can use the search facility and they have created a report which is mostly user friendly.	3–5
The candidate has carried out tests reflecting some of the information in the memo. They have input, edited and deleted information with a limited degree of accuracy. The candidate has demonstrated limited use of the search facility and they have created a report which is of limited use to the user.	1–2
Not worthy of credit.	0

Activity 1(c)	Marks
The candidate has produced excellent outputs that are highly suitable for the target audience. They have produced a complex query using two or more criteria and logical operators. They have demonstrated a high degree of accuracy in mailmerge and have used highly appropriate formatting to create the desired output. All information is correct and extremely well organised.	15–18
The candidate has produced good outputs that are suitable for the target audience. They have produced a query using two or more criteria and/or logical operators. They have demonstrated accuracy in mailmerge and have used appropriate formatting to create the desired output. Most information is correct and well organised.	10–14
The candidate has produced outputs that are mostly suitable for the target audience. They have produced a query using criteria and/or logical operators. They have demonstrated some accuracy in mailmerge and have used some appropriate formatting to create the output. Some information is correct and organised.	5–9
The candidate has produced outputs that are sometimes suitable for the target audience. They have produced a query. They have demonstrated limited accuracy in mailmerge and limited use of appropriate formatting to create the output. The organisation of the information is limited.	1–4
Not worthy of credit.	0
Total Marks	35

Task 2

Develop an ICT solution that meets the needs of Simon and his company.

Activity 2(a) (7 marks)

Planning the Solution

- Effectively plan the structure for an ICT solution.
- Import relevant data and edit the data to achieve a suitable solution that will produce the information that is required for a payslip.

Activity 2(b) (15 marks)

Developing the ICT model

Develop a model which meets the following requirements.

- Simon, the owner of Musical Performers, takes a commission charge from each performer's earning before he pays them. The amount he takes depends upon how much each performer has earned. The commission received by Simon is as follows: if the total income for the performer is over £250 then Simon takes 15%, if less than £250 he receives 10%. Simon would like a graph to illustrate the income for each performer with the highest and lowest earning performer each month highlighted with a different colour.
- Simon would like to increase the amount of commission he receives for managing the performers as he would like to expand the business. He is undecided about how much he wants to raise the commission rate by but would like to consider raising it between 5–10%. Simon would like to see this new model in a different worksheet.
- Simon would like a graph to illustrate the difference in commission received before and after the commission increase.

Activity 2(c) (8 marks)

Producing outputs

In order for the ICT solution to be fit for purpose Simon requires the outputs to have a professional appearance. Generate a monthly pay slip for each performer using the appropriate headings.

Create a "What If" scenario which can be output into a graph illustrating the difference in income between the commission received before and after the commission increase.

Activity 2(d) (5 marks)

Evaluating the ICT Solution

Produce a 250 word evaluation of the solution developed and the software used. Evaluate the final solution against the original design plan and the effectiveness of the outputs produced.

(Total Marks 35)

Task 2

Mark Scheme

Activity 2(a)	Marks
The candidate has successfully imported data and added appropriate titles and data to each column. Good use of required data types, formatting and validation for all data added. All formulae are correct producing relevant results which are appropriately formatted.	6–7
The candidate has imported data and added titles and data to each column. Some use of required data types, formatting and validation for the new data added. Some formulae are correct producing correct results which are appropriately formatted.	3–5
The candidate has imported data and added data to some columns. Some attempt to format and validate the data. Formulae are incorrect producing incorrect results.	1–2
Not worthy of credit.	0

Activity 2(b)	Marks
The candidate successfully displays the total monthly payment for each performer. Correct use of IF statement and absolute cell referencing for commission rate and percentage. Suitable graph in a new worksheet with appropriate labels, suitably indicating the highest and lowest earning performer. Spreadsheet clearly shows the calculation of the new commission rate, using an IF statement, illustrated by a suitable graph to show the difference before and after the commission increase.	12–15
The candidate successfully displays the total monthly payment for each performer. Correct use of formulae and absolute cell referencing for commission rate and percentage. Suitable graph in a new worksheet with labels, indicating the highest and lowest earning performer. Spreadsheet clearly shows the calculation of the new commission rate which is illustrated by a suitable graph to show the difference before and after the commission increase.	8–11
The candidate displays a total monthly payment for each performer, which may not be the correct value. Some use of formulae for commission rate and percentage. A graph in a new worksheet with labels, suitably indicating the highest and lowest earning performer. Spreadsheet clearly shows an attempt to calculate the new commission rate which is illustrated by a graph to show the new commission rate.	4–7
The candidate displays a total monthly payment for most performers, which may not be the correct value. Limited use of formulae for commission rate and percentage. A graph is produced, with some labels, with data about the highest and lowest earning performer. Spreadsheet clearly shows an attempt to calculate the new commission rate which includes a graph.	1–3
Not worthy of credit.	0

Activity 2(c)	Marks
The candidate has created a professional looking payment slip and graph using the suitable fields. All information is relevant and the logo is included.	6–8
The candidate has created a payment slip and graph that includes the majority of suitable fields. Some information is irrelevant and the logo is included.	3–5
The candidate has created poorly structured payment slip and graph with limited details. Information is incorrect/unsuitable and the logo is not included.	1–2
Not worthy of credit.	0

Activity 2(d)	Marks
The candidate has produced a well-structured rounded evaluation of the spreadsheet solution with clear identification of strengths and weaknesses of solution. Improvements are clearly identified. The candidate makes excellent use of spelling, punctuation and grammar. The meaning of the text is always clear. The candidate demonstrates excellent form and style appropriate to the evaluation.	4–5
The candidate has produced a good evaluation of the spreadsheet solution with some consideration of the strengths and weaknesses of solution. Some improvements are identified. The candidate makes satisfactory use of spelling, punctuation and grammar. The meaning of the text is nearly always clear. The candidate demonstrates satisfactory form and style appropriate to the evaluation.	2–3
The candidate has produced an evaluation of spreadsheet solution. Strengths and weaknesses of solution are not considered. No improvements are identified. The candidate makes limited use of spelling, punctuation and grammar. The meaning of the text is often unclear. The candidate demonstrates some form and style appropriate to the evaluation.	1
Not worthy of credit.	0
Total Marks	35

Task 3

Simon, the owner of Musical Performers, wants a summary of his bookings and accounts in a multimedia presentation.

Activity 3(a) (8 marks)

Design a Presentation

- Design a multimedia presentation that will incorporate information from Tasks 1 and 2. The presentation should contain no more than 6–8 slides.
- Produce storyboards for the presentation with details.

Activity 3(b) (16 marks)

Applications

- Choose an appropriate application to create the presentation.
- Include the Logo for the Company and use it appropriately in the presentation.
- Use appropriate styles and layouts to enhance the presentation of their findings in an effective and consistent way.
- The presentation must make use of advanced features such as: buttons to control slide transitions; animation of text and graphics; linking and embedding imported sounds and images from at least two sources (one of which must be the Internet) such as a sound track, graphics created by the candidate or photographs from e.g. a digital camera.

Activity 3(c) (6 marks)

Evaluation

- Include an evaluation of the presentation in PDF format.

(Total Marks 30)

Task 3

Mark Scheme

Activity 3(a)	Marks
The candidate has successfully developed a presentation which meets the needs of the target audience. All required information is included. The story board is detailed enough to allow third party implementation.	6–8
The candidate has developed a presentation which mostly meets the needs of the target audience. Most required information is included. The story board lacks detail and would be difficult to implement by a third party.	3–5
The candidate has developed a presentation which may not meet the needs of the target audience. Some required information is included. The story board is basic.	1–2
Not worthy of credit.	0

Activity 3(b)	Marks
The candidate makes excellent use of colour, background, fonts, balance, animations, images and transitions to enhance the presentation. Sound and images are appropriate for the target audience. Graphics are from two sources (one must be from the Internet). Candidate has demonstrated excellent use of search techniques. Suitable graphs and charts are included using linking and embedding. The candidate makes excellent use of spelling, punctuation and grammar. The meaning of the text is always clear. The candidate demonstrates excellent form and style appropriate to the purpose of the presentation.	13–16
The candidate makes good use of colour, background, fonts, balance, animations, images and transitions to enhance the presentation. Sound and images are mostly appropriate for the target audience. Graphics are from two sources (one must be from the Internet). Candidate has demonstrated good use of search techniques. Suitable graphs and charts are included. The candidate makes good use of spelling, punctuation and grammar. The meaning of the text is nearly always clear. The candidate demonstrates good form and style appropriate to the purpose of the presentation.	9–12
The candidate makes satisfactory use of colour, background, fonts, balance, animations, images and transitions to enhance the presentation. Sound and images are included. Graphics are from two sources (one must be from the Internet). Candidate has demonstrated satisfactory use of search techniques. Some suitable graphs and charts are included. The candidate makes satisfactory use of spelling, punctuation and grammar. The meaning of the text is mostly clear. The candidate demonstrates satisfactory form and style appropriate to the purpose of the presentation.	5–8
The candidate makes limited use of colour, background, fonts, balance, animations, images and transitions to enhance the presentation. Sound, graphics are included. Candidate has demonstrated limited use of search techniques. Some graphs and charts are included. The candidate makes limited use of spelling, punctuation and grammar. The meaning of the text is not clear. The candidate demonstrates limited form and style appropriate to the purpose of the presentation.	1–4
Not worthy of credit.	0

Activity 3(c)	Marks
The candidate produces an excellent evaluation of the presentation using the presentation evaluation guide. The candidate makes excellent use of specialist terms. The candidate makes excellent use of spelling, punctuation and grammar. The meaning of the text is always clear. The candidate demonstrates excellent form and style appropriate to the purpose of the presentation.	5–6
The candidate produces a satisfactory evaluation of the presentation using the evaluation guide. The candidate makes satisfactory use of specialist terms. The candidate makes satisfactory use of spelling, punctuation and grammar. The meaning of the text is nearly always clear. The candidate demonstrates satisfactory form and style appropriate to the purpose of the presentation.	3–4
The candidate produces an evaluation of the presentation using the evaluation guide. The candidate makes limited use of specialist terms. The candidate makes limited use of spelling, punctuation and grammar and the meaning of the text is often unclear. The candidate demonstrates some form and style appropriate to the purpose of the presentation.	1–2
Not worthy of credit.	0
Total Marks	30



**General Certificate of Secondary Education
2011**

**Information and Communication Technology
(Full Course)**

Unit 2: Using Multimedia and
Games Technology

SPECIMEN

**CONTROLLED
ASSESSMENT**

Unit 2

Areas of Control	Detail of Control
Authenticity	Task 1(a) and 2(a) can be completed under informal supervision. All other elements of the tasks must be completed under informal supervision.
Feedback	Teachers must guide and supervise candidates in relation to the following: <ul style="list-style-type: none">• monitoring progress;• preventing plagiarism;• ensuring compliance with Health and Safety requirements;• ensuring work is completed in accordance with the specification requirements; and• work can be assessed in accordance with the procedures and the marking criteria. Candidates should reach their own conclusions.
Time Limit/Word Limit	Task 1: 11 hours Task 2: 11.5 hours
Collaboration	All tasks must be completed independently.
Resources	Candidates' access to resources is determined by those available to the centre. Centres should limit candidates' access to those needed for the task. Candidates must reference any resources that they access via the Internet.

Unit 2: Using Multimedia and Games Technology

Scenario

A small musical business called “Musical Performers” is owned by Simon, a retired musician, who runs the business from his home. The main function of the business is to employ musicians on a part time basis to perform at local venues such as clubs, shows, homes for the elderly and schools. Simon wants to develop a multimedia website for his business. The website should advertise the business. The website should also include an area to attract new musicians to register with “Musical Performers”.

Task 1 – Developing a Multimedia Website

Activity 1(a) (5 marks)

Website Planning

The design for the website should clearly include:

- the identification of the target audience and their requirements;
- a plan of the navigation structure;
- website layout planning for at least 6 web pages (not including the page for the game element from Activity 2) to include the position and function of digital assets;
- a storyboard to represent the planning for the video to be included in the website; and
- the design should be downloadable as a Word document from a link in the website.

Activity 1(b) (25 marks)

Website Creation and Multimedia Elements (Digital Assets) (Graphics, Sound, Animation and Video)

The website should include:

- graphics: candidates must use image manipulation software to create and edit digital images (at least one original) including application of effects and integration of text and image;
- one animation: does not have to be original; and
- original digital video: not exceeding 20 seconds, and should be captured and incorporated into the website.

Activity 1(c) (10 marks)

Web authoring software and evaluation of the website

Candidates should also ensure that:

- they test and evaluate the website by commenting on: download time, ease of navigation and links;
- thee should be downloadable from a link in the website and it should be in a portable document format (PDF); and
- they complete the Website Evaluation Grid (WEG) downloadable from the CCEA microsite for GCSE ICT, www.ccea.org.uk, and copy and paste it into the main evaluation.

(Total Marks 40)

Marking Criteria

Unit 2: Using Multimedia and Games Technology

Task 1 – Developing a Multimedia Website

Assessment Criteria	Marks Available
Activity 1(a) Website Planning A highly detailed website plan is produced including identification of the target audience and their requirements, navigation structure and page layout (for at least 6 web pages), storyboard for the video and links to websites. The final outcome must reflect the plan.	4–5
The website plan includes satisfactory detail on the elements of the target audience and their requirements, navigation structure and page layout, storyboard for the video and links to websites. The final outcome partially reflects the plan.	2–3
The website plan includes only some or no detail in considering the elements of the target audience and their requirements, navigation structure and page layout, storyboard for the video and links to websites. The final outcome rarely reflects the plan.	1
Not worthy of credit.	0

Assessment Criteria	Marks Available
Activity 1(b) Website Creation The website makes excellent use of created and edited digital images which include graphic effects and integration. Text and text animation is appropriately included. A digital video is also added which makes appropriate use of title screen and credits, audio, individual clips and transition effects.	7–9
The website makes satisfactory use of created and edited digital images which include some elements of: graphic effects; integration with text; and text animation. A digital video is also added which includes some elements of title screen and credits, audio, individual clips and transition effects.	4–6
The website makes limited use of created and edited digital images which include some elements of: graphic effects; integration with text; and text animation. A digital video is also added which makes limited or no use of title screen and credits, audio, individual clips and transition effects.	1–3
Not worthy of credit.	0

Assessment Criteria	Marks Available
Activity 1(b) Website Quality A high quality website. Overall balance and appearance are excellent. The site makes excellent use of image, video and sound.	13–16
A good quality website. Overall balance and appearance are good. The site makes good use of image, video and sound.	9–12
An appropriate quality website. Overall balance and appearance are appropriate. The site makes appropriate use of image, video and sound.	5–8
The website is of limited quality. Overall balance and appearance lack consistency. The site makes limited use of image, video and sound.	1–4
Not worthy of credit.	0

Assessment Criteria	Marks Available
Activity 1(c) Web authoring Software and evaluation Website tested and evaluation created (using WEG) and linked in PDF format from the site. The candidate makes good use of specialist language. The organisation of the answer is good. The meaning of the text is always clear.	8–10
Website tested and evaluation created but not linked from site. The candidate makes satisfactory use of specialist language. The organisation of the answer is satisfactory. The meaning of the text is mostly clear.	5–7
Website tested but no detail of evaluation. The candidate makes limited use of specialist language. The organisation of the answer is limited. The meaning of the text is not always clear.	4
Not worthy of credit.	0
Total	40

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Unit 2: Using Multimedia and Games Technology

Scenario

An education organisation wants to develop an educational game. The candidate can use any subject that they are currently studying. The purpose of the game is to assist students in their learning of a topic or development of a skill. The intended audience should be a group of learners aged between 14 and 16.

Task 2 – Games Technology

Activity 2(a) (14 marks)

Game Proposal

- Create a proposal for a computer game.

The design for the computer game should include:

- a statement describing the target audience;
- the rules of the game;
- the game genre; and
- a storyboard to include details of the game design.

The proposal should be available as a link from your game.

Activity 2(b) (16 marks)

Game Creation

- Develop the computer game identified in the proposal.

The game should include:

- electronic instructions/help facility;
- a score counter;
- appropriate feedback, where necessary;
- simple user interactions via button clicks and/or roll-over events;
- two alternative pathways through the game;
- a original animation; and
- graphics in an appropriate format.

Activity 2(c) (4 marks)

User guide

- Develop a user guide for the game.
- The user guide should include step by step instructions about how to play the game.

Activity 2(d) (6 marks)

Game Evaluation

Evaluate the game by commenting on:

- the suitability of the user interface;
- the accuracy of the score counter;
- the effectiveness of the help facility/instructions;
- the suitability of language and graphics used in the game; and
- how the game might be improved.

Complete the Game Evaluation Grid (GEG) and include it in the evaluation document.

The evaluation should be available as a link from the game.

(Total Marks 40)

Marking Criteria

Unit 2: Using Multimedia and Games Technology

Task 2 – Games Technology

Assessment Criteria	Marks Available	Marks Awarded	Teacher Comments
Activity 2(a) Games Proposal A statement describing your target audience	1		
Activity 2(a) Game rules			
Rules of the game are explained in excellent detail and clearly outline how scores are awarded in the game.	5–6		
Rules of the game are explained in satisfactory detail and satisfactorily outline how scores are awarded in the game.	3–4		
Rules of the game are not outlined in sufficient details and details of how scores are awarded are not sufficiently referenced.	1–2		
Not worthy of credit.	0		
Activity 2(a) Genre The game genre is identified.	1		
Activity 2(a) Storyboard			
A very detailed storyboard containing full details of game content and how the scoring mechanism is to be implemented.	5–6		
A storyboard with a satisfactory level of detail about the game content and how the scoring mechanism is to be implemented.	3–4		
A storyboard containing only some detail of game content and score mechanism.	1–2		
Not worthy of credit.	0		
Total marks available for games proposal	14		

Assessment Criteria	Marks Available	Marks Awarded	Teacher Comments
Activity 2(b) Game Creation An excellent game is produced which interacts exceptionally with the user. The game gives the user excellent feedback and pathways throughout the game are very easy to follow. The game is highly enhanced by graphics and the structure clearly reflects the storyboard.	12–16		
A satisfactory game is produced which offers the user appropriate levels of interaction and feedback. Pathways through the game are relatively easy to follow. The game is partially enhanced by the graphics used and it partially reflects the storyboard.	6–11		
Feedback and interactions with the user are limited when playing the produced game. There are limited pathways through the game. Graphics used offer limited or no value to the enhancement of the game. The structure of the produced game rarely reflects the storyboard.	1–5		
Not worthy of credit.	0		
Total marks available for Game Creation	16		

Assessment Criteria	Marks Available	Marks Awarded	Teacher Comments
Activity 2(c) User Guide The candidate produces an excellent user guide.	4		
The candidate produces a good user guide.	3		
The candidate produces a satisfactory user guide.	2		
The candidate produces a limited user guide.	1		
Not worthy of credit.	0		
Total Marks available for User Guide	4		

Assessment Criteria	Marks Available	Marks Awarded	Teacher Comments
<p>Activity 2(d) Game Evaluation A comprehensive evaluation of:</p> <ul style="list-style-type: none"> • suitability of user interface; • accuracy of score counter; • effectiveness of help; • facility/instructions; and • suitability of language and graphics used in the game. <p>A game evaluation grid is included in the evaluation document with comments on how you might improve your game. The candidate makes good use of specialist language. The organisation of the answer is good. The meaning of the text is always clear.</p>	5–6		
<p>A partial evaluation with some of the above elements completed. The candidate makes satisfactory use of specialist language. The organisation of the answer is satisfactory. The meaning of the text is mostly clear.</p>	3–4		
<p>An evaluation which lacks detail and few of the above elements have been included. The candidate makes limited use of specialist language. The organisation of the answer is limited. The meaning of the text is not always clear.</p>	1–2		
<p>Not worthy of credit.</p>	0		
<p>Total marks available for Game Evaluation</p>	6		
<p>Total</p>	40		

Game Evaluation Grid (GEG)

	Rating (1 = Excellent, 5 = Poor)				
	1	2	3	4	5
Interface					
Are the screen layouts clear and well balanced?					
Are navigation buttons in the same location in each screen?					
Are the navigation buttons the same from page to page?					
Can the user easily access all pathways through the game?					
Is the font selected easy to read?					
Does each page in the game load quickly?					
Graphics					
Are the graphics clear and attractive?					
Are the graphics relevant to the game?					
Are the graphics excessive or distracting?					
Are the graphics consistent throughout the game?					
Use of Colour					
Are the colours attractive and appealing to the user?					
Do too many colours mean screens appear cluttered and difficult to read?					
Help Facilities/User Instructions					
Can the help pages be accessed at any time during the game?					
Is the language used easy for the user to understand?					
Does the help facility clearly explain the rules of the game?					
Does the help facility clearly explain how to navigate through the game?					
Do graphics included in the help facility help with understanding?					
Scoring					
Can the user easily understand the scoring facility?					
Does the score facility work correctly?					
Can the user easily locate the score facility?					
Feedback					
Is feedback easy for the user to understand?					
Can the user easily see the feedback when it is made available to them?					
Is the feedback useful for the user? <i>(i.e. it tells them more than they are right or wrong)</i>					

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General Certificate of Secondary Education
2010

Centre Number

71	
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Candidate Number

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Information and Communication Technology (Full Course)

Unit 3: Understanding ICT Systems in Everyday Use and its Implications for Individuals, Organisations, Society and the Wider World

[CODE]

SPECIMEN PAPER

TIME

2 Hours

INSTRUCTIONS TO CANDIDATES

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

Write your answers in the spaces provided in this question paper.

Answer **all fifteen** questions.

INFORMATION FOR CANDIDATES

The total mark for this paper is **180**.

Figures in brackets printed down the right-hand side of pages indicate the marks awarded to each question or part question.

Quality of written communication will be assessed in questions **7, 8, 13(c), 14 and 15**.

For Examiner's use only	
Question	Marks
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
Total Marks	

For question 1 insert the appropriate letter in the space provided.

1 (a) If the content of a **Master Slide** is changed in a presentation:

- A** All the slides in the presentation are changed
- B** No slides in the presentation are changed
- C** Only the first slide in the presentation is changed
- D** Only slides with animation are changed in the presentation

Answer _____ [1]

(b) **MIDI** is a communication system used between a computer and musical instruments.

What does **MIDI** stand for?

- A** Musical Instrument Digital Interface
- B** Musical Instrument Download Interface
- C** Microsoft International Download Information
- D** Microsoft International Download Interface

Answer _____ [1]

(c) **MPEG** is the standard for storing what type of files?

- A** Multimedia Presentations
- B** Spreadsheets
- C** Graphic Images
- D** Motion Video

Answer _____ [1]

(d) Ellen is the editor of the school magazine.

Which of the following pieces of software is she most likely to use to produce it?

- A** A spreadsheet
- B** A multimedia presentation package
- C** A desk top publishing package
- D** A database package

Answer _____ [1]

(e) If you format the hard disk on a computer, you would:

- A Save all the information on the hard disk
- B Wipe all the information on the hard disk
- C Print all the information on the hard disk
- D Backup all the information on the hard disk

Answer _____ [1]

(f) Paul wants to print his ICT Coursework with his name and candidate number appearing at the top of every page. He can do this by adding a:

- A Footer
- B New page
- C Title
- D Header

Answer _____ [1]

(g) Mike wants to record details of sales in the school tuck shop and try to predict next term's profit using the data.

Which of the following pieces of software is he most likely to use to do this?

- A A spreadsheet
- B A multimedia presentation package
- C A desk top publishing package
- D A database package

Answer _____ [1]

(h) Read Only Memory (ROM) is:

- A Volatile and cannot be written to
- B Volatile and can be written to
- C Not volatile and cannot be written to
- D Not volatile and can be written to

Answer _____ [1]

(i) Which of the following file extensions is **not** used for a picture file format?

- A jpg
- B bmp
- C gif
- D csv

Answer _____ [1]

(j) A school secretary wants to send personalised letters to all teachers of class 9A.





In order to do this it is necessary to:

- A Sort and merge the data
- B Sort the data
- C Search and merge the data
- D Merge the data

Answer _____ [1]

2 Eimear has bought a new PC. She has also bought the devices shown below.

For each of the following, give the **Device Name** and circle the **Device Type**.
The first question has been done for you.

<p>Device Name: _____</p> <p>Modem</p> <p>Device Type: Input Output Storage <u>Communication</u></p>	<p>a) Device Name: _____</p>  <p>© CCEA 2010</p> <p>Device Type: Input Output Storage Communication</p>
<p>b) Device Name: _____</p>  <p>© 2008 Jupiterimages Corporation</p> <p>Device Type: Input Output Storage Communication</p>	<p>c) Device Name: _____</p>  <p>© 2008 Jupiterimages Corporation</p> <p>Device Type: Input Output Storage Communication</p>
<p>d) Device Name: _____</p>  <p>© 2008 Jupiterimages Corporation</p> <p>Device Type: Input Output Storage Communication</p>	

[8]

3 The teachers of Elmwood High School use a Virtual Learning Environment (VLE).

(a) Mrs Smith uses the VLE to teach parts of the GCSE ICT course.

(i) Explain **two** advantages to pupils of using the VLE to study and learn.

1 _____

2 _____

[4]

(ii) Explain **two** ways in which teachers could use the VLE to teach students.

1 _____

2 _____

[2]

(b) Mrs Smith uses video conferencing to teach one student in another school. She uses a video conferencing unit and a large screen to do this.

(i) What type of data communications link is best for good quality video conferencing?

[1]

(ii) Explain **two** disadvantages of using video conferencing to teach students rather than the VLE.

1 _____

2 _____

[4]

4 E-mails are used to exchange information on the Internet.

Look at the table below.

(a) Label these statements about e-mails as True or False.

Statement	True/False
Documents can be prepared offline and sent as attachments.	
Using CC keeps everyone's address hidden from other recipients.	
Using BCC allows us to send an e-mail to a number of recipients at once.	
All attachments must be scanned for viruses before they can be viewed.	

[4]

(b) Give **one** reason why an attachment would be compressed.

[1]

5 Anna makes use of a web browser when using the Internet.

(a) What is the best way for Anna to do the following:

(i) Make sure she is on a secure website when purchasing goods.

[1]

(ii) Keep a record of websites she visits often.

[1]

(b) Most web browsers provide an integrated web search.

Explain what this is.

[2]

(c) List and describe the function of **two** components of any URL:

Component 1:

Function:

Component 2:

Function:

[4]

6 John is planning a website. It will have 10 web pages and will include graphics and video.

John's teacher advises him to create a storyboard for his video.

(a) What is the function of a storyboard?

[2]

(b) John uses his mobile phone to capture video footage.

Describe **two** ways in which he could transfer this footage to a computer.

1 _____

2 _____

[2]

(c) John will prepare two versions of his video. One will be used on the website and another will be distributed on DVD.

Explain **one** likely difference between the website version and the DVD version.

Website version _____

DVD version _____

[2]

(d) John cannot decide between GIF and JPEG format for his graphics.

Give **one** reason why he should use each of these file formats.

jpeg _____

gif _____

[2]

(e) Label these statements as True or False.

Statement	True/False
Vector graphics are based on mathematical formulae and bitmapped graphics are pixel based.	
Bitmapped graphics are easily resized and do not lose quality.	
Bitmapped images can be manipulated at pixel level.	
Vector based graphics do not lose their image quality when scaled.	
Bitmaps take up less storage space than vector based graphics.	

[5]

(f) John wants a user to evaluate his website.

List **two** criteria which he could use to evaluate his website.

1 _____

2 _____

[2]

7 Games technologies have changed entertainment and learning.

Describe each of the following **and** give **two** suitable examples:

- Game genres
- Game play

Game genres _____

Example 1 _____

Example 2 _____

Game play _____

Example 1 _____

Example 2 _____

Evaluate how user interaction can improve the user's experience when playing a game.

[12]

8 OMR is used widely as a method of data capture.

(a) What do the letters OMR stand for?

_____ [1]

(b) Discuss the advantages and disadvantages of OMR as a method of data capture.

_____ [8]

(c) Give **two** applications which use OMR.

1 _____

2 _____ [2]

9 Mobile telephones now include 3G technology.

(a) List **two** features of 3G technology.

1 _____

2 _____

[2]

(b) Explain **two** advantages to mobile telephone users of having this technology.

1 _____

2 _____

[2]

(c) Telephone calls can now be made using VoIP technology.

(i) What do the letters VoIP stand for?

[1]

(ii) What is VoIP?

[1]

(d) Give **two** advantages to the user making use of VoIP.

Advantage 1

[1]

Advantage 2

[1]

10 A database system accepts data and outputs information.

(a) Explain the difference between data and information.

[2]

(b) The form below has been designed to capture data.

A screenshot of a web-based data entry form. The form has a light beige background and a blue border. It contains the following fields: StaffID (a small text box with a cursor), Surname (a wide text box), Firstname (a wide text box), DateOfBirth (a date picker box), JobTitle (a wide text box), EmailContact (a checkbox), and AnnualSalary (a text box with the value £0.00).

(i) All data captured must be validated.

Explain how validation is used in a database.

[2]

(ii) Complete the table below by selecting the most appropriate validation checks for the following fields. Use each one only once.

Range	Length	Type	Presence
Field	Check		
StaffID			
DateOfBirth			
Surname			

[3]

(ii) Once data is entered verification takes place.

Explain **one** method of verifying data entered.

[2]

11 Eoin has a home computer system. He uses it for entertainment and for school work. The features of the computer are listed below:

Dell XPS 420/4068.

- Intel® Core 2 Quad Q8200 processor
- (2.33Ghz, 1333MHz FSB, 4MB Cache)
- Genuine Windows Vista® Home Premium
- 4GB DDR2 800MHz memory
- 500GB SATA hard drive (7200rpm)
- 512MB ATI Radeon HD 3870 graphics
- Blu-Ray Reader and DVD Rewriter
- Media card reader
- 10×USB ports
- 20” Monitor



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(a) (i) The computer has a 500GB hard drive.

Explain **three** ways in which Eoin could make use of the hard drive.

1 _____

2 _____

3 _____

[3]

(ii) How much RAM does Eoin’s computer have?

[1]

(iii) What happens to the data in RAM when the computer is switched off?

[1]

(iv) What is the function of RAM in a computer system?

[1]

(b) Eoin's computer has a Blu-Ray reader and a DVD rewriter.

(i) What do the letters DVD stand for?

_____ [1]

(ii) What might Eoin use a DVD rewriter for?

_____ [1]

(iii) Describe **two** ways in which a Blu-Ray disc differs from a DVD.

1 _____

2 _____

_____ [2]

(c) (i) What do the letters GUI stand for?

_____ [1]

(ii) Give **three** features associated with a GUI which make it easy to use.

1 _____

2 _____

3 _____ [3]

(d) Eoin uses a 320GB 2.5" portable hard drive to back up his computer system.
It is **USB-powered**.

(i) What is a back up and why should Eoin back up his computer?

_____ [2]

- (ii) The portable hard drive is USB-powered. Explain how he can use this to back up his data.

[1]

- (e) Eoin has a wireless router to provide Internet access. The computer has both Bluetooth and Wi-Fi features.

- (i) Expand the term Wi-Fi.

[1]

- (ii) List **one** way in which Eoin is likely to use Wi-Fi technology.

[1]

- (iii) How does Wi-Fi differ from Bluetooth technology?

[2]

(f) Eoin wants to protect his computers from viruses.

Which of the following tasks could introduce viruses to Eoin's computer?
Tick all that apply.

Task	Tick
Printing a document	
Attaching a document to an e-mail	
Reading e-mails	
Copying a file from a memory stick	
Creating a new folder on his desktop	
Using a microphone	
Downloading music files from the Internet	

[3]

12 The science department in a school makes use of data loggers to plot cooling curves.

(a) What software could be used to assist in the analyses and plotting of graphs?

[1]

(b) Suggest a sensor which would be included in the experiment

[1]

(c) What is the role of the ADC in a data logging system?

[2]

13 A local school connects laptops together using a wireless LAN.

(a) Explain two advantages of using a LAN.

1 _____

2 _____ [2]

(b) Explain two reasons why networked computers are better for students to use.

1 _____

2 _____

_____ [4]

(c) The LAN links to a WAN with a differing protocol.

(i) Why is a network protocol necessary?

_____ [2]

(iii) The following features of a network help keep data secure.

Explain how each feature below solves data security problems.

Encryption

[2]

Username and passwords

[2]

Levels of access

[2]

Firewall

[2]

(c) Explain **three** advantages to the company of employing teleworkers.

1 _____

2 _____

3 _____

[6]

(d) What is an Intranet?

[1]

(e) Give **one** reason why teleworkers may need to use the company Intranet.

[1]

THIS IS THE END OF THE QUESTION PAPER

MARK SCHEMES DIVIDER PAPER FRONT

MARK SCHEMES DIVIDER PAPER BACK



**General Certificate of Secondary Education
2010**

**Information and Communication Technology
(Full Course)**

**Unit 3: Understanding ICT Systems in Everyday Use
and its Implications for Individuals, Organisations, Society
and the Wider World**

[CODE]

SPECIMEN

**MARK
SCHEME**

General Marking Instructions

Introduction

Mark schemes are intended to ensure that the GCSE examinations are marked consistently and fairly. The mark schemes provide markers with an indication of the nature and range of candidates' responses likely to be worthy of credit. They also set out the criteria which they should apply in allocating marks to candidates' responses. The mark schemes should be read in conjunction with these general marking instructions.

Assessment Objectives

Below are the assessment objectives for GCSE ICT.

Candidates must:

- recall, select and communicate their knowledge and understanding of ICT;
- apply knowledge, understanding and skills to produce ICT-based solutions; and
- analyse, evaluate, make reasoned judgements and present conclusions.

Quality of candidates' responses

In marking the examination papers, examiners should be looking for a quality of response reflecting the level of maturity which may reasonably be expected of a 16-year-old which is the age at which the majority of candidates sit their GCSE examinations.

Flexibility in marking

Mark schemes are not intended to be totally prescriptive. No mark scheme can cover all the responses which candidates may produce. In the event of unanticipated answers, examiners are expected to use their professional judgement to assess the validity of answers. If an answer is particularly problematic, then examiners should seek the guidance of the Supervising Examiner.

Positive marking

Examiners are encouraged to be positive in their marking, giving appropriate credit for what candidates know, understand and can do rather than penalising candidates for errors or omissions. Examiners should make use of the whole of the available mark range for any particular question and be prepared to award full marks for a response which is as good as might reasonably be expected of a 16-year-old GCSE candidate.

Awarding zero marks

Marks should only be awarded for valid responses and no marks should be awarded for an answer which is completely incorrect or inappropriate.

Types of mark schemes

Mark schemes for tasks or questions which require candidates to respond in extended written form are marked on the basis of levels of response which take account of the quality of written communication.

Other questions which require only short answers are marked on a point for point basis with marks awarded for each valid piece of information provided.

Levels of response

Tasks and questions requiring candidates to respond in extended writing are marked in terms of levels of response. In deciding which level of response to award, examiners should look for the 'best fit' bearing in mind that weakness in one area may be compensated for by strength in another.

In deciding which mark within a particular level to award to any response, examiners are expected to use their professional judgement. The following guidance is provided to assist examiners.

- **Threshold performance:** Response which just merits inclusion in the level and should be awarded a mark at or near the bottom of the range.
- **Intermediate performance:** Response which clearly merits inclusion in the level and should be awarded a mark at or near the middle of the range.
- **High performance:** Response which fully satisfies the level description and should be awarded a mark at or near the top of the range.

Marking calculations

In marking answers involving calculations, examiners should apply the ‘own figure rule’ so that candidates are not penalised more than once for a computational error.

Quality of written communication

Quality of written communication is taken into account in assessing candidates’ responses to all tasks and questions that require them to respond in extended written form. These tasks and questions are marked on the basis of levels of response. The description for each level of response includes reference to the quality of written communication.

For conciseness, quality of written communication is distinguished within levels of response as follows:

Level 1: Quality of written communication is limited.

Level 2: Quality of written communication is satisfactory.

Level 3: Quality of written communication is of a good standard.

In interpreting these level descriptions, examiners should refer to the more detailed guidance provided below:

Level 1 (Limited): The candidate makes only a limited attempt and use of an appropriate form and style of writing. The organisation of material may lack clarity and coherence. There is little use of specialist vocabulary. Presentation, spelling, punctuation and grammar may be such that intended meaning is not clear.

Level 2 (Satisfactory): The candidate makes a reasonable attempt and use of an appropriate form and style of writing, supported with appropriate use of diagrams as required. Relevant material is organised with some clarity and coherence. There is some use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are sufficiently competent to make meaning evident.

Level 3 (Good): The candidate successfully selects and uses an appropriate form and style of writing, supported with effective use of diagrams where appropriate. Relevant material is organised with a good degree of clarity and coherence. There is good use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are of a sufficiently high standard to make meaning clear.

- 1**
- (a) C [1]
- (b) A [1]
- (c) D [1]
- (d) C [1]
- (e) B [1]
- (f) D [1]
- (g) A [1]
- (h) C [1]
- (i) D [1]
- (j) C [1]
- [10]**
- 2**
- (a) Device name:
 - Pen drive
 - Memory stick
 - Flash drive/USB memory stick
Device type:
 - Storage
[1]
- (b) Device name:
 - Keyboard
Device type:
 - Input
[1]
- (c) Device name:
 - Speaker
Device type:
 - Output
 - Sound system
[1]
- (d) Device name:
 - Mouse
Device type:
 - Input
[1]
- [8]**

- 3 (a) (i) Any **two** from:
- They can learn at any location, this means that students can enrol in courses which are further away from their home.
 - They can look at the material at any time, this means they are not restricted to attending class.
 - They can revisit the material, this means that students can learn at their own place.
 - Digital resources may be more interesting, this will engage students more.
 - Any other appropriate response.
- [2] for identifying the advantage mark [2] for full explanation [4]
- (ii) Any **two** from:
- Upload teaching learning materials
 - Mark or comment on pupil work
 - Set quizzes/questions for pupils to answer
 - Answer pupil questions in discussion forum [1]
 - Any other appropriate response
- ([1] × 2) for full explanation [2]
- (b) (i) Any **one** from:
- Broadband
 - Fibre optic
 - ADSL
- [1]
- (ii) Any **two** from:
- Better experience as pupils can see teacher
 - Pupils can ask a question and get response right away
 - More realistic interaction so better learning experience
 - Any other appropriate response
- ([1] × 2) for identifying disadvantage ([1] × 2) for full explanation [4]
- [11]

4 (a)

Statement	
Documents can be prepared offline and sent as attachments.	TRUE
Using CC keeps everyone's address hidden from other recipients.	FALSE
Using BCC allows us to send an e-mail to a number of recipients at once.	TRUE
All attachments must be scanned for viruses before they can be viewed.	FALSE

[4]

- (b) To make an attachment smaller so that it could be attached/uploaded more quickly [1]
 Any other appropriate response [5]

- 5 (a) (i) Any **one** of: [1]
 • Look for https
 • Verisign/padlock symbol on browser
 • Any other appropriate answer [1]

- (ii) Any **one** of the following: [1]
 • Create a bookmark
 • Add to favourites
 • New history
 • Any other appropriate answer [1]

- (b) A search engine which is part of the web browser [1] usually featured on the browser toolbar [1] allows the user to enter criteria for searching above the web page being displayed [1]
 [1] for brief explanation [2] for full explanation [2]

- (c) Any **two** of the following components:
A scheme [1]
 Any **one** of:
 • The scheme identifies the protocol to be used to access the resource on the Internet [1]
 • It can be HTTP (without SSL)
 • HTTPS (with SSL) [1]

A host [1]
 The host name identifies the host that holds the resource. [1]

A path [1]
 The path identifies the specific resource within the host that the Web client wants to access. [1]

A query string [1]
 Any **one** of:
 If a query string is used, it follows the path component, and provides a string of information that the resource can use for some purpose (for example, as parameters for a search or as data to be processed)[1]. The query string is usually a string of name and value pairs. [1]

[(1) × 2] for correct function [(1) × 2] for correct description of identified function [4]
 [8]

- 6 (a) A series of drawings that lay out the sequences of a multimedia project [1] in which each page represents a screen to be designed and developed [1] [1] for brief response [2] for full response [2]
- (b) Any **two** from:
- Bluetooth wireless connection
 - USB download using a USB lead connected to computer
 - E-mail to himself via attachment
- [2]
- (c) The website version may be optimized/made as small as possible [1] to allow the website to load quickly [1]

Or

The DVD version may incorporate high definition features/be larger in size and better quality [1] because communication across the Internet is not required.[1] Any other appropriate response.

[1] for brief explanation [2] for full explanation [2]

- (d) **gif** supports transparency/animation [1]
jpeg is a compressed file format [1]
 Any other appropriate response [1]

(e)

Statement	
Vector graphics are based on mathematical formulae and bitmapped graphics are pixel based.	TRUE
Bitmapped graphics are easily resized and do not lose quality.	FALSE
Bitmapped images can be manipulated at pixel level.	TRUE
Vector based graphics do not lose their image quality when scaled.	TRUE
Bitmaps take up less storage space than vector based graphics.	FALSE

[5]

(f) Any **two** from:

- Video/graphics performance
- Content and readability
- Page layout/Hyperlinks/Accessibility under W3C
- Ease of navigation
- Use of colour – not too many colours
- Any other appropriate response

[2]

[15]

7 Level 0

Answer is not worthy of credit.

Level 1 ([1]–[4])

The candidate makes limited use of specialist terms. Application of knowledge to the question context, if present, is very limited. The candidate makes limited use of spelling, punctuation and grammar. The meaning of the text is not always clear. The candidate demonstrates a limited form and style appropriate to the question and little or no evaluation is present.

The organisation of the answer is limited.

The candidate demonstrates some knowledge and understanding of the aspects Game genres and game play, but this is limited. For example, the candidate:

- provides a correct definition of genres
- provides a correct definition of gameplay
- names **one** game genre **or** **one** mode of gameplay
- references any one of clear instructions, good error messages, meaningful icons.

Level 2 ([5]–[8])

The candidate makes satisfactory use of specialist terms. Application of this knowledge to the question context is satisfactory. The candidate makes satisfactory use of spelling, punctuation and grammar. The meaning of the text is usually clear. The candidate demonstrates a satisfactory form and style appropriate to the question and some evaluation of how features affect user interaction is present.

The organisation of the answer is satisfactory.

The candidate demonstrates satisfactory knowledge and understanding of the aspects Game genres and game play. For example, the candidate:

- provides a correct definition of genres which makes use of technical language
- provides a correct definition of gameplay which makes use of technical language
- provides a description of at least **one** game genre
- provides a description of at least **one** mode of gameplay
- references any one of: clear instructions, good error messages, meaningful icons and how they improve user interaction
- provides a simple but correct description of how the user's experience is improved through the use of good user interaction
- provides a simple but correct description of how the user's experience is lessened through the use of poor user interaction.

Level 3 ([9]–[12])

The candidate makes good use of specialist terms. Application of this knowledge to the question context is good. The candidate makes good use of spelling, punctuation and grammar. The meaning of the text is usually clear. The candidate demonstrates a good form and style appropriate to the question and clear evaluation of how features affect user interaction is present.

The organisation of the answer is good.

The candidate demonstrates good knowledge and understanding of the aspects game genres and game play. For example, the candidate:

- provides correct definition of genres which makes use of technical language
- provides correct definition of gameplay which makes use of technical language
- provides a description of at least **one** game genre
- names another game genre
- provides a description of at least **one** mode of gameplay
- names another mode of gameplay
- references any one of: clear instructions, good error messages, meaningful icons and how they improve user interaction
- provides a coherent and correct description of how the user's experience is improved through the use of good user interaction
- provides a coherent and correct description of how the user's experience is lessened through the use of poor user interaction.

[12]

8 (a) Optical Mark Recognition

[1]

(b) **Level 0**

Answer is not worthy of credit.

Level 1 ([1]–[2])

The candidate makes limited use of specialist terms. Application of knowledge to the question context, if present, is very limited. The candidate makes limited use of spelling, punctuation and grammar. The meaning of the text is not always clear. The candidate demonstrates a limited form and style appropriate to the question and little or no evaluation is present. The organisation of the answer is limited.

Level 2 ([3]–[5])

The candidate makes satisfactory use of specialist terms. Application of this knowledge to the question context is satisfactory. The candidate makes satisfactory use of spelling, punctuation and grammar. The meaning of the text is usually clear. The candidate demonstrates a satisfactory form and style appropriate to the question and some evaluation of how features affect user interaction is present. The organisation of the answer is satisfactory.

Level 3 ([6]–[8])

The candidate makes good use of specialist terms. Application of this knowledge to the question context is good. The candidate makes good use of spelling, punctuation and grammar. The meaning of the text is usually clear. The candidate demonstrates a good form and style appropriate to the question and clear evaluation of how features affect user interaction is present. The organisation of the answer is good.

Answers may include the following advantages and disadvantages:

Advantages of using OMR:

Fast – Inputting large amounts of data can be done quickly as OMR allows many documents to be processed one after the other. The data on the document does not have to be typed; it is read directly by the optical mark reader.

Accurate – because data is read directly from the document, it eliminates the possibility of typing errors made by humans.

Data input to a computer using OMR can be analysed to produce high quality information quickly.

Staff will need minimum training in system use as documents are simply passed into a scanner.

Disadvantages of using OMR:

The cost of buying OMR equipment could be high.

Documents used must be kept in good condition. The system may not be able to read creased documents.

OMR input is paper based. The cost of producing specially designed forms could be high.

Unless the forms are recycled after input, it may not be the most environmentally friendly solution.

[8]

- (c) Any **two** from:
- National Lottery
 - Multiple Choice Tests
 - Any other appropriate response
- [2]

[11]

- 9 (a) Any **two** from:
- Phone calls/fax
 - Send/receive large e-mail messages
 - High-speed WebNavigation/maps
 - Videoconferencing
 - TV streaming
 - Electronic agenda meeting reminder
 - Any other appropriate response
- [2]

- (b) Any **two** from:
- Functions performed at higher speed than before using 3g with mobile devices therefore better
 - Better clarity on videoconferencing
 - Access to Internet services without Wi-Fi/LAN
 - Any other appropriate response
- [2]

- (c) (i) Voice Over Internet Protocol [1]

- (ii) The delivery of voice communications over the Internet [1]

- (d) Any **two** of:
- It is less expensive for long distance calls than traditional phone plans.
 - Most VoIP plans offer additional programmes or applications that would cost you extra with traditional phone packages, e.g. 3 way calling, voice email, fax.
 - You can have other numbers and even email related to your VoIP account.
 - Any other appropriate response.
- [2]

[8]

- 10 (a) Data is raw facts and figures with no meaning [1]. Information is processed data [1] which has a meaning/context[1]
- [1] for brief explanation [2] for full explanation [2]

- (b) (i) Data is validated to check data input [1] to ensure that it falls within sensible/allowable limits [1]
- [1] for brief explanation [2] for full explanation [2]

(ii)

Field	Check
StaffID	Presence
DateOfBirth	Type
Surname	Length

[3]

- (iii) Any **one** of:
 Double entry: where data is entered twice
 The two versions are compared and if different an error message will be output
 Proof reading: where data is entered, printed and read
 To ensure it matches the original
 Any other appropriate response.
 [1] for brief explanation [2] for full explanation [2]
- [9]
- 11 (a) (i) Any **three** from:
 • Store data, e.g. coursework files/films/media
 • Store software, e.g. MS office or other software
 • Store operating system, e.g. Windows
 • Any other appropriate response [3]
- (ii) 4Gb [1]
- (iii) All data in RAM is lost [1]
- (iv) Temporarily stores data which has not yet been saved **or** data which is being processed [1]
- (b) (i) Digital Versatile Disc [1]
- (ii) To write data to optical discs such as CDs or DVDs
 Any other appropriate response [1]
- (iii) Any **two** from:
 • Larger storage capacity
 • Stores high definition video
 • Any other appropriate response [2]
- (c) (i) Graphical User Interface [1]
- (ii) Any **three** from:
 • Windows
 • Icons
 • Menus or Mouse
 • Pointers or Pull down menus
 • Any other appropriate response [3]
- (d) (i) So that a copy is available [1] if the original is lost/damaged [1]
 Any other appropriate response [2]
- (ii) Connect the portable hard drive via the USB port to a PC [1]

- (e) (i) Wireless Fidelity [1]
- (ii) Any **one** from: [1]
- To connect to the Internet (via the router)
 - To connect to a wireless device, e.g. printer
 - Any other appropriate response
- (iii) Any **one** from: [2]
- Wi-Fi is used to provide wireless networking/Internet connection between wireless devices
 - Wi-Fi has broader coverage and higher bandwidth
 - Bluetooth allows voice/data transfer between mobile devices within short range and low bandwidth
- [1] for a brief response [2] for a full response
- (f) Eoin wants to protect his computers from viruses. Which of the following tasks could introduce viruses to Eoin's computer? Tick all that apply.

Task	Tick
Printing a document	
Attaching a document to an e-mail	
Reading e-mails	✓
Copying a file from a memory stick	✓
Creating a new folder on his desktop	
Using a microphone	
Downloading music files from the Internet	✓

[3]

If a candidate ticks more than 3 award [0]

[24]

- 12 (a) Spreadsheet [1]
- (b) Any **one** of: [1]
- Temperature
 - Heat
 - Thermistor
- (c) Converts analogue data/data collected from the sensor [1] into digital data/data which the computer can understand [1]
- [1] for brief explanation [2] for full explanation. [2]

[4]

- 13 (a) Any **two** of:
- Peripherals can be shared
 - Data accessed all computers
 - Enhanced security
- Any other appropriate response [2]

- (b) Any **two** from:
- Workstations can share peripheral devices like printers so cheaper.
 - Workstations don't necessarily need their own hard disk or CD-ROM drives which makes them cheaper.
 - Users can save their work centrally on the network's file server, this means that they can retrieve their work from any workstation on the network.
 - Users don't need to go back to the same workstation all the time.
 - Users can communicate with each other and transfer data between workstations very easily.
 - One copy of each application package such as a word processor or spreadsheet can be loaded onto the file server and shared by all users.

([1] × 2) for reason ([1] × 2) for full explanation [4]

- (c) (i) A set of rules [1] which govern the way in which data is transferred around a network [1]
[1] for brief response [2] for full response [2]

- (ii) Answers may include:

It is important to protect:

- user data
- the software on the file server
- the resources which are shared by users

The network must be protected from:

- unauthorised access by users or hackers
- viruses
- authorised users who might damage important files
- unexpected breakdown resulting in loss of data
- physical data

[8]

Level 0

Answer is not worthy of credit.

Level 1 ([1]–[2])

The candidate makes limited use of specialist terms. Application of knowledge to the question context, if present, is very limited. The candidate makes limited use of spelling, punctuation and grammar. The meaning of the text is not always clear. The candidate demonstrates a limited form and style appropriate to the question and little or no evaluation is present. The organisation of the answer is limited.

Level 2 ([3]–[5])

The candidate makes satisfactory use of specialist terms. Application of this knowledge to the question context is satisfactory. The candidate makes satisfactory use of spelling, punctuation and grammar. The meaning of the text is usually clear. The candidate demonstrates a satisfactory form and style appropriate to the question and some evaluation of how features affect user interaction is present. The organisation of the answer is satisfactory.

Level 3 ([6]–[8])

The candidate makes good use of specialist terms. Application of this knowledge to the question context is good. The candidate makes good use of spelling, punctuation and grammar. The meaning of the text is usually clear. The candidate demonstrates a good form and style appropriate to the question and clear evaluation of how features affect user interaction is present. The organisation of the answer is good.

- (iii) **Encryption:** Data is encoded/data is scrambled [1] and can only be accessed by users/computers who have the correct decoding key [1]
[1] for brief explanation [2] for full explanation. [2]
- Username and passwords:** Authorised users are given a username they then choose a password known only to them. [1] This prevents other users/unauthorised users from accessing their data [1]
[1] for brief explanation [2] for full explanation. [2]
- Levels of access:** Different users are given different access rights. [1] This enables the system to be protected because not all users have access to all facilities. [1]
[1] for brief explanation [2] for full explanation. [2]
- Firewall:** Software [1] which prevents unauthorised access from outside the network/from across the Internet. [1]
[1] for brief explanation [2] for full explanation. [2]
- Any other appropriate response. [2]
- [24]

14 (a) Asymmetric Digital Subscriber Line [1]

(b) **Level 0**
Answer is not worthy of credit.

Level 1 ([1]–[2])

The candidate makes limited use of specialist terms. Application of knowledge to the question context, if present, is very limited. The candidate makes limited use of spelling, punctuation and grammar. The meaning of the text is not always clear. The candidate demonstrates a limited form and style appropriate to the question and little or no evaluation is present. The organisation of the answer is limited.

Level 2 ([3]–[5])

The candidate makes satisfactory use of specialist terms. Application of this knowledge to the question context is satisfactory. The candidate makes satisfactory use of spelling, punctuation and grammar. The meaning of the text is usually clear. The candidate demonstrates a satisfactory form and style appropriate to the question and some evaluation of how features affect user interaction is present. The organisation of the answer is satisfactory.

Level 3 ([6]–[8])

The candidate makes good use of specialist terms. Application of this knowledge to the question context is good. The candidate makes good use of spelling, punctuation and grammar. The meaning of the text is usually clear. The candidate demonstrates a good form and style appropriate to the question and clear evaluation of how features affect user interaction is present. The organisation of the answer is good.

Answers may include:

Fibre Optic is most expensive and fastest because:

- fibres of glass are used to carry signals (which can be voice data or computer data) as pulses of light
- it has a very high bandwidth
- it is lighter and thinner than copper cabling
- it is immune to interference by radio signals etc. and so is more secure
- specialised skills are required to join cables together
- it is used to connect telephone substations.

ADSL is less expensive and slower because:

- it uses copper lines
- it can generally only be distributed over short distances from the central offices
- high speed digital communication line with bandwidth up to 128 kbps
- there are two channels for data transfer
- an ISDN adapter is required to translate data between the computer and the telecommunications line
- users must dial up to connect to the Internet.

Any other appropriate response.

[8]

(c) Any **three** from:

Advantage	Explanation
Cost	Saves on travel cost and travel time to and from work. The company is not liable for travel expenses.
Location	The employee can live anywhere. There is no necessity to live within travelling distance of work. The company can employ people with the right skills regardless of where they live.
Flexibility	The employee has flexible working hours and can carry out other activities such as child care.
Overheads	Organisations do not need to rent expensive city centre offices.
Society	The environment will benefit because there are fewer cars on the road which will help reduce pollution and traffic congestions. Prosperity is spread across a given country rather than concentrated in commuter belts near large cities.
Equality for disadvantaged people	Working from home will allow people with disabilities to carry out their jobs in an environment designed for them.

([1] × 3) mark for advantages, **([1] × 3)** mark for explanation. [6]

(d) A set of web pages/website available only within a network [1]

(e) Any **one** from:

- To read company notices
- To download protected files
- To upload information/completed work

Any other appropriate response [1]

[17]

15 Level 0

Answer is not worthy of credit.

Level 1 ([1]–[4])

The candidate makes limited use of specialist terms. Application of this knowledge to the question context, if present, is very limited. The candidate makes limited use of spelling, punctuation and grammar. The meaning of the text is not always clear. The candidate demonstrates a limited form and style appropriate to the question and no discussion of the laws is evident.

The candidate demonstrates some knowledge and understanding of the Data Protection Act, Computer Misuse Act and the Copyright Designs and Patents Act, but this is limited. For example:

- The candidate defines the purpose of Data Protection Act, Computer Misuse Act and Copyright Designs and Patents Act.
- The candidate states how one of these laws protect people.

The organisation of the answer is limited.

Level 2 ([5]–[9])

The candidate makes satisfactory use of specialist terms. Application of this knowledge to the question context is satisfactory. The candidate makes satisfactory use of spelling, punctuation and grammar. The meaning of the text is usually clear. The candidate demonstrates a satisfactory form and style appropriate to the question and some discussion of the laws is present.

The candidate demonstrates satisfactory knowledge and understanding of the Data Protection Act, Computer Misuse Act and the Copyright Designs and Patents Act. For example:

- The candidate defines the purpose of Data Protection Act, Computer Misuse Act and Copyright Designs and Patents Act.
- The candidate provides one example of *how each law protects people*, for example misuse of personal data, hackers/viruses, illegal copying of software/distribution music.
- The candidate provides some evidence of a *balanced discussion* by including *some* limitations of **each** of the laws concerned.

The organisation of the answer is satisfactory.

Level 3 ([10]–[14])

The candidate makes good use of specialist terms. Application of this knowledge to the question context is good. The candidate makes good use of spelling, punctuation and grammar. The meaning of the text is usually clear. The candidate demonstrates a good form and style appropriate to the question and a coherent discussion of the laws is present.

The candidate demonstrates good knowledge and understanding of the Data Protection Act, Computer Misuse Act and the Copyright Designs and Patents Act. For example:

- The candidate defines *clearly and using specialist terms* the purpose of Data Protection Act, Computer Misuse Act and Copyright Designs and Patents Act.
- The candidate provides, in a *clear and coherent explanation* one or more example of how each law protects people, and highlights in a *coherent discussion* the *limitations and impact* of each law for individuals.

The organisation of the answer is good.

[14]

Total [180]

Appendix

Appendix 1

Memo: for use with Controlled Assessment Task 1

New Performers

Mary McIntyre plays the Harp. This instrument falls into the classical category. She lives at 41 Desert Avenue, Coleraine, BT56 8TJ and her phone number is 2876098574. Her performance name is Mary the Harpist. Mary charges £45.00 per hour to play the harp at a function. Mary does not have her own transport.

Three musicians have formed the group MetalMind. This group play Rock music and their hourly fee is £100.00. The lead guitarist is the main contact for the group. His name is Anton Walsh lives at 56 Forest Street, Bangor, BT67 9OL. His telephone number is 2893456334. The group use a large van to transport their own equipment between venues.

Booking

MetalMind have been requested to play at a function in Belfast on 26th May 2009 at 8.00pm for 3 hours.

Performer Leaving

Bernard Reynolds has moved to London as he has been successful in an audition for the musical Joseph in the Westend.