GCE EXAMINERS' REPORTS

GCE (LEGACY)
APPLIED ICT
AS/Advanced

SUMMER 2018

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APPLIED ICT

General Certificate of Education (Legacy)

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AICT 1 – E BUSINESS

General remarks

The AICT 1 paper is divided into two parts; Part A comprising a one hour written examination paper and Part B, a series of tasks to be carried out in a practical two-hour examination.

The paper for Part A was provided to centres in an on-screen format that requires candidates to enter their responses into text boxes with one screen per question. Where centres were not able to access the on-screen examination, traditional paper-based examination papers were used. These papers required candidates to write their responses in the spaces on the paper. Neither examination format appeared to cause problems from the candidate's perspective nor did the format appear to influence candidate outcomes.

In many cases candidates provided brief responses to questions that carried a significant number of marks. Candidates should note the wording of the questions, which is designed to suggest the level of the detail required in candidates' responses by the use of words or phrases such as 'state', 'describe briefly', 'explain' or 'describe in detail'.

Centres and candidates are reminded of the value of giving examples to clarify an answer and in some cases to provide additional evidence of a candidate's understanding of the topic of the question. A good example, even if not specifically requested, can often help to secure a mark when a description is lacking clarity or detail.

Some candidates lost marks by not relating their responses to the context of the question or the given scenario. Candidates should be aware that this is an applied qualification and the examination is designed to test their ability to put their knowledge of ICT into the given situations. If a question describes a specific context, and invites the candidates to refer to the context, then marks will be lost if this is not done.

The standard of language used was generally good, though some weaker candidates lost marks through the apparent inability to express themselves clearly.

In Part B of the examination, candidates were required to carry out a series of on-screen practical tasks set in the same context as Part A of the examination. Many candidates were able to demonstrate good practical skills in the use of word processing, spreadsheet and database packages. However the ability of a significant minority of candidates to use the software was concerning as their use would have been required to carry out the coursework tasks for AICT 2 as part of their AS studies. Many candidates appeared to be unfamiliar with the layout for standard business documents.

Part A – written paper (40 marks)

Question 1

Name two secondary sources that could be used to gather relevant information

This part of the question was not answered well by the majority of the candidates. Many candidates suggested publications such as magazines and newsletters rather than drawing on the scenario.

Describe two advantages of using primary sources rather than secondary sources to carry out market research. Candidates were able to identify primary sources but failed to describe the advantages of using primary sources such as the ability to ask follow-up questions

Question 2

Name a software application that could be used to analyse primary data. Describe a feature that makes the software suitable for this task.
Name a different software application that could be used to present the results. Describe a feature that makes the software suitable for this task.

This question was not well answered. Candidates should have been able to consider features of an application that provides features for data handling and analysis. Some candidates discussed the use of database software which they found difficult to justify.

Question 3

Using an appropriate example, explain what is meant by malicious damage to data.
Describe two measures that could be taken to prevent malicious damage to data.
Using an appropriate example, explain what is meant by accidental damage to data.

Many candidates were able to address the issue of malicious damage with at least partial success. However, fewer were able to give responses of an appropriate level for possible causes of accidental damage to data with many stating that accidental damage occurred when data was damaged accidentally.

Question 4

Describe two features of a database that would be helpful in handling personal information and details of bookings..

This topic seemed to cause candidates difficulty. As all candidates will have undertaken AICT2 they should have been able to give a good technical response to this question. It was assumed that candidates would have described how relationships between tables would allow an efficient handling of data.

Question 5

State two other principles of the DPA and, using examples, describe measures that the business should take to ensure that they comply with each of these principles.

In general, this question was poorly answered well with many candidates failing to gain marks here. In most cases the candidates wrote several explanations that centred on the need to keep the data secure rather than specific measures to comply with the laws under discussion.

Question 6

Complete the information flow diagram for the given processing.

As usual, this question was well answered by most candidates.

Question 7

Describe a backup procedure that could be used by the business.

Many candidates struggled to provide responses at an appropriate level for this qualification. This topic continues to prove difficult with responses that fail to address the large volume of data that a business would need to back up. Too many candidates discussed the use of USB pen drives and optical devices.

Question 8

Describe the technologies that could be used to allow the children and young people to contact their families. Give the advantages and disadvantages of each technology you describe.

It had been thought that this would be an accessible question for all candidates. However, many appeared unable to set their answers in the given context.

In future candidates would benefit from producing well-written responses with appropriate use of technical terminology.

Part B – Practical tasks (60 marks)

Many candidates were able to access marks for the two practical tasks. However, some candidates appeared to have difficulties in carrying out even the most basic tasks.

Task 1 – Marketing

a) The administration department has details of bookings made for camps. These details now need to be organised.

Many candidates were able to recognise the need to split the data into a **bookings** table and a **camps** table as indicated by the emboldened text in the stem of the task. It was pleasing to see many candidates used action queries to achieve this, gaining additional credit for their work.

However, a significant minority of candidates chose to ignore the advice and attempted to split their data differently. This resulted in an incorrect relationship between the tables.

Most candidates attempted to create relationships between their tables. Some candidates failed to recognise the need for the use of primary keys for both tables. A minority of candidates attempted to add additional fields to create relationships. Candidates should ensure that they remove any duplicated data.

Few candidates gained all marks available for the use of appropriate application of validation rules.

b) Parkwood WILD Adventure Centre (PWAC) requires an Invoice for each booking received.

Many candidates found this task to be accessible. However, a surprising majority were not able to lay out the document as a standard invoive.

c) In a word-processed document, consider how a table Camp_Booking could be incorporated into the database.

Extremely few candidates were able to gain full marks for this section of the work. It is hard to understand how candidates who are gaining good marks for AICT2 are not able to explain the underlying purposes of relational databases.

Task 2 – Sales and Marketing

PWAC has decided to market their camps via the company's website.

Most candidates were able to create the three pages required although fewer were able to insert titles on each page. Almost all candidates were able to insert the given logo and many created the appropriate links between the pages.

Most candidates were able to insert the first image and the given text although not all text was well formatted. Many candidates were able to create the required roll-over images.

Many candidates were able to create most of the requirements for the data collection form with most able to include radio buttons and drop-down lists.

Credit was given for the layout of the web pages. A significant minority of candidates appeared to have given little thought to the overall appearance of the website.

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AICT 2 E SKILLS

General Comments

This summer many good projects were submitted for moderation with many centres marking to the correct standard. The majority of centres correctly completed the required paperwork. It would help in the moderation process if the centres assessors could complete the comment/justification part of the cover sheet and indicate the mark awarded for the spreadsheet and database separately
.
Although this was an unusual situation, with both the new reformed qualification and the legacy qualification being available, it should be noted that several centres undertook the incorrect scenario or entered for the incorrect qualification. These errors caused problems at moderation.

In general, the assessment of the candidates' work was accurate. However, in several instances candidates work appeared to have been over directed and demonstrated common misunderstandings of the requirements of the given scenario.

Specification

Many candidates were able to analyse the scenario and produce a working specification summarising the purpose of the project. Most were unable to give technical justification of the methods to be used in the solution as they did not have the necessary prior skills and knowledge of the database and spreadsheet software.   This was worrying as the candidates were resitting this unit.

System design

This section was completed to a good standard by the majority of candidates, however, those candidates that did not have the necessary prior skills were unable to design the processing requirements of the systems. In some instances, the design matched the completed system and seemed to have been completed retrospectively. It is essential that the design is completed before the implementation and should not be changed to match the completed system. Candidates would benefit from researching standard documentation in order to design effective outputs

Implementation

The quality of the database solution continues to improve with the majority of candidates producing a series of related tables and effective data entry forms, greater automation within the systems was also evidenced. The output of some of the reports would have benefited from additional formatting to replicate standard documents. The quality of the spreadsheet solution continues to improve with the majority of candidates producing systems that met the requirements of the scenario, although there were still issues with the summary outputs which were not in general created for an individual employee.

Testing

Candidates achieved good marks in this section, however many candidates failed to evidence prototyping and obtain sufficient feedback. It is felt that this is an area where higher marks could be achieved as many candidates fail to test calculations appropriately.

Documentation

Most candidates produced good screen-based instructions for the use of both the database and spreadsheet solutions. Many candidates, however, failed to produce technical documentation that provided sufficient detail to allow a competent third party to carry out maintenance of the systems.

Review

This section was completed to a good standard by candidates who had produced a specification that included measurable objectives. Some candidates were unable to comment of their own performance and changes of approach effectively and would benefit from keeping a record of their progress whilst completing the design and implementation sections.

Portfolio

The majority of candidates produce good portfolios to showcase their work. However, it was noted that some centres gave candidates a template hence limiting the marks that candidates can be awarded.

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AICT 5 – E PROJECT

Problem Definition

Most candidates were able to reassess the Problem Definition in light of the Revised Client Requirements and update the document accordingly. Centres are increasingly adept in instructing candidates to show all changes that have occurred in the controlled time in a different colour to aid both the Centre marking and the moderation process.

In the best examples, candidates were able to assess the impact of the Revised Client Requirements on the whole solution and updated the whole document accordingly. This is something that Centres should encourage. In other cases, candidates simply reworded the Revised Client Requirements and bolted this onto the end of their document.

Project Organisation

In most cases, there was good use of the project management software used by Centres. In a small number of cases, candidates used this software as a means of recording what they had done, rather than a forward planning tool. In other words, they were using the software more as a diary rather than a project management tool and this needs to be strongly discouraged.

Candidates are expected to use the project management software to plan how they expect to use the fifteen hours' controlled time and this serves as the baseline plan. In this plan, they should consider the main tasks, sub-tasks, critical path including predecessors and any resources that may be needed, along with any checkpoints and contingency that may be appropriate.

As the baseline plan changes as the Revised Client Requirements are introduced, candidates must update their plan accordingly. Similarly, as candidates progress through the controlled time, they will need to update their plan as some sub-tasks take less time than expected and some will take more. Candidates must also communicate their progress, preferably by using the 'notes' section of the project management software. This should not simply be an account of what they have done, but should consider the consequences of, for example, a sub-task taking longer than expected and explain how they will make up this time.

As this is a project management unit, it is expected that candidates use proper project management software. Centres typically use Microsoft Project as a paid solution, or Gantt Project as a free solution. Candidates must not use generic software (eg Microsoft Excel) to create Gantt charts as this is not considered effective project management and nor does it give candidates opportunities to use some of the features outlined above,

The Project

There were some excellent, imaginative and creative solutions to the Revised Client Requirements this year. In a small number of cases, there were some superficial solutions, but the majority of candidates were able to embed the new requirements into the whole of their solution.

In the best examples, candidates developed complete systems to provide quotes for parcel deliveries, and this included easy and effective ways for adding new discount codes, as the Revised Client Requirements stated. In. other cases, the discount codes were 'hard-coded' into =IF statements which would have needed to be updated for new discount codes. This is clearly a less intuitive solution and was worthy of fewer marks.

Review

In some cases, the review was more of a reflective 'diary' of what happened during the fifteen-hour controlled conditions rather than a focussed review using proper evaluative writing at the standard required at A2 level. Most Centres now ensure that candidates cover all of the headings from the Specification which is encouraging, but now need to work with candidates on a more evaluative style of writing.

Presentation

Centres are once again reminded to take care in ensuring that the links within the e Portfolio are not pointing to networked drives and that the e-Portfolio works as expected after burning it to the disk. In some cases, this problem has resulted in centres awarding five marks for e-Portfolios which worked whilst the work was on the network but that failed to work after transferring the work to disk. This issue affects a number of Centres every year and can almost put the centre out of tolerance on this small section alone.

A small number of Centres do not use the given template for the e Portfolio and prefer to get candidates to create unnecessarily complex html e Portfolios. This is a distraction for the candidates and often results in broken links. Furthermore, candidates would be better employed focussing their efforts on work that will directly yield higher marks.

Candidates <u>must</u> be discouraged from password-protecting documents that are linked from their e Portfolios.

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AICT 6 E STUDIO

General Remarks

As in previous series this was the most popular of the A2 project units and many very good eportfolios of work were seen. Centres had generally ensured that their candidates had access to a range of suitable software and the skills to produce effective graphic and multimedia products.

The unit requires candidates to produce both graphic and multimedia products and, for this series, was based on the 'cycLED' scenario. The requirements of the scenario were presented under the following headings;

Requirements Specification

Most candidates scored well in this section, producing an accurate summary describing the purpose of the campaign and listing a series of success criteria based on the given campaign objectives. As in previous years identifying success criteria that were both realistic and measurable proved to be a difficulty and candidates were not penalised at moderation if this was not fully achieved.

Most candidates produced test plans that provided for objective testing, where this was possible e.g. length of video, navigation of website etc.

Graphic Design

Most candidates addressed the requirements to include details of elements for further development and demonstrated their knowledge of the available software by identifying the tools and techniques they intended to use in the development of their work.

Multimedia Design

The use of storyboards and timelines in the design of multimedia products was an area of improvement over previous years and many candidates identified the tools and techniques they intended to use in the development of their video advert and animation.

Graphic Products

As in previous series most candidates provided screen shots that confirmed the software used and some extensive records, comprising step-by-step screen shots of the production process were seen. The most successful candidates were more selective and presented screen shots to demonstrate significant developments and the use of software tools that they had found to be particularly effective.

The set of graphic products for the Heatwave campaign comprised;

Vector-based drawing of an original design for the cycled logo

Successful candidates produced designs that were clearly related to the scenario and included graphic features that set a theme for the campaign products.

A design for a point of sale cycLED display.

- *vector-based 2D scale drawings of the point of sale display*
- *3D vector drawing of the final point of sale display*
- *representation showing the point of sale display in use*

The point of sale display provided an opportunity to demonstrate accuracy in vector work and several candidates achieved this, although several drawings without titles, dimensions and scale were seen. The 3D drawings varied in quality, with many candidates adding colour gradients and suitable text. Several candidates had difficulty introducing perspective and produced drawings that presented a distorted view.

The representation of the point of sale display in use was an opportunity to demonstrate photo editing skills, and some successful and realistic representations were seen. As in previous series some use of layering to provide foreground features would have enhanced many of the final representations.

Representations based on distorted images of the point of sale displays were less successful, as were the representations that used background images that were not relevant to the scenario.

A set of three paper based products combining text and image.

- *an advertisement for the 2018 range for publication in cycling magazines*
- *a seen & safe information poster to be sponsored by cycLED*
- *a local newspaper advertisement to publicise one of the charity night rides*

The paper based advertisements were often the most successful of the graphic products, with several effective combinations of text and image over suitable backgrounds and with some candidates making good use of distortion to shape images of their graphics and create realistic representations of the products in use and several examples where layering had been used to provide foreground features and thereby further enhancing the final representations.

Designs for three promotional accessories to be presented to participants in the charity night rides:

- *cycLED 'glow for it' arm band*
- *cycLED water bottle*
- *cycLED valve cap light.*

For this scenario the representations of the promotional accessories in use provided opportunities to demonstrate techniques such as control of transparency and shadow, and features such as glows and reflections, and many effective light at night themed images were seen.

Less successful candidates presented simple designs for the accessories and demonstrated limited software skills by superimposing their logos onto images of products created by others, with little additional editing.

Multimedia products

The set of multimedia products for the cycLED campaign comprised;

Timeline animation illustrating a 'bright idea' for an LED based cycling accessory.

The intention of this product was to produce an asset or assets that could be used to improve the user experience provided by the website. Most candidates produced tween based animations as required.

The most successful animations comprised objects and backgrounds that were well matched to the cycLED brand and 'seen and safe' theme of the scenario. Less successful animations relied on motion paths and did not feature purpose made assets with moving parts.

45 - 60 second promo movie showing cycLEDs on cycles and including feedback from cycists who have tested the products.

A wide range of approaches to the authoring of the promotional movie were seen. Many successful examples were seen that involved both original and secondary video sequences, with well-timed transitions and synchronised music, with voice over for at least some of the content.

cycLED website to comprise:

- *Home page, featuring the logo, the animation and images of the night ride advertisement in use*
- *Products page, including images of the magazine advert and point of sale display in use*
- *Seen & safe page, with advice on cycling safely at night, images of the promotional accessories in use and the seen and safe poster*
- *Technology page with the promo movie and information on LED technology.*

The majority of candidates produced a suitable website of 4 pages, as required.

The most successful candidates addressed all the stated requirements for content and demonstrated skill in the use of roll-overs, transitions etc. to produce web pages with well-designed navigational features, carefully chosen colour schemes, clear fonts and consistent layouts.

However, as in previous series, some examples were seen where navigation between pages did not work as intended, small default fonts had been used and objects had not been placed on the pages to achieve a coherent layout. There were also a limited number of examples where images and other assets could not display because they had been moved after saving of the web pages.

Review

Produce a review document that evaluates and suggests improvements covering:

- *the final products*
- *the tools and techniques used*
- *own performance*

As for other units, the review was well done in examples where the evaluation of the final products included some consideration of end user feedback, leading to suggestions for further improvement. The reviews of the tools and techniques used ranged from simple descriptions of process to the consideration of the effectiveness of a range of software facilities, as required for the higher marks.

The most successful candidates commented on their own performance and identified changes of approach likely to lead to improvement of performance and / or outcomes. They did not include comments about lack of time or effort.

ePortfolio

Produce an eportfolio to provide a context and showcase for the campaign products.

Most candidates produced a functional eportfolio that provided access to the products and supporting evidence.

Several of the eportfolios provided limited context but most were easy to navigate. The more successful candidates targeted their work towards the assessor and design pages that were clear and that highlighted their final products.

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AICT 7 – E CONNECT

Introduction

The Unit 7 examination is divided into two parts. Part A is a one hour online theory examination paper and part B is a practical examination with candidates required to demonstrate the application of knowledge and understanding.

General Remarks

Most of the candidates demonstrated a good understanding of the specification. All candidates were well prepared and many good answers were evident. There was evidence also that candidates had been well prepared for the majority of the practical programming elements found in part B, however, performance when implementing the most complex parts of the network (file access rights for differing directories) was mixed.

Comments on Individual Questions:

Part A:

Q1: Most candidates demonstrated a good understanding here and used technical terminology accurately.

Q2: Candidates could demonstrate a good level of understanding on the function of various network protocals.

Q3: Candidates were required to state differing advantages of communications over a computer network. Candidates did not always use sufficient technical language

Q4: This question was generally not very well answered, candidates generally knew the benefits of a star network topology, however, they could not explain how this topology provided these benefits.

Q5: This question was generally answered poorly, candidates knew of star networks but could not give advantages of client server networks.

Part B:

Part B of the examination is conducted using network design and server simulator software. Candidates create two new word processed documents called the recommendation and the implementation. They then use print screen and typed evidence to demonstrate practical knowledge, skill and understanding of the design and implementation of computer networks.

The Recommendation: Candidates were required to design a network using provided components to satisfy the requirements of the brief. They were then required to give advice on other aspects of the network such as securing the networks connectivity and software. Most candidates could use the simulator well and placed appropriate network hardware in suitable locations. A minority of candidates however attempted to place too many or unnecessary pieces of hardware onto the plan.

The Implementation: Candidates are required to use network management simulator software and implement a network to satisfy the requirements of the brief. The network management simulator software allows for the creation of users, groups, folders, share permissions and shared printers. All of these tasks were assessed in the summer 2018 paper. Generally candidates could use the simulator well, however, they could not always explain or justify their choices. Also, a minority of candidates could not set file access permissions for folders. Finally this section asking them to justify the file access permissions for groups and was poorly answered by some candidates, again here as in Part A, it was due to a lack of technical terminology in the candidates answers.

Centres are reminded that they must submit the candidates responses to Part B to the WJEC as quickly as possible and at the very latest by 5 working days after the end of the examination.

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AICT 8 – E LEARN

General remarks

As with the other units of the practitioner qualification the entry for AICT8 in this series was relatively low and from centres able to support their candidates to address the programming aspects of the unit specification.

All candidates had chosen to produce their programs using Visual Basic. In most cases candidates had produced good quality solutions that were appropriate for audience and purpose. Several excellent examples of original learning systems were seen, with solutions targeted at a young audience tending to be the most successful. In general, the candidates' work was of a pleasing standard with many solutions clearly aimed at the chosen audience.

Problem Definition

Most candidates had undertaken some analysis of current practices for the delivery of their learning content and were able to use this research to form a problem definition that identified the broad aims and limitations for the proposed eLearning system.

The majority of candidates were able to produce detailed problem definitions and to form clear and measureable criteria for the evaluation of the finished eLearning system.

Design an eLearning package

Many candidates produced designs that were sufficiently detailed to allow the system to be implemented by a competent third party. Some candidates produced comprehensive designs for eLearning systems that were clearly suitable for the intended audience and purpose, with due consideration of data, processes and user interaction.

Create an eLearning package

A range of eLearning systems was seen. Most candidates were able to produce systems that were functional and many produced systems that included well thought out features, including engaging interfaces and interesting scoring systems.

Tutorial

Some excellent tutorials were seen. In these examples the candidates had made good use of the on-screen environment to demonstrate the use of their systems and had ensured that the tutorials were directed towards each of their intended audiences.

Test an eLearning package

Many candidates were able to design effective test data to test both the functionality and logic of their implemented systems, although, as in previous series, several examples were seen, where test documents lacked the discussion of results required to access the higher marks for this section.

Review

This section was an area of overall improvement with fewer candidates providing reviews that comprised narrative rather than evaluative content and with most candidates demonstrating an awareness of the requirements of the specification for the review for this unit.

In a minority of cases candidates failed to cover all five of the areas contained in section 8.8 of the specification, but simply provided a narrative description of their work.

Eportfolio

Most candidates provided functional eportfolios that had been themed to reflect the context of their eLearning packages.

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AICT 9 – E TRANSACT

General remarks

As with other units of the practitioner qualification the entry for AICT9 this series was relatively low.

The centres following this unit had addressed the difficulties experienced in previous years and had adopted realistic solutions for presenting working versions of the candidates' websites for external moderation.

As in previous series most candidates had successfully addressed the requirements of the specification and created ecommerce websites that allowed the end user to view and purchase goods.

Design an eTransact system

Many candidates presented clear designs that included all information required to create the website including clear structure diagrams, proposals for navigation, user interaction and graphic content.

Most candidates had given due consideration to the structures required for efficient storage of all information required to carry out transactions. Some candidates had designed data entry facilities and validation routines.

Create an eTransact system

Most candidates created functional websites that comprised a series of web pages designed to present products. Most of the websites enabled stages of a transaction to take place. Many candidates created fully functional, easy to navigate websites comprising a series of well-structured web pages that enable multiple purchases in a single transaction.

Many candidates created efficient data structures that stored all information required to operate a 'shopping basket' and carry out a transaction and provided the consumer with the details expected from a commercial system.

Test an eTransact system

Most candidates had created comprehensive test plans that enabled them to test all areas of their system. The test results were often presented with appropriate commentaries.

Provide customer advice

As in previous series most candidates had carried out some research into distance selling regulations and the terms and conditions documented on a range of commercial websites. The results of the candidates' research were generally presented as part of the transactional website, as required.

Review

This section was an area of overall improvement with fewer candidates providing reviews that comprised narrative rather than evaluative content and with most candidates demonstrating an awareness of the requirements of the specification for the review for this unit.

In a minority of cases candidates failed to cover all areas contained in section 9.8 of the specification, but simply provided a description of their work.

Eportfolio

Most of the candidates' eportfolios were fully functional, although, in some cases candidates would have benefited from testing the navigational links to ensure that all work could be accessed when the completed project was removed from the school/college network.