Mark Scheme (Results)

Summer 2016

Pearson Edexcel GCSE
in ICT (5IT03)

Paper 1: Exploring Digital Design

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General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.

- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.

- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.

- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.

- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.

- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.

- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.

- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

- Mark schemes will indicate within the table where, and which strands of QWC, are being assessed. The strands are as follows:

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

Question Number	Answer	Do not accept	Additional Guidance	Mark
1 (a)(i)	Any **four** improvements from: 1. Use real image(s)/not clipart 2. Use image(s) of activities/Centre 3. Emphasise/increase size of title text/name of Centre 4. Make links more obvious/make links into buttons 5. Use images for links 6. Add logo/branding (make it clearer which company it is promoting) 7. Make better use of space 8. Make use of borders on boxes consistent (add to left box/remove from right box) 9. Increase **size** of welcome text/text box 10. Use a font **type** (style) that is easy to read 11. Move Navigation bar to top 12. Add a full stop to 3rd sentence in text box 4x1			**4**

Question Number	Answer	Do not accept	Additional Guidance	Mark
1 (a)(ii)	C			**1**

Question Number	Answer	Do not accept	Additional Guidance	Mark
1 (a)(iii)	B			**1**
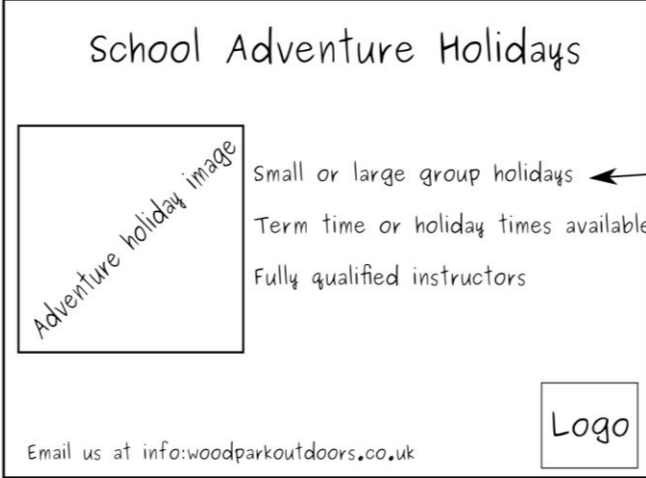
Question Number	Answer	Do not accept	Additional Guidance	Mark
1 (a)(iv)	D			**1**

Question Number	Answer	Do not accept	Additional Guidance	Mark
1 (b)	Any **three** ways from: 1. Small file sizes (to help those on mobile internet connections) 2. Don't overload the page with images 3. Use fonts that are cross platform compatible 4. Avoid 'roll-over'/hover functions (they don't work correctly on touch screens) 5. Use graphical buttons (to ensure function is clear even when size is changed) 6. Provide a mobile version of site 7. Use open web standards/files types that can be accessed by smartphones (e.g. HTML5/not flash) 8. Use user agent detection (to present different views) 9. Use larger 'click' regions/buttons (as finger press area is less precise than a mouse pointer) 10. Use collapsible/'hamburger' /'drop-down' menus 3x1		Accept reverse arguments e.g. "don't use large files" For MKPT 6 - Accept a description that is applicable to a 'mobile version' of a site (e.g. reduced page size, no scrolling etc.)	**3**

Question Number	Answer	Do not accept	Additional Guidance	Mark
1 (c)	Award **one** mark each for: • Downloading/download/downloaded • Streaming/stream/streamed 2 x 1		Accept any recognisable spelling	**2**

Question Number	Answer	Do not accept	Additional Guidance	Mark
1 (d)	Any **two** reasons from: 1. It is supported by most OS/browsers / it is a common file type 2. It supports animation 3. Good compression/produces relatively small image file sizes 4. Supports transparency 2x1		Accept examples of the impact of good compression (e.g. 'will load faster than a video')	**2**

Total for Question 1 – 14 marks

Question Number	Answer	Do not accept	Additional Guidance	Mark
2 (a)	School Adventure Holidays Adventure holiday image Small or large group holidays ← Information to appear one sentence at a time Term time or holiday times available Fully qualified instructors Email us at info:woodparkoutdoors.co.uk Logo			
	Award **one** mark each for: • 'School Adventure Holidays' • At least 3 of 4 information points • Both images (logo and other image) • Annotation/label shows some form of animation to be applied • All items suitably sized Award **one** mark for quality of design 6x1	The word 'Animation' on its own without clear reference to how it will be implemented	To award sizing mark the title should be clearly larger than the information text and image should be larger than the logo. 'quality of design' should be awarded for plans that show a correct use of alignment, white space etc. AND could be implemented by a third party.	**6**

Question Number	Answer	Do not accept	Additional Guidance	Mark
2 (b) (i)	Any **three** ways to ensure consistency from: 1. Use a house style 2. Use the same font styles 3. Use the same colour scheme 4. Use consistent approach to style of graphics/content/information 5. Use similar style/level of language 6. Use company logo 3x1	Use a template. Reuse of text or sound or video or images		**3**

Question Number	Answer	Do not accept	Additional Guidance	Mark

2 (b)(ii)	Any **one** reason from:
	  1. May already be in suitable file format
	  2. Already been tested
	  3. Already have copyright clearance / permission for use
	  4. Already approved (by Nell)
	  5. **Appropriate/related** content may be difficult to find
	  6. Less editing required (compared to newly sourced content)
	
	                                                        1x1
				1

Question Number	Answer	Do not accept	Additional Guidance	Mark
2 (c) (i)	A linked explanation such as: The image supports/displays more colours (1) resulting in a more detailed/clearer image (1) More bits are used to represent the colour of a single pixel (1) meaning colours can be reproduced more accurately (1)		Accept reverse arguments (e.g. lower bit depth would have less colours and be less clear)	**2**

Question Number	Answer	Do not accept	Additional Guidance	Mark
2 (c) (ii)	A linked explanation such as: There is a greater number of dots/pixels (in a given area) (1) means the image can contain greater detail / resulting in a clearer/higher quality image (if enlarged) (1)		Accept reverse arguments (e.g. lower resolution would have less pixels therefore images would be less clear)	**2**

Total for Question 2 – 14 marks

Question Number	Answer	Do not accept	Additional Guidance	Mark
3 (a) (i)	B 1 x 1			**1**

Question Number	Answer	Do not accept	Additional Guidance	Mark

3 (a) (ii)	Any **one** reason from:
	   1. Shows how long each element should last
	   2. Can check the podcast will be the correct/required length
	   3. See all elements needed for the podcast
	   4. Can see timings / how elements can be sequenced / relate to each other
	   5. Can see when elements might overlap
	
	1 x 1
				1

Question Number	Answer	Do not accept	Additional Guidance	Mark
3 (b)	A 1x1			**1**

Question Number	Answer	Do not accept	Additional Guidance	Mark
3 (c) (i)	A linked explanation to include **two** from: He would need to seek permission (to use the file) (1) from the creator/owner (of the copyright) (1) He may need to pay (royalties) (1) to the creator/owner (1) 1+1	He cannot use the sound		**2**

Question Number	Answer	Do not accept	Additional Guidance	Mark
3 (c) (ii)	Any **two** sources of copyright-free material from: 1. Record/create the sounds himself 2. Use 'public domain' sources 3. Out of copyright/copyright expired Allow Creative Commons 1+1			**2**

Question Number	Answer	Do not accept	Additional Guidance	Mark
3 (c)(iii)	Any **three** drawbacks from 1. May need to install additional software/codec to listen to it 2. May have lost metadata (which might affect how it can be edited) 3. May reduce the sound quality 4. Quality of sound may not match other sounds used 5. May need to convert before editing 6. Editing/processing cannot be done as accurately			**3**

Question Number	Answer	Do not accept	Additional Guidance	Mark
3 (d)	A linked explanation such as: Remove spaces/special characters/punctuation (1) to improve support of / compatibility with different operating systems or platforms (1) Remove spaces/special characters/punctuation (1) to make the files names easier to read for users (1) Use (clearer/more obvious) versioning (1) so the latest/current file can be identified (1) 1+1	'use meaningful filenames' Answers relating to file type (.ogg)		**2**

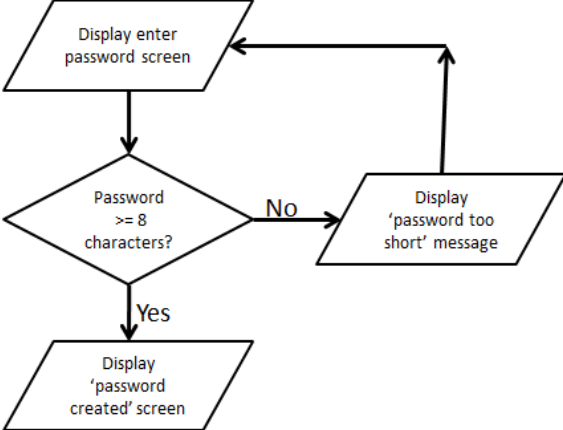| Question Number	Answer	Do not accept	Additional Guidance	Mark
3 (e)	Any **four** from: 1. Use of common (target) audio file type 2. Sensible target file size/keep target file size small 3. Do not use obscure codecs/reduce need to install additional software 4. Include suitable metadata (e.g. ID3 tags) 5. Use common graphic (e.g. .png) format for "album art" 6. Avoid using DRM (Digital Rights Management) 4x1			**4**

Total for Question 3 – 16 marks

Question Number	Answer	Do not accept	Additional Guidance	Mark
4 (a) (i)	Any **three** interactive features from: 1. Home button 2. Next/previous screen buttons 3. Volume button 4. Volume slider 5. Log out (button) 3x1	• Clickable objects • 'Click on object'	Allow • Navigation button (in place of next/previous screen buttons) • Volume Control etc (if no other Volume mark awarded)	**3**

Question Number	Answer	Do not accept	Additional Guidance	Mark
4 (a) (ii)	Any **two** reasons from: 1. Easier to read 2. Less pixelated (than serif fonts) on lower resolution screens 3. Smaller font size can be used 2x1			**2**

Question Number	Answer	Do not accept	Additional Guidance	Mark
4(b) (i)	Explanation of the process in the flowchart. A username is entered and checked to see if it is registered (1) **If registered**, their progress is checked and the first incomplete task is loaded (1) **If not registered**, they must register (as a new user) and then the first task is loaded (1)		.	**3**

Question Number	Answer	Do not accept	Additional Guidance	Mark
4 (b) (ii)				
	Award 1 mark for inclusion of each of the following in a 'flow chart' diagram • 'Enter password screen' is displayed • 'decision box' with correct logic (e.g. Characters >= 8) • NO route correctly labelled and leads to error message and loops to "enter password" • Yes route correctly labelled and leads display "password created" message 4x1		Students do not need to use conventional flow symbols (e.g. diamond for decision) however it must clearly show the correct logic. i.e. the links between the components and the direction of flow	**4**

Question Number	Indicative Content
* 4 (c) **QWC**	A discussion of how using different types of test users ensures that a product is fit for purpose. **Adult test users** Adult test users would be required to carry out more technical and complex testing that may require more detailed understanding of the needs of the package, user requirements, subject knowledge etc. Testing adults may carry out: - Compatibility testing – install/use the product on a range of devices to check that the product will be useable on different devices and that it is compatible with a range of platforms, plugins etc. Ensuring that a wider audience range can access the product as different schools will have different software and hardware available - Security testing – may be asked to test if they can break past any security (such as the password feature) or to note/report any problems with this when children are using the package - Suitability of Content – teachers may be asked to test the product and give feedback on the suitability and accessibility of the content for the intended age group (e.g. check that the text is not too complex etc.) - Accuracy of content – employees of the outdoor centre may be employed to check the content for factual accuracy - Usefulness – teachers may be employed to check that the content and functionality of the product is useful for the children. i.e. does it support/enhance what they learnt when they visited, does it meet their expectation in what it will teach the children - Accessibility – checking that the some of the accessibility features operate correctly , checking settings (e.g. checking alt text accuracy/level of detail)

Child test users

Children may be employed as test users to check that the e-learning package is appropriate for the intended audience. They would be used to check thing such as:

- Ease of use / Usability– children of different ages and abilities can be employed to check that the interface and other functions of the e-learning package are not overly complex and can be used by different age groups with limited support.
- Engagement/ enjoyably –to ensure that the balance between engagement and content is right, children could might be asked their opinion on the product and the feature the found most engaging
- Aesthetic qualities – Could provide feedback on what they like and don't like about the theme/interface of the product. The designer will want to know what will entice them to use it so he can get the balance between what the user likes and making it appropriate and easy to use.
- Accessibility – the designer could get children with specific needs to use the product while he/another adult observes and makes note on their use of the product to see if it meets their needs

Level	Mark	Descriptor
	0	No rewardable material.
1	**1-2**	Using simple statements the candidate **states** how test users could ensure **a product** is fit for purpose. The response may be general and focus on **only adults or children**. The candidate uses everyday language and the response lacks clarity and organisation. Spelling punctuation and the rules of grammar are used with limited accuracy.
2	**3-4**	The candidate uses **examples to describe** how test users could help ensure **a product** is fit for purpose. The candidate makes **some** links between the differences in the characteristics of **adults or children** to their role(s) in ensuring a product is fit for purpose The candidate uses some specialist terms and the response shows some focus and organisation. Spelling, punctuation and the rules of grammar are used with some accuracy.
3	**5-6**	The candidate uses **examples to describe** how test users could help ensure **an e-learning package** is fit for purpose. The candidate clearly links the differences in the characteristics of **adults and children** to their specific roles in ensuring a product is fit for purpose. The candidate uses specialist terms consistently and the response shows good focus and organisation. Spelling, punctuation and the rules of grammar are used with considerable accuracy.

Total for Question 4 – 18 marks

Question Number	Answer	Do not accept	Additional Guidance	Mark
5 (a)(i)	Any **two** benefits from: 1. Can be used to collect responses from a large sample group 2. Leaves designer free to work on other aspects of the project (while waiting for the results to come in) 3. Responses will be in a standardised format (if closed questions are used) / easier to get statistics 4. Results are less subjective than other forms of research (e.g. observation) 5. Person filling in questionnaire has time to think about responses 6. Anonymity 7. Participants can 'opt in' / not feel pressured to complete it 2x1		Quicker/faster/saves time – responses must identify why they are quicker etc.	**2**

Question Number	Answer	Do not accept	Additional Guidance	Mark
5 (a)(ii)	Any **two** drawbacks from: 1. The question may be misinterpreted (resulting in poor response) 2. Cannot re-word/explain the question to the respondent 3. Respondents may skip questions / not respond correctly / choose random responses 4. Poor return rate 5. Difficult to tell if respondent is telling the truth 6. Responses may be superficial (especially for open responses) 7. Closed questions (structured questionnaire) may restrict valid alternative responses 8. Open responses will take a long time to analyse 9. Designing/creating a good questionnaire may take a long time 10.Cannot ask follow up questions/ask the respondent to expand on a response 2x1			**2**

Question Number	Answer	Do not accept	Additional Guidance	Mark
5 (a) (iii)	Identification of **two** outcomes of audience profiling and their uses such as: **Outcome:** Identify the needs/characteristics of the typical user (1) **Use:** to ensure game accessible/engaging (to typical users) / target advertising on particular websites etc. (1) **Outcome:** Determine the usual reason for users to visit the site (1) **Use:** so the theme of the game/in-game advertising might be adapted (1) **Outcome:** Determine if the users have experienced this sort of game before (1) **Use:** so the game could be made to have similar controls to make it feel familiar / produce something that will appeal to the audience (1) **Outcome:** Identify spending habits etc. of users (1) **Use:** to identify/ pitch in-game purchasing etc. at right level (1) **Outcome:** Identify hobbies and interests of users (1) **Use:** influence the theme/setting/content of the game (1) **Outcome:** Identify common/popular platforms (1) **Use:** so the game is made available to the most users / to inform design decisions about the game (1) 4x1		Characteristics of audience = age, education, skill level, literacy etc. Expansion marks can come from different mark points to the outcomes if correct in the given context.	**4**

Question Number	Answer	Do not accept	Additional Guidance	Mark
5(b) (i)	Award **one** mark for benefit and **one** mark for suitable explanation. • Reduces chance of error /collected data is more valid (1) as data entry options are already provided (1) • Speeds up data entry (1) as user only has to 'click'/less typing required (1) 1+1			**2**

Question Number	Answer	Do not accept	Additional Guidance	Mark
5 (b)(ii)	An explanation to include **two** from: The drop down list will be very long (1) as there will have to be many values (ages) (1) which it may require a lot of scrolling / take a long **time** find the correct value (1) 1+1			**2**

Question Number	Indicative Content
* 5 (c) **QWC**	Candidates discuss how platform of the game will influence its design. • Consideration of screen size of target platform – 　○ Mobile device - reduced screen size needs to be considered, some features may not be shown at all times (high scores etc.)/gameplay may differ due to restricted view of potential future activities. 　○ Computers/consoles – graphics likely to be displayed on large high resolution screens. Game graphics will need to be high quality/scalable • Connection type to be considered e.g. will it need to be optimised for a mobile connection, or will it be accessed on a broadband connection? will it be downloaded and played offline • System requirements, does the game use a modern graphics engine that would require a powerful GPU, Large amounts of RAM etc. The specification may limit some audience even if they have the correct type of device as their device does not have the correct specifications • Types of media/plugins – some platforms do not support certain plugins/media types if it is possible a large portion of your target audience will be using these platforms you would need to avoid using these. • The features/functionality of the controllable characters/in game actions will need to be suitable for the control method of the device – Will it be best controlled with a console controller, is it optimised for touch screen/accelerometer , does it require use of a keyboard etc. • Target size of the final game – 　○ if designed for a mobile platform the game will need to be smaller in size so it will be more appropriate for storage on a mobile device and/or downloading over mobile connection. Reducing the overall size would affect the amount of functionality, number of levels etc. which would require the designer to consider alternative ways to keep the player engaged for extended times. 　○ Games designed for other platforms (consoles/computers) can have more content as the target devices typically have greater storage

Level	Mark	Descriptor
	0	No rewardable material.
1	**1-2**	Using simple statements the candidate **states** some ways in which an intended platform will affect the design of a game Statements are general and may not always be accurate. The candidate uses everyday language and the response lacks clarity and organisation. Spelling punctuation and the rules of grammar are used with limited accuracy.
2	**3-4**	The candidate uses **examples to describe** how features of an intended platform will affect the design of a game. The points made will be generally accurate but discussion of the impact of the platform features will be superficial. The candidate uses some specialist terms and the response shows some focus and organisation. Spelling, punctuation and the rules of grammar are used with some accuracy.
3	**5-6**	The candidate uses **examples to describe** how a range of features of an intended platform will affect the design of a game. The points made will be accurate and clearly link the impact that the features of a platform have on a game's design. The candidate uses specialist terms consistently and the response shows good focus and organisation. Spelling, punctuation and the rules of grammar are used with considerable accuracy.

Total for Question 5 – 18 marks
Total for Paper – 80 marks