



**GENERAL CERTIFICATE OF EDUCATION
TYSTYSGRIF ADDYSG GYFFREDINOL**

2009 - 2010

For first teaching from September 2008

**GCE AS/A LEVEL
IN
APPLIED ICT**

**SPECIMEN QUESTION PAPERS
SPECIMEN MARKING SCHEMES**

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Introduction

The GCE AS/A Level in Applied ICT features paperless assessment. The contents of this sample assessment materials document serves to inform teachers of the assessment process for each of the units. Units 8 & 9 are assessed through coursework and therefore are not represented within this document. Tasks to address the coursework will be set by the teacher, further guidance for these units will be available via the WJEC website and through Inset provision. All other units have one of three types of assessment instruments.

External units are assessed by an on-screen examination (units 1 & 7) or by a WJEC set controlled assignment (units 3 & 5). Internal units (other than units 8 & 9) are assessed through WJEC devised assignments.

Samples of all assessments are included within this document. All assessments will use digital characters and multi-media. Samples attempt to offer a description of the assessment, as it will appear electronically.

Unit	Assessment	Included in this Document	Assessment Guidance	Page
1. eBusiness	External	Sample 3 hour on-screen examination	Mark scheme included with this document	7
2. eSkills	Internal	Sample of Awarding Body devised assignment	Assessment based on grid please see specification	33
3. eWare	External	Sample controlled assignment	Assessment based on grid please see specification	39
4. eMobile	Internal	Sample of Awarding Body devised assignment	Assessment based on grid please see specification	45
5. eProject	External	Sample controlled assignment	Assessment based on grid please see specification	49
6. eStudio	Internal	Sample of Awarding Body devised assignment	Assessment based on grid please see specification	55
7. eConnect	External	Sample 3 hour on-screen examination	Mark scheme included with this document	57
8. eLearn	Internal	N/A	Teacher Guidance	N/A
9. eTransact	Internal	N/A	Teacher Guidance	N/A

APPLIED ICT

UNIT - AICT 1

eBusiness

External Assessment

Three-Hour On-Screen Examination Consisting Of Two Parts

SPECIMEN PAPER

Audio message -

“Hello and welcome to the e assessment for your GCE in Applied ICT unit 1.

This assessment is split into two parts – part A and part B. Part A contains a series of questions, whereas part B contains a series of practical tasks. Part B will require access to Microsoft Office applications.

Instructions on how to save your work will be provided.

To help you complete this assessment you have navigation buttons of the right hand side of the screen. You can go back to any question or piece of information at any time to check or amend your responses.

To start the assessment, please click on the button for Question A part 1.”

On screen message –

Instruction to Candidates

Answer **ALL** questions
Give your answers in the spaces provided

Information for Candidates

The navigation buttons on the right side of the screen will help you complete this assessment. You can go forward or back to any questions. These buttons will change colour from black to green when you have attempted the related question.

When you are ready, close this window, complete the boxes below and then press the Part A Question 1 button to begin your assessment.

This information can be viewed again by pressing the ! symbol.



START OF INTRODUCTION

**Avatar 1, representing a director of 2XL Sports, explains the following:
(Option to view as text)**

This explanation will include video and photographs to give candidates an overview of the business.

Start

"2XL Sports is a company that markets golfing equipment. It is based in Newport, a location chosen for its excellent transport links and skilled workforce.

The company use modern working styles and continually strive for greater efficiency. The managers are very aware of the competitive nature of business and realise that good ICT systems and working practices are essential to keep them ahead of their competitors.

The System Administrator manages the computer network, which serves all the departments within the building. Each department has a number of workstations, allowing them to share data and resources. They have an Intranet as well as access to the World Wide Web.

The company has recently taken on a number of new employees. The management at 2XL Sports believe strongly in training their workforce in all aspects of the company, so that they get an overview of the whole business and therefore gain a better understanding of how their own particular job affects and is affected by the functions carried out by other departments.

Once the new employees have received their training, they are tested to check that they understand the way the business runs. This test includes a number of different tasks and asks trainees to react in a number of different scenarios.

The Manager of Human Resources will be requesting your help as she is having a very busy morning. Please carry out the tasks to the best of your ability and check your work over before submitting it."

Finish

Part 1: Knowledge and Application of eBusiness

1. (a) Select the 'Avatar' button.

**Avatar 2 explains the context for question 1:
(option to view as text)**

"Good morning. Your first task of the day is to prepare suitable responses to questions that will be used in the staff training test tomorrow. These responses will be used as examples of correct answers when the trainees' tests are reviewed, so please answer clearly and specifically at all times. Don't spend too much time on this task - it's going to be a busy day!"

- (i) 2XL Sports interacts with a variety of different organisations. Drag and drop the organisations shown below into the relevant boxes. [3]

County Council Hotel Golf Course Sports Shop Stationery Outlet

Water Company Electricity Company Golf Club Factory

Local Government	Leisure & Tourism	Retail	Utilities	Manufacturers

- (ii) From the list above, identify one supplier to 2XL Sports and one distributor for them. [2]

Supplier

Distributor

- (iii) 2XL Sports use EDI with both suppliers and distributors. State what EDI stands for and explain its use. [2]

Text box that will contain a maximum of 50 words

- (b) 2XL Sports collect information from various sources. Drag and drop to select one Primary source and one Secondary source using the words supplied and then complete the grid. [8]

Government publications

Telephone Interview

Business Directories

Online Survey

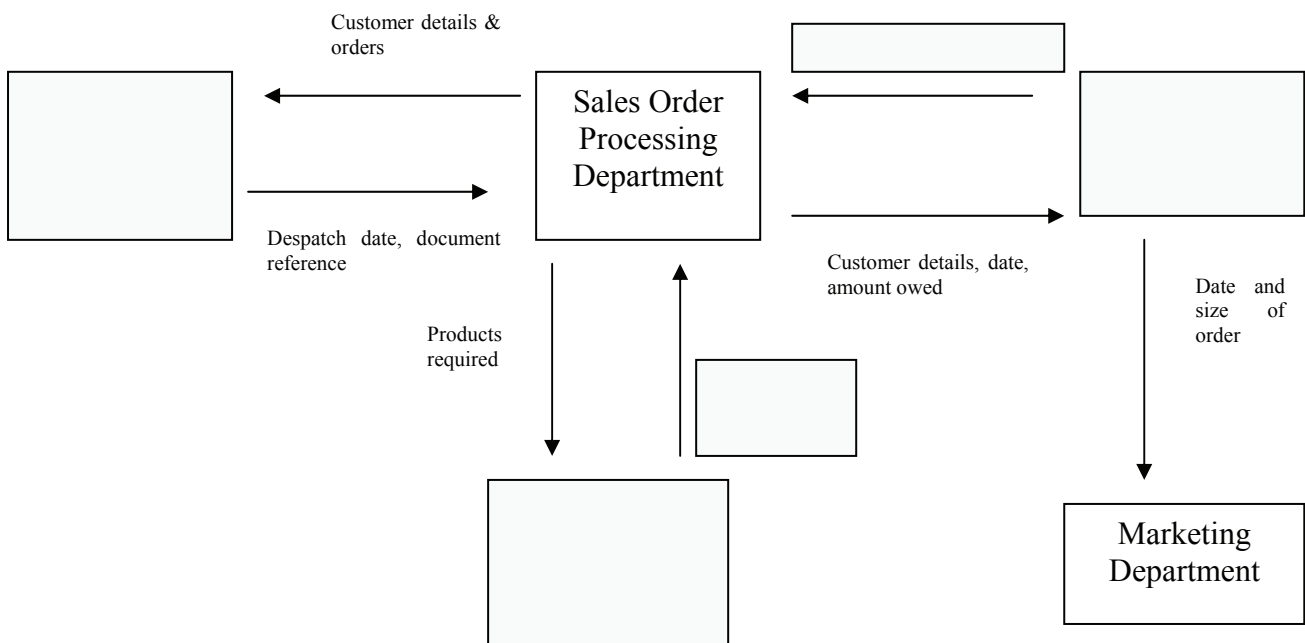
Primary Source:	
Advantage:	
Disadvantage:	
Example of use:	

Secondary Source:	
Advantage:	
Disadvantage:	
Example of use:	

2. Select the 'Avatar' button.

Avatar 2 speaks: "Select the *Presentation* button to see a slide with notes explaining data flow within the company when a customer places an order. I ran out of time and five of the text boxes need to be completed. Could you fill these in for me, please? Thanks a lot - see you later." [5]

Provide a button labelled 'Presentation' that reveals a slide (as in PowerPoint) with notes underneath that read, 'A customer places an order through the Sales Order Processing Department. Information about what products are required is passed to Stock Control, where the stock taken is deducted from the stock file, and the order details are sent to the warehouse. The goods are packed ready for despatch and the invoice and despatch note are printed in the Packing and Despatch Department. The Sales Order Processing Department send the invoice details (date and amount owed) to the Accounts Department. The Accounts Department send a customer credit rating to the Sales Order Processing Department. The Marketing Department use information about who has purchased which goods, so they can market effectively.'



3. Select the 'Avatar' button to see a situation that arose last week.

Provide 'Avatar' (video?) button to see the scenario. Script also available as text. Also provide 'Memo' button to supply text box that can contain up to 100 words.

Avatar 1: "Look, I know it's here somewhere!"

[Avatar 1 is frantically clicking the mouse button and staring at a computer screen, obviously trying to locate a missing file]

Avatar 2: "This really isn't good enough. This is the third time this has happened in the last week. I have a very busy schedule and if I ask you to open a document, I expect it to be located immediately."

Avatar 1: "I'm really sorry, I'm sure I'll find it in a minute ... **[fades out]**

[fades in to ...]

Avatar 2: "As you can see, certain members of our staff seem to have completely forgotten their training. I would like you to send a memo to all members of staff to remind them of standard ways of working that will help prevent losing files. Make sure you give clear instructions - I don't want this happening again." [2]

Press the 'Memo' button.

MEMO

To:

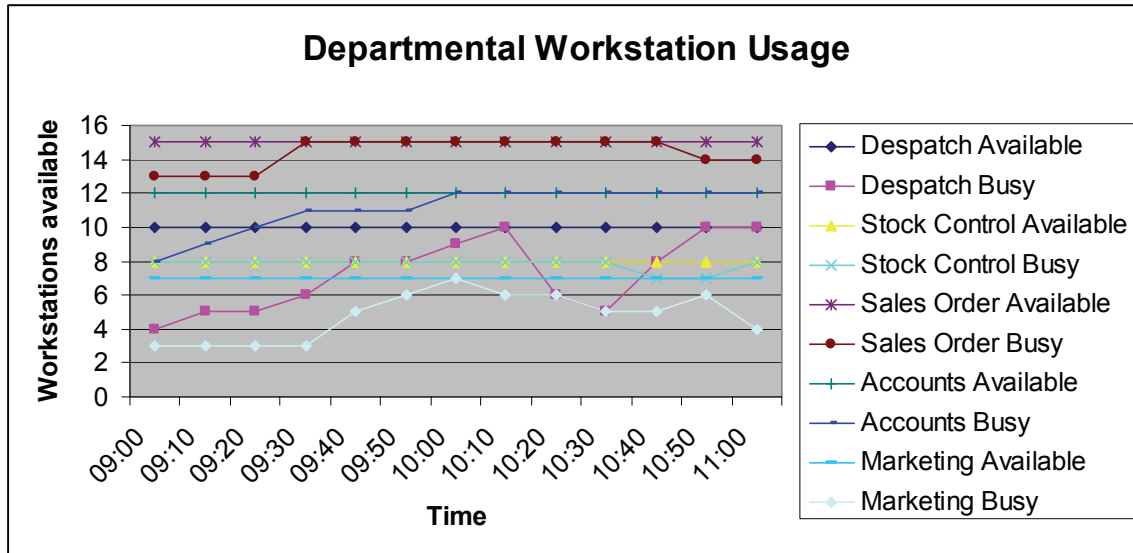
From:

Date:

[text box to contain answer to question - up to 100 words]

4. Select the 'Graph' button to see a graphical representation created by 2XL Sport's management information system (MIS).

Graph appears:



Select the 'Audio' button to hear managers discussing the findings.

Audio:

Voice 1: "I think this justifies my request to relocate workstations, you know."

Voice 2: "But don't you feel that the real issue here is our need to trial flexible working hours? That could eliminate the problem."

Voice 3: "I'd like to run a report to estimate the cost effectiveness of increasing availability to Sales Order by 25%. Over the course of a year, the impact could well be significant."

- (i) Describe the role of the management information system used in this scenario. [1]

(ii) Give three characteristics of an efficient MIS system. [3]

1.
2.
3

(iii) Give two factors that could affect the success of MIS. [2]

1.
2.

5. Select the Avatar button.

Avatar 2: "In a rush - can't stop. I need you to do an induction session for a couple of new employees tomorrow morning. You'll need to explain the concepts of *home working* and *hot desking*. I would like you to prepare two slides, one for each of these methods of working, and give **one** advantage and **one** disadvantage for each of them. Thanks!" [script available as text] [4]

Presentation button reveals simulated PowerPoint environment (or access to PowerPoint).

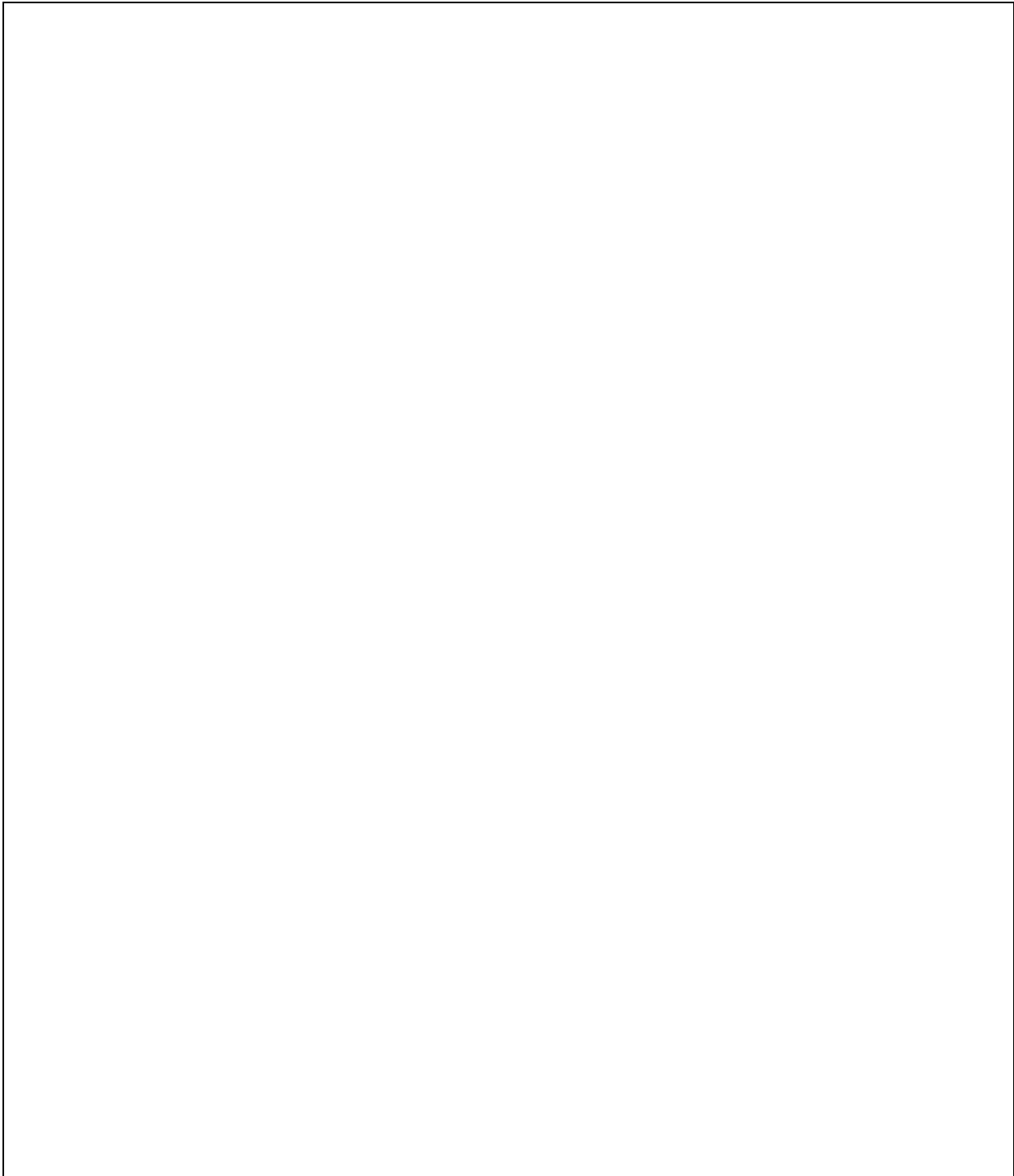
Select the Presentation button and create the two slides.

<h2>Home Working</h2>
Advantage:
Disadvantage:

<h2>Hot Desking</h2>
Advantage:
Disadvantage:

6. Select the Avatar button.

Avatar 2: "Back again. The Managing Director has scheduled a meeting for tomorrow afternoon. The main item on the agenda is 'external communications'. I need you to prepare a report on the ways in which we communicate with both customers and suppliers - give me **four** different methods of communication and give an advantage of using each one. I want us to be prepared." [8]



End of Part 1

Part 2: Knowledge and Application of eBusiness

7. Select the button 'Avatar'.

Avatar 2: "I need you to work with some applications. Remember to follow standard ways of working. I've made a note of the tasks to be completed in a separate file. Just click on the Tasks button to see what you need to do. As you know, we have to keep to deadlines, and these tasks must be completed in the next two hours. Thanks for your help."

[also available as text file]

Provide a button labelled 'Tasks' that reveals a set of instructions for the tasks that reads ...

Provide a 'Data file' (comma-delimited) to be imported into the database.

TASK A

- (i) Look at the data file 'Customers' and then design a suitable database to contain this data. [3]
- (ii) Company policy is to allocate no more than 500 copies of our catalogue to any one company. Please include a message so this is foolproof for new staff. [2]
- (iii) Design a customised data entry form, including the company logo. [4]
- (iv) We will want to send a standard document promoting a new discount system that we will be trialling in Newport. Run a query suitable for mail merge to find all customers based in Newport. [1]
- (v) Apart from the information requested so far, create **two** other meaningful reports from the data supplied. In each case, make sure all information is clearly displayed and include your name and the date in a footer. [10]
- (vi) Link your form to and from each of the two reports. [2]
- (vii) Evaluate your two reports. [3]

TASK B

Provide a text file 'Discount Letter' with the wording for the standard mail merge document.

Provide a file 'Logo' with the company logo.

- (i) We need a standard letter to inform clients about a discount scheme on some products. Open the text file 'Discount Letter' to see the text required. Copy the text into a word processing document and format it for a standard business letter. [2]
- (ii) Insert an oval shape into the top right hand corner of the letter and fill it dark blue. Open the file 'Logo' and copy the company logo onto the oval. [1]
- (iii) Use formatting features to draw special attention to paragraph 2. [2]
- (iv) Set out the 'Examples of savings' across the page using tabulation. [2]
- (v) Mail merge this letter with the query you made of all customers based in Cardiff. [3]

TASK C

Provide the spreadsheet file 'Spreadsheets for Graphs' containing three worksheets.

I

- (i) Take a look at the figures in the 'Spreadsheets for Graphs' file. I would like you to create at least one graph/chart to represent the data shown in the worksheets. Please use a different type of graph or graphs for each worksheet. Don't forget to:
- Choose a suitable graph [1]×3
 - Give the graph a meaningful title (reflecting what it shows) [1] ×3
 - Label the graph [1]×3
 - Adjust formatting and layout as required. [1]×3

In each case, create the graph/chart on a new sheet and insert a text box under it. In the text box,

- Explain what the graph/chart shows [1] ×3
- Evaluate your graph/chart and give your reasons for your choice. [1] ×3

Provide the spreadsheet file 'Sales Bonuses'.

II

The Sales Director would like to give a holiday bonus to successful long-serving members of staff. We try to work out whether this is feasible each year, so this time you need to set up functions and formulas for this year and then keep the sheet so they can be used again in the future.

- (i) Take a look at the figures in the 'Sales Bonuses' file. Work out this year's total commission due to the sales force. [1]
- (ii) If the sales person has achieved an annual sales total of over £20,000 and worked with the company for over 7 years, he would like to award them a holiday bonus. Enter a function to show whether each sales person is eligible for a holiday bonus or not. [2]
- (iii) In cell H3, enter a function to count the number of sales people eligible for a holiday bonus. [1]
- (iv) Evaluate this spreadsheet. [3]

End of Part 2

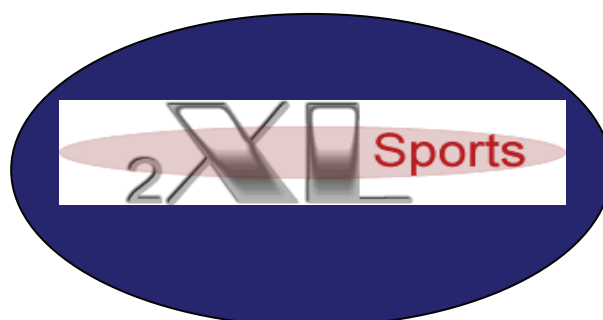
Supply 'Test completed' button. When clicked, Avatar 2 speaks:

"Finished? I do appreciate your efforts - these tasks are very important. If you have time, could you please check that you really have completed all the tasks? I won't have time to proof read your work, so please make sure that you check everything over for mistakes before submitting it to me. Thanks a lot - it's been a busy morning!"

Resource for Unit 1 eBusiness

2 XL Sports
Oak Gardens
Newport
Gwent
CX33 2PP

Tel: 01234 567899



Date

Mr JD Davies
Golf Heaven
Church Street
Newport
CF3 4HH

Dear

We are delighted to inform you of a new discount scheme on full sets of golf clubs available to valued local customers in the Newport area.

*Between 1st February and 1st May, customers ordering 5 or more sets of golf clubs in selected ranges will be entitled to a **10% discount**. In addition to this, there will be a **further 5% discount** for all prepaid orders.*

Examples of savings:

Range £	Original Price £	-10% £	Prepaid £
Flair	1200.00	1080.00	1026.00
Big Swing	900.00	810.00	769.50

I am sure you will want to take advantage of these generous savings and look forward to receiving your orders in due course.

If you would like any further information about this offer, or about any of our products and services, please do not hesitate to contact us.

Yours sincerely,

BJ Jones,
Sales Director.

Resource for Unit 1 eBusiness

Quest	Context	Content	AO1	AO2	AO3	AO4	Marks for Q
	PART 1						
1	Types of organisation	1.2		5			5
	EDI	1.4		2			2
	Information sources	1.3		8			8
2	Dataflow diagram	1.5		5			5
3	Standard ways of working - back ups & file management	1.9		2			2
4	MIS	1.4		4			4
5	Working styles and new opportunities	1.7		6			6
6	Communication	1.6		8			8
	PART 2						
7A	Database tasks	1.8	14	1	6	4	25
7B	Standard letter / Mail merge tasks	1.8	10				10
7C	Spreadsheet / graph tasks	1.8	6	9	4	6	25

ACTUAL:

30	50	10	10	100
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TARGET:

30	50	10	10	100
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TARGETS:

AO1: ICT Capability	12
AO2: Knowledge and Understanding	20
AO3: ICT Problem Solving	4
AO4: Evaluation	4

Resource for Unit 1 eBusiness

Staff Bonus	Commission		Holiday cost	£650
	3%	Holiday Bonus?		
	Annual Sales Total	Years Employed		
Oliver	£14,559.00	2		
Tina	£24,693.58	5		
Jerry	£16,235.46	1		
Rhian	£17,648.50	3		
Elan	£25,400.00	6		
Carol	£9,364.47	1		
Janet	£13,258.69	6		
Claire	£18,364.00	6		
John	£12,585.64	3		
Morag	£8,624.21	1		
Raymond	£5,968.96	1		
David	£18,395.00	6		
Cheryl	£20,164.21	10		
Tara	£19,950.00	4		
Bob	£15,477.13	2		
Emma	£16,224.66	3		
Morgan	£9,647.00	2		
John	£21,599.36	8		
Tesni	£18,994.75	3		
	TOTAL			

Resource for Unit 1 eBusiness

Staff Bonus		Annual Sales		Commission		Holiday cost	
Firstname	Surname	Years Employed	Total	3%	Holiday Bonus?	2	£650
Oliver	Birch	2	£14,559.00	£436.77	No		
Tina	Bourne	5	£24,693.58	£740.81	No		
Jerry	Edwards	1	£16,235.46	£487.06	No		
Rhian	Forster	3	£17,648.50	£529.46	No		
Elan	Gordon	6	£25,400.00	£762.00	No		
Carol	James	1	£9,364.47	£280.93	No		
Janet	Jenkins	6	£13,258.69	£397.76	No		
Claire	Jones	6	£18,364.00	£550.92	No		
John	Jones	3	£12,585.64	£377.57	No		
Morag	Jones	1	£8,624.21	£258.73	No		
Raymond	Matthews	1	£5,968.96	£179.07	No		
David	Newton	6	£18,395.00	£551.85	No		
Cheryl	Powell	10	£20,164.21	£604.93	Yes		
Tara	Simpson	4	£19,950.00	£598.50	No		
Bob	Todd	2	£15,477.13	£464.31	No		
Emma	Tonkins	3	£16,224.66	£486.74	No		
Morgan	Underhill	2	£9,647.00	£289.41	No		
John	Willis	8	£21,599.36	£647.98	Yes		
Tesni	Wood	3	£18,994.75	£569.84	No		
			TOTAL	£9,214.64			

Resource for Unit 1 eBusiness

January	February	March	April	May	June
£68,817.15	£78,476.00	£98,970.75	£124,758.00	£254,985.00	£230,550.75
July	August	September	October	November	December
£190,526.00	£175,554.00	£166,982.00	£92,364.50	£88,745.00	£95,397.00

MARK SCHEME

UNIT 1: eBusiness

		MARKS	MAX
	PART ONE		
Q.1	<p>(a)</p> <p>(i)</p> <p>Local Government: County Council Leisure & Tourism: Hotel, Golf Course, Retail: Sports Shop, Stationery Outlet Utilities: Water Company, Electricity Company Manufacturers: Golf Club Factory</p> <p>All correct: 3 marks 7 correct: 2 marks 6 correct: 1 mark</p> <p>(ii)</p> <p>Supplier - any one of: Stationery outlet 1 mark Water Company 1 mark Electricity Company 1 mark Golf Club Factory 1 mark</p> <p>Distributor - any one of: Golf Course 1 mark Sports Shop 1 mark</p> <p>(iii)</p> <p>Electronic Data Interchange 1 mark The electronic transmission of data from the computer of one business to another 1 mark</p>		15
	<p>(b)</p> <p>Primary source: Online survey or telephone interview 1 mark</p> <p>Advantage:</p> <p>Online survey - any one of: Can reach huge audience (worldwide) 1 mark Easy to edit survey 1 mark Easy to collate/analyse results on computer 1 mark Inexpensive to implement 1 mark</p> <p>Telephone interview - any one of: Harder for people to ignore 1 mark Can draw out extended answers/explanations 1 mark Immediate response 1 mark More personable 1 mark</p>		

		MARKS	MAX
	PART ONE		
Q.2	Boxes - from left to right: Packing and Despatch Department Stock Control Department Accounts Department Arrows - from top to bottom: Customer credit rating Stock availability	1 mark 1 mark 1 mark 1 mark 1 mark	5
Q.3	Organised folders and files system Keep backup copies	1 mark 1 mark	2
Q.4	(i) Used to analyse how efficiently the workstations are being used within the company / to provide data to ensure the right decision is made (ii) Any three of: It supports internal and external sources of information / supports a range of skills/knowledge It is flexible / offers different ways of analysing data Allows managers to share data and information Offers alternative ways of presenting data Large volumes of data can be handled efficiently Filters unnecessary data Structures data to provide information (iii) Any two of: GIGO (or similar explanation) Insufficient data input to system Inadequate analysis Not sufficiently organisation specific Lack of training - unable to use the system efficiently Not kept up-to-date	1 mark 1 mark 1 mark 1 mark 1 mark 1 mark 1 mark 1 mark 1 mark 1 mark 1 mark 1 mark	6

		MARKS	MAX
	PART ONE		
	<p>Extranet Advantages - any one of: Only selected people can access areas of website Gain confidence of customers as confidential</p>	<p>1 mark 1 mark</p>	
	<p>Telephone Advantages - any one of: Some people like to speak personally Can address points specifically / react to questions Immediate response</p>	<p>1 mark 1 mark 1 mark</p>	
	<p>Letters Advantages - any one of: Gives professional impression - headed paper</p>	<p>1 mark</p>	
	<p>Reports Advantages - any one of: Detailed written document - can be referred to Easy to find information as written in sections</p>	<p>1 mark 1 mark</p>	
	<p>Face to face Advantages - any one of: Can see expressions of person Body language / hand shake, etc. Can sign documents</p>	<p>1 mark 1 mark 1 mark 1 mark</p>	

		MARKS	MAX
	PART TWO		
Q.7C	I		25
	(i) Suitable graph 1	1 mark	
	Meaningful title 1	1 mark	
	Labels 1	1 mark	
	Formatting and layout 1	1 mark	
	Explanation 1	1 mark	
	Evaluation 1	1 mark	
	 Suitable graph 2	1 mark	
	Meaningful title 2	1 mark	
	Labels 2	1 mark	
	Formatting and layout 2	1 mark	
	Explanation 2	1 mark	
	Evaluation 2	1 mark	
	 Suitable graph 3	1 mark	
	Meaningful title 3	1 mark	
	Labels 3	1 mark	
	Formatting and layout 3	1 mark	
	Explanation 3	1 mark	
	Evaluation 3	1 mark	
	 II		
	(i) Commission calculated using =D4*\$E\$3 or =D4*3%	1 mark	
	(ii) IF AND used correctly to give 'Yes' or 'No' in Holiday Bonus? Column <i>Deduct one mark if candidate used two separate functions</i>	2 marks	
	(iii) COUNT IF correct in H3	1 mark	
	(iv) Evaluation of methods / application	1 mark	
	Evaluation of appearance	1 mark	
	Suggestions for improvements	1 mark	
	Total	100	

APPLIED ICT

UNIT - AICT 2

eSkills

Internal Assessment

Awarding Body Devised Assignment

Mobilez

(Boardroom presented on screen, with voice over. Candidates will be able to re-play sections of the presentation, which will also be available as printable versions as a series of memos. The various documents referred to in the scenario will be tabled during the presentation and again printable versions will be available).

Introduction

The owner of Mobilez explains the following:

We are manufacturers of mobile phones and pride ourselves as being in the forefront of the industry. In order to keep up-to-date in this fast moving industry we introduce a new mobile phone every year. We only have the capacity to produce 30 different models of mobile phone and a decision has to be made as to what phone in our current range should be discontinued. We do not sell to the public.

The research and manufacturing part of the organisation are very efficient and successful however there are several problem areas in the organisation that require your help. Let me introduce you to my team.

Sales & Marketing Department

The head of the Sales & Marketing Department explains the following:

The Sales & Marketing Department is responsible for advertising to promote the mobile phones. Generating sales to trade customers and recommend to the OWNER the model to be discontinued.

We have a Sales Team who are responsible for all our trade customers and 2 Sales Administrators who are responsible for passing on all orders to the Warehouse and Distribution Department.

The Sales Team

There are currently 4 representative working in my team. The UK is split into 4 different areas. Each representative is allocated a territory.

List of reps and areas

Customers are allocated to the representative that is responsible for the territory.

Each member of the Sales Team are paid a bonus at the end of the year, the amount of bonus is dependent on his or her sales.

Let me introduce you to the Head of Accounts & Finance she will be able to explain about our Customers.

Accounts & Finance Department

The head of the Accounts & Finance Department explains the following

To be able to place orders with Mobilez customers must have an account. They must fill in a Trade Account Application Form – the necessary credit checks are carried out and if successful customers can then place orders.

This is an example of the form:

Trade Account Application Form

We then send out invoices on the 28th of every month.

This is a typical invoice

Invoice

If we have problems with customers paying their account we will block the account. A record of all blocked accounts is kept in a book. A copy of which is sent to the Sales Department. Blocking the account should result in no orders being processed.

The head of the Accounts & Finance Department outlines the inherent problems in the current system:

Invoices are being sent out after the 28th of each month and this results in cash flow problems.

Orders are being taken from Customers whose accounts have been blocked.

I will hand you back to the Sales Administrator so that she can outline what happens when orders are received.

The Sales Administrator explains the sales process

When orders are received from our customers my job is check on the list that is provided by the Accounts & Finance Department that the account has not been blocked and put the order into a file. This file is taken over to the Warehouse and Distribution Department at the end of every day.

This is an example of a typical order form:

Purchase Order Form

The Sales Administrator explains the problems in the sales process

There are two major problems that we experience with the current manual system the first is that often orders are not always placed in the correct file and orders are not fulfilled. Another problem is that we sometimes process orders from accounts that have been blocked.

Let me take you over to the Warehouse and Distribution Department

Warehouse and Distribution Department

Warehouse and Distribution Department Manager explains

My first job every morning is to go through the Orders and check if we have the goods in stock.

The order is then given to one of the Warehouse Staff who will put together the goods. A despatch note is sent with the goods to the customer. Here is an example of the despatch note

Despatch Note

Example of the stock book

The stock levels are adjusted and a copy of the despatch note is put in the file. This is used by the Finance Department who will prepare and send out invoices.

Now that you have an understanding of the current working practises of the Sales System you should appreciate that the manual system needs to be replaced with an electronic database solution.

The solution should allow the users to

- Add new orders.
- Add sale representatives
- Add new mobile phones.
- Edit orders, sales representative and mobile phone details.
- Carry out appropriate searches.
- Produce Invoices.
- Produce Despatch Notes.
- Produce Low Stock Reports.

Automated stock control would also be helpful.

The Sales and Marketing manager now outlines some of the decisions he has to make:

I need to recommend what product to discontinue. This decision is based mainly on sales trends. I need to identify the best and worst selling model in terms of the numbers being sold and profit. These figures are currently produced by the Sales Administrators – who manually have to list the products and the sales then calculate the totals – they use a calculator.

An example of
the figures
produced

Problems with this system are that mistakes in calculation have not been spotted and the decision to discontinue a particular model is based on incorrect data.

Each member of the Sales Team has an Annual Review. At this meeting the performance of the representative will be discussed. A breakdown of how each representative is performing in terms of number of orders, value of income generated and value of profit per month is required before the review can take place. Again I rely on the Sales Administrator to calculate the totals.

An example of
the figures
produced

This information is also used by the Accounts and Finance Department to calculate the bonus that each representative should receive.

The sales team are unhappy because it takes a long time for them to receive bonus due to the slow process and this has a negative impact on motivation and sales. Often disputes arise over amount of bonus – incorrectly allocations and incorrect totals.

Example of bonus
calculation and
letter

All data required for the bonus calculations will be stored in the new database. This needs to be identified and import into a spreadsheet to be analysed. The spreadsheet should be designed to solve the above problems and provide an efficient bonus calculation system.

Where appropriate I would like tabular and graphical output to show these figures and identify sales successes and weaknesses.

APPLIED ICT

UNIT - AICT 3

eWare

External Assessment

Controlled Assignment

Controlled Assignment

There are 100 marks available for this assignment. This is the only form of assessment for this unit. This assignment will be marked externally. You will be awarded marks according to the quality of the work you complete and you should use the Assessment Guidance to help with your work. The details of what you are required to include in the given eportfolio are included on the eportfolio contents page.

Your customer file should provide evidence of standard ways of working including the use of appropriate folder, file and macro names. All evidence should be saved in acceptable file formats and correctly linked to the given customer file template.

All work for this assignment is to be carried out in controlled conditions as defined by the Awarding Body. The time allowance for the assignment is 15 hours. The allocation of marks is indicated for guidance throughout the assignment brief.

Designer eWare

User requirements [10]

Last year Pete and Lynne started a freelance design business, specialising in teenage fashion. Pete is the imaginative half of the partnership responsible for the designs. He also provides accurate drawings for the manufacture of the samples they use to sell the designs. Lynne is the saleswoman who spends much of her time visiting retailers. She also organises the business and looks after the finances.

Pete's designs are proving popular and the business is doing well, but Pete and Lynne are finding that they need to work very long hours to get everything done. Therefore they have decided to employ an assistant to free them from the day to day administration of the business and also to invest in ICT, as they believe this would make them more efficient.

You work for a computer firm that specialise in supporting small businesses. Lynne has asked you to prepare recommendations for 3 systems.

System 1 – for Pete, to help with his design and drawing work.

System 2 – for Lynne, to help with sales and the accounts

System 3 – for the new office assistant.

Consider the above scenario and E-mail Lynne if you need to clarify any details. She is very busy so try to limit your questions to one or two per system. Make sure that you save a copy of your email in the customer file.

Analyse the above details and produce a requirements specification for the three systems for Lynne to consider. Remember that Pete and Lynne are not computer experts.

Include your requirements specifications as the introduction to the customer file.

Technical specification [20]

Lynne's budget for the three systems is £ 10,000. Produce technical specifications for the three systems to suit this budget, using products from your SB catalogue. Your specifications should cover hardware and software.

Note – The SB (Small Business) catalogue is to be provided electronically. It will be similar to a retailer type on-line catalogue, but will not include any complete systems

Add your specifications to the customer file.

Remember to complete the explanation and provisional quotation sections.

The systems must provide value for money but function is very important. You may be able to specify basic systems to suit the budget and then add further suggestions to improve system performance.

Complete the further suggestions and additional cost sections of the customer file.

Configuration [20]

Your suggestions were accepted and the three systems have been installed. Pete has decided to connect his system to the Internet and you have now been asked to help him set up his connection and carry out the following system configurations.

- *Configure his Internet settings to use the proxy server address of 252.16.0.25 and set the home page to a search engine.*
- *Set his e-mail to use Outlook Express and create a new account using the following details.*
 - *Account name: Pete*
 - *Password: Designer*
 - *Email address: pete@designerworld.co.uk*
 - *The account uses a POP3 server and 128 bit encryption algorithm*
- *Set the filter level to allow pop-ups from secure sites*
- *Add the same password to Pete and Lynne's user accounts.*
- *Limit the access levels allocated to the assistant's user account.*
- *Add a favourites menu to the start menu*
- *Set Windows automatic updates for Monday morning at 9.00am*
- *Maximise the screen resolution on Pete's system*
- *Activate the Windows Firewall*

Before going to visit your customer, demonstrate, using the software provided, that you know how to change these settings.

Customisation [15]

You also wish to maximise the efficiency of the systems and have decided to create two automated routines to show to Lynne. Create two useful routines and produce annotated listings for your records.

Attach the listings to the customer file.

User support [15]

Pete and Lynne are concerned about becoming employers and want to make sure that they do everything correctly. They have asked you to produce a set of guidelines using ICT in the workplace.

Your guidelines must cover ergonomics, safe working and data security.

Save a copy of your guidelines in your customer file.

Trouble shooting [15]

In conversation with Pete and Lynne during your visit to their offices a few problems were mentioned that you think might be quite common. You have therefore decided to produce flow charts to help your office staff deal with these problems over the telephone.

Produce a flow chart or similar to help trouble shoot a call about a printer not working.

Produce two other flow charts to help with problems of your own choice.

Attach the flow charts to the customer file.

Customer File [5]

Your work should be linked to the customer file template using suitable file formats. It should be accurate and no unnecessary work should be included.

I hope the following will help clarify what we need.

We would like to be able to use e-mail from each of the systems.

Pete will use his system for design and detailed design work. He would like to produce 3D images of the products and patterns, or plans, so that they can be made. He will use the system most days sometimes for over 6 hours. I would like him to print out the 3D images as glossy photos to help me with sales.

I will use my system for doing the books and other financial calculations. It would be good if I could use it during my sales visits to show the products to the buyers.

The third system is to be used for administration, which will involve letters and other business documents such as invoices, memos etc. It will also be used to keep records of customers and other contacts and to produce mail shots that need to be attractive and professional looking.

It is important that all of our business information is kept safe.

Rgds

Lynne

APPLIED ICT

UNIT - AICT 4

eMobile

Internal Assessment

Awarding Body Devised Assignment

Living in the 21st century.

There is no doubt that the pace of our lives has increased in recent times!

Some of this increased pace of living can be associated with the developments in technology. From portable computers, mobile telephones (complete with the myriad of gadgets that are now associated with them) to portable media devices where we can watch this morning's news bulletins on the bus on the way to work or college! We can even download last week's episode of our favourite television program if we missed it – or even because we want to watch it all over again!

We keep developing technology to support the way in which we work - and play.

The developments in how we interact with our devices and how our devices interact with themselves are a key area of interest. Connections and networks (local and wide area) are essential to getting the most out of our devices – and our lives in the 21st century!

What will candidates need to do?

The task is to prepare an electronic book (eBook) which will contain their findings and recommendations based upon a given scenario. They will be provided with details and requirements of different users; existing equipment and future needs to suit a given budget allocation.

What Software will Centres need to provide?

To facilitate the successful completion of this unit, candidates will need access to the following:

- The Internet
- Web authoring software
- Vector / Bitmap graphics authoring
- Animation software
- Screencast software
- Pdf writing software
- Mp3 file creation software

Sample Assignment Brief:

Background:

The Williams family live in a suburb of Cardiff. They currently own a desktop PC which has a relatively low specification. They lead busy lives and each member of the family has different priorities in terms of their daily activities.

You are a Sales Associate for computergadget.org and have received an email from Martin Williams this morning asking for help. He wants recommendations for the whole family so that they can update the way in which they keep in contact and organise their home, work and leisure activities.

You have replied to Martin by email, stating that you would look forward to preparing some information for him, but need an insight into what all members of the family would like to do as well as the amount of money that would be available to spend. Martin replied almost straight away and has given you the following information:

Budget:

£1,500 to spend on necessary equipment this year, he hopes to have a further £750 to spend next year, however this is not guaranteed.

Additional monthly spend £50.00 for monthly rentals, connections etc.

Williams Family Pen Portraits:

Sue is a teacher based in a school just outside Cardiff and needs a mobile phone to keep in contact with the rest of the family – purely for emergency reasons. She does not envisage making many calls, however she would like to be able to send and receive SMS messages to both her children to check up on things! Cardiff Comprehensive also has set up an SMS messaging service to contact parents. She is happy to use the existing Desktop PC that they have at home to prepare her lesson material and transfers this onto her school computer using a USB flash drive that she keeps on her key ring. She has a keen interest in managing her bank account online as she finds difficulty in attending her bank branch during opening hours.

Martin is a Sales Manager and travels across the South Wales / South West region. He has an office set up at home and has a Laptop and mobile phone supplied by his employers, he has a paper-based organiser and finds difficulty carrying all of these items with him when he is visiting clients as he is also required to carry equipment samples to demonstrate the product range that he is promoting to his clients. He needs to manage appointments, store contact details on his clients and all of the different people that he deals with. At home, Martin takes a keen interest in digital photography and has started to compile his photographs on his desktop PC. He would like to make them accessible wirelessly around the house so that friends and family can be shown a slide-show of his photographs – ideally to selected music tracks.

Tom is a first year university student who has not a great deal of disposable income. He enjoys spending what little he has. He is in need of a computer to enable him to work on his assignments and projects. He will need an Internet connection to allow him to access his course notes outside of the university buildings. The university have set up WiFi hotspots around the Student Union and Tom would like to take advantage of this facility. He has a mobile phone, but it has no additional facilities and Tom is feeling a little embarrassed with the version of phone that he currently uses.

Rachel is studying for her A Levels and needs to be able to create digital images for both her ICT course and her Art and Design courses. She does not have a mobile phone of her own, however has been pestering Mum and Dad for one for ages! As she has taken to going to her friend's house after school, Mum wants to be able to contact her by SMS to check where she is and what time she will be home. She also has a keen interest in music and wants to help to support her school with a termly podcast to be published on the school intranet.

Task:

You need to:

- Analyse the needs of the family, set the clear objectives as you see them.
- Research and make recommendations to suit the overall budget for the whole family: Sue, Martin, Tom and Rachel within the available budget. Try to include at least 2 options for each device explaining their benefits / drawbacks.
- Research suitable connections and software required for your hardware recommendations. Make recommendations to suit the overall budget.
- Describe WiFi networks and make recommendations for hardware requirements at the family home. Show a plan of the connection setup including all devices on the network.
- Describe and make recommendations for relevant Internet services that the family could benefit from.
- Make suggestions for future purchase considerations.
- Include a quotation for your recommendations
- Present your findings in an eBook format which will be given to the family. Use the multimedia facilities of you chosen software to make your findings interactive and exciting to all of the Williams family.
- Within your work, you need to offer guidance to all members of the family to include relevant social issues that they would need to be aware of concerning the use of devices within and outside of the home.

APPLIED ICT

UNIT - AICT 5

eProject

External Assessment

Controlled Assignment

Controlled Assignment

You should read this booklet together with the unit specification for AICT 5: eProject and the AICT 5 Assessment Criteria.

To complete this assignment you will work as a member of group and individually to produce a numerical model. You will need to manage your project efficiently and effectively to complete the work in the given timescale. You will need to produce documentation of the work you have done to meet the requirements of this unit.

The work will be completed in two stages:

1. Project Proposal

You will work as a member of a group to research a given problem situation and consider a range of possible solutions that could be used to draw up a project proposal for a solution to the problem.

Using the outcomes of your group work, you will work individually to produce a project proposal for your chosen solution to the given problem.

2. 15 hours of controlled conditions

You will revise your project proposal, as necessary, in light of additional client information that is made available to you at the beginning of the controlled time.

From your proposal you will draw up a project definition and create a detailed project plan, during the course of your work you will up date your plan on a regular basis and keep a project diary to document the progress of your project work.

You will finalise the design for your numerical model. Implement the design and then test your numerical model.

You will review and evaluate your numerical model and reflect upon your project management work.

There are 100 marks available for this assignment. This is the only form of assessment for this unit. This assignment will be marked internally and externally moderated. The details of what you are required to include in the given eportfolio are included on the eportfolio contents page.

Project proposal

You will work as a member of a group to analyse the given scenario and identify client requirements and the stakeholders. You will need to consider a range of solutions to the problem to allow you to establish a timescale and budget for the development of the solution.

To do this you will need to meet as a group on a number of occasions to consider the demands of the assignment. It is important that agenda are set for these meetings and that the minutes provide a detailed record of the issues discussed. Members of the group are likely to be given tasks to carry out between meetings and will be required to report their findings to the group at the next meeting.

Following these meetings you will use the group's discussions and the meeting records to draw up an individual project proposal that you will submit electronically to your teacher before the start of controlled conditions. This proposal and the minutes of your meetings will be made available to you under controlled conditions in your assignment user area on the school network.

Scenario

All Things Green is a garden centre located on the outskirts of an old market town. In recent years planning permission has been given for the development of several new housing estates locally.

The garden centre has recently been taken over by Daniel Evans, having been set up by his parents fifteen years ago. Daniel is aware that the business has been successful in the past but feels that his parents have missed opportunities to expand the garden centre as residents move into their houses and start to develop their brand new gardens.

Daniel is keen to expand the range of goods sold at the garden centre but is aware that he should base business decisions on sound information. He plans to introduce ICT based systems to help him collect and analyse the information that he will need to make his choices.

At present the garden centre sells a range of goods that includes plants, shrubs, trees, cut flowers, gardens tools such as spades and forks, equipment such as watering cans and a few items of clothing such as gardening gloves and Wellington boots.

Daniel is considering introducing ranges of associated items such as power tools, lawn mowers, a wider range of clothing including items such waterproof jackets, landscaping materials such as rocks and gravel, fencing and garden furniture.

At present the garden centre makes little use of ICT to capture or process information. Daniel has decided that he would like to introduce a system that would produce itemised receipts for customers, automatically reduce stock levels and record sales data that could be used to produce weekly, monthly and annual sales graphs.

Daniel has asked you to consider ways in which he could use spreadsheet software to create a system to suit his requirements. He has provided you with examples of the information he currently collects and processes for his business along with a selection of the documents currently in use at the garden centre. (*examples to follow*).

You will work with other students to investigate Daniel's needs and consider ways in which the system can be produced. You may wish to research into similar businesses to consider the range of products that Daniel may be able to introduce to expand the garden centre.

As a team you will need to hold a series of meetings to plan how to carry out this investigation. You will need to hold further meetings to consider the results of your investigations and to discuss possible designs for the system.

Remember that it is important to plan meetings carefully and to keep an accurate record of those discussions. You will be able to take the minutes of your meetings into the controlled environment to help you with your work.

He has requested that you draw up an **individual** project proposal outlining your findings in terms of client requirements, stakeholders, timescale and costs.

Controlled Assignment

At the start of the controlled time you will be given access to your project proposal, minutes of the group's meetings and a revised scenario. You will be required to use your project proposal, the minutes and the revised scenario to produce a problem definition and a project plan.

Throughout the controlled time you will be required to produce a numerical model to fulfil Daniel's revised requirements. During this time you will use your plan and your project management software to manage your work.

All evidence for submission must be linked to the given eportfolio template for external assessment.

Controlled Assignment

Revised requirements to be issued to candidates at the start of the controlled time.

Daniel has received your project proposal and has decided to award you the contract to develop the spreadsheet solution for his business. However, Daniel feels that he needs to explore ways in which he can expand the garden centre by introducing additional ranges of products. He now wishes you to include facilities within the system to analyse the sales of existing ranges of products and predict the success of introducing some of his new associated ranges.

Project definition [15]

Produce a summary of the group work carried out to clarify your contribution and refine your project proposal on light of the client's revised requirements.

Add your summary, minutes and final project proposal to your eportfolio.

Produce a project definition document to give details the purpose of the project, stakeholders, measurable objectives (outcomes, quality and completion), constraints and deadlines.

Add your project definition to your eportfolio.

Project organisation [30]

Use project management tools to produce detailed plans, track and monitor progress. Check progress against the plan, assess the impact of any delays arising and adjust the plan to minimise their effect.

Set up and use procedures for storing project information.

Produce multiple copies of the plan as necessary to illustrate progress throughout the project.

Add the copies of the plan and any other relevant evidence of planning, tracking and monitoring to your eportfolio.

The project [30]

Design, develop, prototype and test a model to fulfil client requirements.

Add the following evidence to your eportfolio:

- *Initial designs for layout, format, user interaction and graphic content*
- *Initial designs for rules and calculations*
- *Initial designs for inputs and outputs*
- *Testing of prototypes at different stages of development*
- *Plan for final testing of the model and test results*

Also add your finished model to your eportfolio.

Review [20]

Produce an evaluation that covers the model, the management tools used, your own performance and the value of the preliminary group work.

Present your evaluation via the eportfolio

Presentation [5]

Your eportfolio should provide evidence of standard ways of working including the use of appropriate folder and filenames, sheet names, named areas and macro names. All evidence should be saved in acceptable file formats and correctly linked to the eportfolio.

APPLIED ICT

UNIT - AICT 6

eStudio

Internal Assessment

Awarding Body Devised Assignment

WITS

Video of Marketing Manager explaining the following

“The Welsh Information Technology Show (**WITS**) is an annual event intended for ICT practitioners in education. At the show the latest equipment and software packages are demonstrated by their manufacturers and leading retailers to ICT teachers, lecturers and support staff.

In 2006 over 30 leading ICT companies exhibited at the two-day June show. Attendance on the second day, however, was disappointing and in 2007 the show is to run on 22nd. June only.

The organisers are keen to return to the larger event for 2008, as several of the supporting companies are reluctant to commit the time and expense involved in providing a trade stand just for one day. The marketing manager thinks that an even bigger event could be successful if it is properly promoted and has decided to commission a range of materials to support the promotion of ‘WITS’.”

Your project is to produce the promotional materials he requires, which are to include -

- Show logo, for use on all promotional products. This should reflect the nature of the show.
- Information pack to contain A4 brochures and handouts relevant to the show, prepared by others.
- Range of WITS gift items such as mouse mats, pens, caps etc.
- WITS microsite of 3 pages, to include show information and contact details.
- Multimedia CD about the show, to sell the benefits of attending. The CD is to be distributed to ICT departments in schools and colleges.

The organisers have provided the following files to help in the production of the promotional materials. Use of these files is optional.

Range of images of building – external and internal views.

Range of images taken at the 2007 show, including typical trade stands

Video clips of 2007 show in progress.

APPLIED ICT

UNIT - AICT 7

eConnect

Networking Principles, Design and Management

Sample Assessment

INSTRUCTIONS TO CANDIDATES

Time allowed: 3 hours

You can spend as much time as required completing each section.

The exam consists of three parts:

- *Phase 1 – The Tender (30 marks)*
- *Phase 2 – The Recommendation (30 marks)*
- *Phase 3 – The Implementation (40 marks)*

Instructions will be given as text and verbally and with the opportunity to view and listen again as often as required.

Information will be given verbally with the opportunity to listen again as often as required.

CONVENTIONS???

Ariel 10 point and bold – instructions for the production of the exam

Ariel 10 point – information for candidates

Times New Roman 12 point – verbal instructions for candidates

Times New Roman 14 point – written instructions for candidates

START OF EXAM INSTRUCTIONS

An exam instructor explains the following (Option to view as text and option to listen again)

Start

Hi I am the exam instructor for this exam; you should listen to my instructions very carefully.

Throughout this examination you will take the role of an IT consultant working for *World Network Solutions*.

You will be given information and instructions by four different people

1. Me
2. Your boss at World Network Solutions (**click to show boss avatar**)
3. The director of Saxon Hall (**click to show director avatar**)
4. The IT manager at Saxon Hall (**click to show IT manager avatar**)

Click the corresponding button if you would like to meet them now

Listen carefully to their information and instructions.

Information will be given verbally with the opportunity to listen again as often as required.

Instructions will be given as text and verbally with the opportunity to listen again as often as required.

There will be three phases to this exam.

- Phase 1 The Tender phase where you will be asked to explain technical terms and demonstrate your expert subject knowledge.
- Phase 2 The Recommendation phase where you will be asked to suggest which hardware will be required and how it is to be installed and configured, evaluate your own performance and decide some of the initial conditions for the network.
- Phase 3 The Implementation phase where you will be asked to install and configure the network software.

The director of Saxon Hall will now give you some background information.

End

END OF EXAM INSTRUCTIONS

Saxon Hall

START OF INTRODUCTION

The director of Saxon hall explains the following: (Option to replay available)
This explanation will include photographs and video of the entire complex.

Start

Saxon Hall is a large hotel and leisure complex on the outskirts of a major city.

Facilities include:

- 300 executive rooms and 100 suites located in the main hotel building
- The Golf Academy with teaching facilities, a driving range and two championship golf courses
- The golf Professional Shop which sells golf equipment and is where golfers book tee times to play golf
- Two golf courses including one championship course that stages professional golf events attracting professional players and celebrities
- 2 indoor swimming pools and a large gymnasium
- 5 squash courts and 4 tennis courts
- A health and beauty spa
- 10 conference venues of varying size
- 3 restaurants, 2 cafes and 4 bars
- A shopping mall with 50 permanent retail outlets and a market area with up to 20 temporary retailers

Note: The Golf Professional Shop is in the same building as The Golf Academy and that they are separate from the main building where the hotel reception is located.

The company that owns Saxon Hall has decided that all sales terminals (café and bar tills, etc..) are supplied and administered by a third party company and are not connected to any of the other existing systems in the complex and there are no plans to connect them in the future.

The hotel reception, Golf Academy and the golf Professional Shop all have IT systems but they are not connected to each other and I feel that there is a lot of time being wasted with people walking between these different areas or making telephone calls to arrange golf lessons or tee off times for hotel guests.

I have decided to invite IT companies to tender for the contract of improving our electronic communications.

I have an IT manager who can explain the detail but I'll be deciding who wins the contract and closely monitoring progress throughout.

End

END OF INTRODUCTION

START OF PHASE 1 – THE TENDER

Boss of World Network Solutions explains to his consultant what he has to do to win the contract for Saxon Hall (Option to replay available)

Start

Did you understand what the director said? If not listen to it again now or later.

World Network Solutions are going to tender for the contract at Saxon Hall.

As an IT consultant specialising in network solutions working for *World Network Solutions* you have been selected to represent *World Network Solutions* in the three phases:

- Phase 1 – The Tender
- Phase 2 – The Recommendation
- Phase 3 – The Implementation

Their IT manager will give you instructions on what is required for phase one, the tender. Listen carefully and try to complete all the tasks that he sets.

End

An exam instructor explains the following (Option to view as text)

Start

You will have to follow the instructions given by the IT manager at Saxon Hall and provide all the information requested. Do not rush as there is enough time to complete all the tasks. I suggest that you take an hour to complete phase one.

End

IT manager explains the following: (Option available to replay available).

Start

Hi my name is Jeremy and I'm the IT manager at Saxon hall.

There are several IT staff at Saxon hall and they all have a great deal of practical IT support experience but they have not studied networking in an educational environment.

~~I need to produce a presentation using slides and speaker notes to present to the IT staff at Saxon Hall.~~

I am asking all tendering companies to produce a series of documents such as presentations, speakers notes, diagrams and reports that I can use as the basis for a presentation to the it staff and that

~~I am going to present the presentation to the IT staff and then the director and I will use the presentation to determine your subject knowledge and determine who will be awarded the contract to improve our electronic communications.~~

~~You are going to be asked to:~~

- ~~1. Produce some speaker notes to explain the content of a presentation~~
- ~~2. Produce some new slides.~~
- ~~3. Complete some slides that I have started.~~
- ~~4. Write an extended email using appropriate software.~~

~~Please keep the bullet points on the slides short and clear and if required, use the accompanying speaker notes to expand and explain the points on the slide.~~

End

Task 1 [3 marks]

IT manager explains the following: (Option to replay available)

Start

I have completed this slide with the definitions of different data transmission methods.

Can you write the name of each transmission method on the speaker notes so that I can use the slide to ask the IT staff about data transmission methods.

End

Candidate is shown a slide with the three bullet points below labelled a, b and c.

- (a) Data is transmitted in both directions at the same time.
- (b) Data is transmitted in one direction only.
- (c) Data is transmitted in both directions but only in one direction at any time.

Candidate is shown accompanying speaker notes with the three bullet points labelled a, b and c. [3] is shown in the bottom right corner to show candidate the number of marks for this task.

Candidates can type their answers next to the bullet points a, b and c.

Candidate can progress to next task when ready or return to any question.

Task 2 [2 marks]

IT manager explains the following: (Option to view as text)

Start

I know that a computer can communicate with devices using either serial or parallel transmission.

I have produced a diagram ~~started the slide~~, can you drop the most appropriate transmission method onto the cable between the computer and the mouse.

~~Complete the speaker notes justifying~~ Provide me with notes that describe your selected method and explain why ~~your~~ this ~~selected~~ method is the most appropriate.

End

Candidates are shown ~~a slide with~~ a diagram (or photos) of a PC with a cable connected to a mouse. [1] is shown in the bottom right corner to show candidate the number of marks for this task.

The words *serial* and *parallel* are displayed beneath the slide and the candidate should be able to drag and drop the correct (or incorrect) word on to the cable in the diagram.

Candidate is provided with a free text box ~~shown accompanying speaker notes with space for 100 characters.~~

[1] is shown in the bottom right corner to show candidate the number of marks for this task.

Candidate can progress to next task when ready or return to any question.

Task 3 [9 marks]

IT manager explains the following: (Option to view as text)

Start

The IT staff know that data can be transmitted over a network using either packet switching or circuit switching.

I require ~~three slides~~ a short report that explains the main features of each method.

~~Write short clear points on the slides and if required, use the speaker notes to expand and clarify the points.~~

End

~~Candidate is presented with a free text box for each sub section of the question a blank slide and accompanying speaker notes with the instructions:~~

- (a) ~~Use this blank slide and speaker notes to~~ Describe the main features of circuit switching.

~~[2] is shown in the bottom right corner to show candidate the number of marks for this task. Slide should have 2 bullet points and speaker notes should accept up to 200 characters.~~

~~Candidate can progress to next slide when ready or return to any question.~~

~~Candidate is presented with a blank slide and accompanying speaker notes with the instructions:~~

- (b) ~~Use this blank slide and speaker notes to describe~~ Describe the main features of packet switching.

~~[4] is shown in the bottom right corner to show candidate the number of marks for this task. Slide should have 4 bullet points and speaker notes should accept up to 400 characters.~~

~~Candidate can progress to next slide when ready.~~

~~Candidate is presented with a blank slide and accompanying speaker notes with the instructions:~~

- (c) ~~Use this blank slide and speaker notes to~~ Give reasons that justify why packet switching is widely used.

~~[3] is shown in the bottom right corner to show candidate the number of marks for this task. Slide should have 3 bullet points and speaker notes should accept up to 300 characters.~~

~~Candidate can progress to next task when ready or return to any question.~~

Task 4 [4 marks]

IT manager explains the following: (Option to view as text)

Start

I need to explain the advantages and disadvantages to the company of networking their computers.

~~Write~~ Describe **two** advantages of networking computers on the first slide and **two** disadvantages of networking on the second slide.

Write short clear points on the slides and if required, use the speaker notes to expand and clarify the points

End

Candidate is presented with a blank slide and speaker notes.

[2] is shown in the bottom right corner to show candidate the number of marks for this task.

Slide should have 2 bullet points and speaker notes should accept up to 200 characters.

Candidate is presented with a blank slide and speaker notes.

[2] is shown in the bottom right corner to show candidate the number of marks for this task.

Slide should have 2 bullet points and speaker notes should accept up to 200 characters.

Candidate can progress to next task when ready or return to any question.

Task 5 [4 marks]

IT manager explains the following: (view as text)

Start

I need to explain the different protocols associated with networks.

~~I have started the following slide.~~

~~I have written the definitions of different protocols on the slide and there are a list of four protocols TCP/IP, HTTP, SMTP, and VoIP~~

Place the correct protocol in the correct order along side the correct definition. ~~corresponding letter on the speaker notes.~~

End

Candidate is presented with a drag and drop exercise with a series of definitions and terms that can be dragged and dropped into boxes next to the appropriate definition. ~~a slide that contains the following information:~~

- (a) Set of working practices that allow all Internet users and providers to communicate with each other.
- (b) A TCP/IP protocol used in the transfer of e-mail between computer systems.
- (c) Defines the process of identifying, requesting and transferring multimedia Web pages over the Internet.
- (d) The routing of voice conversations over the Internet or through any other IP-based network.

~~Candidate is presented with speaker notes that accompany the slide and they contain the following:~~

~~(a)~~

~~(b)~~

~~(c)~~

~~(d)~~

Candidate is also presented with the following list, these items can be dragged and dropped next to the correct definition. ~~onto the speaker notes along side either (a), (b), (c) or (d):~~

VoIP
TCP/IP
HTTP
SMTP

Candidate can progress to next task when ready or return to any question.

Task 6 [8 marks] (Last question – extended response)

IT manager explains the following: (view as text)

Start

I have experience of both a peer-to-peer network and a client-server network but some of my staff have no experience of these types of network or are only familiar with one of them. I would like to explain the main features and any advantages or disadvantages.

I am going to explain both types of network to my staff and require detailed notes that explain the main features of a peer-to-peer network and explain the main features of a client-server network.

I also require notes that justify the use of each type of network and any disadvantages of a client-server network compared to a peer-to-peer network.

Write me a short report that provides me with ~~and send me an email with all~~ the required information so that I can prepare some slides for the presentation.

End

Candidate is told that this question is worth 8 marks which can be gained in all three sections

Candidate is presented with free text box with the instructions:

In the report explain the following: ~~Use this email to explain:~~

- a) The main features of a peer-to-peer network.
- b) The main features of a client-server network.
- c) Any advantages and any disadvantages of a peer-to-peer network compared to a client-server network that justify the use of each.

Email should allow candidates to add bullet points and notes should accept up to 1000 characters.

Candidate clicks 'send' to finish the question.

Candidate can progress to next phase when ready or return to any question.

START OF PHASE 2 – THE RECOMMENDATION

Boss of World Network Solutions explains to his consultant: (option to replay available)

Start

We have been awarded the contract to update Saxon Hall's electronic communications and I would like your team to focus on one area of Saxon Hall's electronic communication.

The Director of Saxon Hall is going to explain their current system and outline some of the difficulties with the current system that I want you to focus on.

End

The director of Saxon hall explains the following: (Option to view as text and option to listen again)

Start

The roles (relevant to the area of Saxon Hall that the candidate has to focus on) and functions of The Professional Shop, The Golf Academy and the Hotel Main Reception are explained.

Golf Academy.

Provides private lessons for golfers.

These can only be booked at The Golf Academy reception.

Day visitors can telephone The Golf Academy reception or visit in person to book lessons.

Hotel guests can walk to The Golf Academy and book golf lessons in person.

Hotel guests can ask the Main Hotel Reception staff to telephone The Golf Academy which often takes time as a three way discussion between the reception staff, the guest and The Golf Academy takes place to find a suitable time for a golf lesson.

Professional Shop

Golfers can book tee off times in person or by telephone and have report to The Professional Shop to pay for the round of golf before playing.

These can only be booked at The Professional Shop.

Hotel guests can walk to The Professional Shop and book tee off times in person.

Hotel guests can ask Main Hotel Reception staff to telephone The Professional Shop which often takes time as a three way discussion between the reception staff, the guest and The Professional Shop takes place to find a suitable tee off time.

Hotel Main Reception - reception staff:

Telephone The Golf Academy to book golf lessons for hotel guests.

Telephone The Professional Shop to book tee off times for hotel guests.

I'm now going to hand you over to my IT manager to explain the details.

End

IT manager explains the following: (option to replay available)

Start

Diagrams of the following are displayed (which will include photos and videos) and will remain available throughout the exam.

A floor plan of The Golf Academy and The Professional Shop, which are in the same building, with the location of current computer equipment are available. Candidates will be able to view inside a room by clicking on the plan.

A plan showing the main hotel building and its location to The Golf Academy is available. Candidates will be able to view inside a room by clicking on the plan.

The Golf Academy building currently has four stand alone personal computers located in:

1. The Professional Shop which is mainly used for booking tee times
2. The Professional Shop's back office which is mainly used for printing letters
3. The Golf Academy's office which is mainly used for general office work
4. The Golf Academy's reception area which is mainly used for booking golf lessons

The main hotel reception has a three computers behind the reception desk and a further two computers in an office immediately behind reception. These computers are networked and are mainly used for booking hotel rooms and printing guests' bills at checkout.

End

Tasks Start [30 Marks]

Candidates will have an interactive plan of Saxon Hall and the software will allow candidates to view inside rooms to see current equipment.

Candidates will be given a blank report to justify the selection of each piece of hardware used.

There will be a toolbox containing icons for:

1. Cables
2. Connectors
3. Hubs
4. Routers
5. Workstations
6. Printers

This will include suitable hardware for the solution and unsuitable hardware.

The icons can be dragged and dropped onto the plan to design the network.

Task 1 [10 Marks]

Using the plan and hardware icons design a network for Saxon Hall that will allow the staff at Saxon Hall to:

1. Book tee times at The Professional Shop.
2. Book tee times at The Golf Academy's reception.
3. Book tee times at the main hotel reception.
4. Print out all booked tee times The Professional Shop's back office.
5. View all available and booked tee times at The Golf Academy's office.
6. Book golf lessons at The Golf Academy's reception.
7. Book golf lessons at The Professional Shop.
8. Book golf lessons at the main hotel reception.
9. Print out all booked lessons in The Golf Academy's office
10. View all available and booked golf lessons at The Professional Shop's back office.
11. Access the Internet in The Golf Academy's office.
12. Access the Internet in The Professional Shop's back office.

Task 2 [10 Marks]

Each hardware item used will have a unique identifier so that the candidate can justify why it has been selected.

Candidate will be presented with a blank report where they will justify each hardware item used.

Using the number that identifies each hardware item justify your selection of each item

Task 3 [5 Marks]

IT manager explains the following: (option to replay available)

Start

When the network is set up the The Professional Shop and The Golf Academy will be able to update their respective web sites every day. Golfers will be able to view this up to date information.

Golfers will also be able to interact with the web site and book tee off times and golf lessons.

End

Candidate will be presented with a blank report where they will explain how The Golf Academy and The Professional Shop will use their respective web sites and how golfers will interact with web site.

Describe the type information that The Golf Academy and The Professional Shop would update on their respective web sites each day.

Explain the effect golfers interacting with the web site to book tee off times and golf lessons would have on the operation of The Golf Academy and The Professional Shop.

Task 4 [5 Marks]

Candidate will be presented with a blank report where they will explain how the new network will improve the functioning of the hotel main reception, The Golf Academy and The Professional Shop.

Explain how the new network will improve the functioning of the hotel main reception, The Golf Academy and The Professional Shop.

End

START OF PHASE 3 – THE IMPLEMENTATION

Boss of World Network Solutions explains to his consultant: (to view as text)

Start

The network hardware and software have been installed.

Your team now have to configure the network as instructed.

You have to complete the following tasks.

End

Tasks Start [40 Marks]

Candidate will have to:

Start

Task 1 [6 Marks]

You will be asked to name workstations, create domains and users.

Read the following tasks and decide on your naming conventions and explain why you have chosen your conventions.

~~Type in~~ Give an example of the use of your naming ~~you~~ conventions and describe the reasons for your choice in the report below.

Candidate is presented with a blank report to provide an example and explain their chosen naming conventions.

Use these naming conventions consistently throughout the following tasks.

The candidate is presented with a network operating system interface for each workstation and has administrator rights.

Task 2 [4 Marks]

Using your naming conventions, name the four workstations located in:

- a. The Professional Shop
- b. The Professional Shop's back office
- c. The Golf Academy's office
- d. The Golf Academy's reception

The candidate is presented with a network operating system interface and has administrator rights.

Task 3 [4 Marks]

Using your naming conventions, create a name for the printer to be installed in The Professional Shop.

Install this printer ensuring that it will be available to all users of the network.

Task 4 [20 Marks]

Using your naming conventions, create a domain for The Professional Shop.

Using your naming conventions, create a user account for Mr. David Jones who is the golf professional and include him in The Professional Shop domain.

Set Mr Jones's default password to Saxon and ensure that it is changed at first login and then changed every month.

He will require access to all workstations at all times

Create a network drive where files for The Professional Shop can be stored

He will need to access The Professional Shop network drive and all printers.

He should be given administrator privileges so that he can add, delete and amend other users' accounts in The Professional Shop domain .

Task 5 [6 Marks]

Using your naming conventions, create a user account for Mr Aman Singh who works in The Professional Shop and include him in The Professional Shop domain.

Set his default password to Saxon and ensure that it is changed at first login and then changed every month.

He will require access to the workstation in The Professional Shop and the workstation at all times.

He will need to access to one printer.

He will have limited access rights in The Professional Shop domain.

End

END OF PHASE 3 – THE IMPLEMENTATION

An exam instructor explains the following (view as text)

Start

End of exam – instructions on how to finish and submit the exam.

End

APPLIED ICT

UNIT - AICT7

eConnect

Networking Principles, Design and Management

Sample Assessment Mark Scheme

 START OF PHASE 1 – THE TENDER

Task 1 [3 marks]

- | | | |
|-----|-------------|---|
| (a) | Duplex | 1 |
| (b) | Simplex | 1 |
| (c) | Half Duplex | 1 |

Task 2 [2 marks]

- | | |
|--|---|
| Serial transmission | 1 |
| Justification - Amount of data transmitted is small so serial which requires thin cheap cable is most suitable | 1 |

Task 3 [9 marks]

- | | |
|---|------------------|
| (a) Circuit switching – any two of: | 2x1 |
| <ul style="list-style-type: none"> • Path is set up between sender and receiver before start of transmission / kept open until end of transmission / data follows same path • Path is released after transmission is complete • Path cannot be used by any other traffic during that time • Data is sent in order | |
| (b) Packet switching | |
| <ul style="list-style-type: none"> • Data (content) split into packets before transmission • Packets arrive out of order / are re-assembled • Each packet can take a different route through network • Each packet carries the source / destination address / ‘order number’ | 1
1
1
1 |
| (c) Reasons that justify why Packet switching is widely used | |
| <ul style="list-style-type: none"> • Better security - very difficult to intercept and reconstruct • More efficient use of data lines - no waiting during gaps / path is free to be used by other data • Less likely to be affected by network failure because of multiple paths | 1
1
1 |

Task 4 [4 marks]

- | | |
|--|-----|
| Reasons that justify networking their computers – Any two of: | 2x1 |
| <ul style="list-style-type: none"> • Share hardware such as a colour laser printer / share software such as packages • Share data • Easier to maintain as only install one copy of software on server or can manage network from console. • All stations could have Internet access • Can communicate using the network / set up company intranet | |
| Disadvantages of networking their computers – Any two of: | 2x1 |
| <ul style="list-style-type: none"> • Cost of installation • Will require a network administrator / extra IT support • Concerns over security – only as safe as the weakest point of entry • Disruption caused during installation of cables and equipment | |

Task 5 [4 marks]

(a) TCP/IP	1
(b) SMTP	1
(c) HTTP	1
(d) VoIP	1

Task 6 [8 marks] (Last question – extended response)

Any six valid points from below but candidate must attempt all four sections to gain full marks.

Main features of a peer-to-peer network.

- Computers can be connected via a simple hub
- All stations can access each others data
- All stations can access each others resources

Main features of a client-server network.

- One computer (the server) has control over network
- All data are stored centrally on file server
- All software can be stored centrally
- Security is controlled by one computer (The server)
- Can support hundreds or thousands of workstations

Justification for the use of a client-server network compared to a peer-to-peer network

- Easier to back up data as all stored in one location
- Easier to maintain and upgrade software
- Easier to set up and control security and access rights Peer-to-peer network not as secure as all stations can access all other stations' data
- Can add many hundreds of stations as organisation grows. Peer-to-peer network only suitable for small networks with less than ten stations

Disadvantages of a client-server network compared to a peer-to-peer network.

- Reliant on central computer (The server) if this fails whole network is down
- More expensive to set up
- More expensive to maintain

Must attempt all four sections for full marks

Max 7 out of 8 if only three sections attempted

Max 6 out of 8 if only two sections attempted

Max 5 out of 8 if only one section attempted

START OF PHASE 2 – THE RECOMMENDATION

Task 1 [10 Marks]

Candidates must show suitable network that solves communication problems for the given scenario.

Model answers with guidelines will be given to examiners

There may be more than one suitable solution. Examiners to look at reasons in Task 2 that justify hardware used and award marks if reasonable.

Most suitable cabling in Golf Academy building	1
Most suitable switch / hub in Golf Academy building	1
Printers and workstations in most suitable locations in Golf Academy building	2
Most suitable connection of Golf Academy building to main hotel and reception workstations	2
Cables or other medium	1
Correct switch/hub at each end	2
Most suitable connection of Golf Academy building and main hotel to the Internet	1

Task 2 [10 Marks]

Each hardware item explained and a reason to explain why that particular item of hardware was selected.

One mark for each reason that explains the selection.

Task 3 [5 Marks]

Information that The Golf Academy and The Professional Shop could update on their respective web sites each day:

- Advertise special rates for golf lessons if there are few bookings
- Advertise special rates for rounds of golf if there are few bookings
- Promote events such as free golf days or free first lessons
- Advertise special offers on golf equipment
- Explain any maintenance work that may affect golf that day

The effect on the operation of The Golf Academy and The Professional Shop:

- Book lessons on-line means less administration work for the golf academy receptionist so more time for other activities
- Book tee times on-line means less administration work for the golf professional so more time for other activities
- Increase in bookings as golfers can immediately see available slots and book them
- Increase in bookings as some normally quiet time slots are discounted
- Customers become more loyal as better informed and feel part of the organisation

Task 4 [5 Marks]

New network will improve the functioning of the hotel main reception:

- Less time wasted telephoning The Golf Academy or The Professional Shop
- Guests do not have to walk to The Golf Academy or The Professional Shop to book tee off times or golf lessons
- Guests could be allowed to use a work station at reception look at available tee off times and select most convenient and book themselves

New network will improve the functioning of The Golf Academy:

- Can book golf lessons using any workstation not just at The Golf Academy reception
- Can view and print all booked lessons in The Golf Academy office

New network will improve the functioning of The Professional Shop:

- Can book tee off times using any workstation not just at The Professional Shop
- Can view and print all booked lessons in The Professional Shop's back office

Must attempt all three sections for full marks
Max 4 out of 8 if only two sections attempted
Max 3 out of 8 if only one section attempted

START OF PHASE 3 – THE IMPLEMENTATION

Task 1 [4 Marks]

Suitable naming conventions for domains.	1
Justification of naming conventions for domains.	1
Suitable naming conventions for users.	1
Justification of naming conventions for users.	1
Suitable naming conventions for workstations.	1
Justification of naming conventions for workstations.	1

Task 2 [4 Marks]

Four workstations named correctly using naming conventions:	
5. The Professional Shop	1
6. The Professional Shop's back office	1
7. The Golf Academy's office	1
8. The Golf Academy's reception	1

Task 3 [4 Marks]

The Professional Shop printer named correctly following conventions.	2
Printer installed for The Professional Shop.	2

Task 4 [10 Marks]

Domain correctly created for The Professional Shop.	2
User account correctly created for Mr. David Jones.	2
Mr. David Jones is included in The Professional Shop domain.	2
Mr Jones's password correctly set to Saxon.	2
Password is set so that it has to be changed at first login.	2
Password is set so that it has to be changed every month.	2
Mr. David Jones can access all workstations at all times.	2
Mr. David Jones can access all printers.	2
Mr. David Jones can access The Professional Shop network drive.	2
Mr. David Jones is given administrator rights in The Professional Shop domain.	2

Task 5 [6 Marks]

User account correctly created for Mr Aman Singh.	1
Mr Aman Singh is included in The Professional Shop domain.	1
Mr Aman Singh password correctly set to Saxon.	
Password is set so that it has to be changed at first login.	
Password is set so that it has to be changed every month.	
Mr Aman Singh can access only one workstations, the one in The Professional Shop	1
Mr Aman Singh can access The Professional Shop printer.	1
Mr Aman Singh can access The Professional Shop network drive.	1
Mr Aman Singh is given limited access rights in The Professional Shop domain.	1

END OF PHASE 3 – THE IMPLEMENTATION