![SQA logo]

2013 Computing

Intermediate 2

Finalised Marking Instructions

Part One: General Marking Principles for Computing Intermediate 2

This information is provided to help you understand the general principles you must apply when marking candidate responses to questions in this Paper. These principles must be read in conjunction with the specific Marking Instructions for each question.

(a) Marks for each candidate response must <u>always</u> be assigned in line with these general marking principles and the specific Marking Instructions for the relevant question. If a specific candidate response does not seem to be covered by either the principles or detailed Marking Instructions, and you are uncertain how to assess it, you must seek guidance from your Team Leader/Principal Assessor.

(b) Marking should always be positive ie, marks should be awarded for what is correct and not deducted for errors or omissions.

GENERAL MARKING ADVICE: Computing Intermediate 2

The marking schemes are written to assist in determining the "minimal acceptable answer" rather than listing every possible correct and incorrect answer. The following notes are offered to support Markers in making judgements on candidates' evidence, and apply to marking both end of unit assessments and course assessments.

Part Two: Marking Instructions for each Question

Section I

Question			Expected Answer/s	Max Mark	Additional Guidance
1			**Convert the decimal number 27 into an 8 bit binary number.**	**2** **(PS)**	
			00011011		(**1 mark** for converting 27) (**1 mark** for 8 bit number)
2			**Define a *computer virus*.**	**2** **(KU)**	
			• A program (code) **(1 mark)** that replicates (copies) itself **(1 mark)** • A program **(1 mark)** that causes disruption to a computer system **(1 mark)** **(any 1, 2 marks each)**		
3			**Name two parts of a processor.**		
			• Arithmetic Logic Unit (ALU) • Control Unit • Registers **(any 2, 1 mark each)**	**2** **(KU)**	
4			**State an appropriate storage medium for storing a two hour movie.**	**1** **(PS)**	
			• DVD-R • DVD-RW • flash drive • external hard disk drive (hard drive) • SSD drive • DVD • DVD-ROM • Tape **(any 1, 1 mark)**		

Question			Expected Answer/s	Max Mark	Additional Guidance
5			**State one economic factor that has led to the development of the Internet.**	**1** **(KU)**	
			• Falling costs of telecommunications • Falling costs of hardware • Global markets to increase profits (24/7 opening) **(any 1, 1 mark)**		
6			**State one difference between machine code and a high level language.**	**1** **(KU)**	
			• Binary compared to English • Computers understand machine code, humans understand high level languages, edit, read • Portable • Doesn't need to be translated **(any 1, 1 mark)**		
7			**A user consults a technical guide to help him install software.** **State one other feature that should be included in the technical guide.**	**1** **(KU)**	
			• Troubleshooting • Minimum specifications **(any 1, 1 mark)**		
8			**State the benefit of using internal commentary within a computer program.**	**1** **(KU)**	
			• To make code readable/understandable • To make program more maintainable **(any 1, 1 mark)**		

Question			Expected Answer/s	Max Mark	Additional Guidance
9			**Describe one method of creating a macro.**	**1** **(KU)**	
			• Record actions/keystrokes • Use a scripting language **(any 1, 1 mark)**		
10			**State one logical operator that could be used when creating code.**	**1** **(KU)**	
			• AND • OR • NOT **(any 1, 1 mark)**		
11			**A program has been created to check dates. A user enters the number for the day of the month. Test data for January is shown below:** | **Normal**	**2**	**15**
Extreme	**1**	**31**	 **State two possible values for exceptional data.**	**1** **(PS)**	
			Any number <1 Any number >31		Both values required for 1 mark
12			**Name the standard algorithm required to check that the correct length of password has been entered.**	**1** **(PS)**	
			Input validation		

[END OF SECTION I]

Section II

Question			Expected Answer/s	Max Mark	Additional Guidance
13			A local sport centre issues membership cards.		
			Name: Harry Debs DOB: 19/08/1996 Membership ID: 1056		
13	a		State one reason why a *digital camera* rather than a *webcam* is used to capture a member's photograph.	1 (PS)	
			• higher resolution • more portable (any 1, 1mark)		
13	b		State the most appropriate type of application package for storing details about 1,500 members.	1 (PS)	
			Database		
13	c		The sports centre must comply with the *Data Protection Act*. State two ways in which the sports centre staff could breach the Data Protection Act.	2 (PS)	
			• Not update customer details • Incorrect data held • Data not stored securely (any 2, 1 mark each)		

Question			Expected Answer/s	Max Mark	Additional Guidance
13	d		**Each membership card requires 1·6 Megabytes of storage.** **Calculate the storage requirements for 1,500 membership cards in Gigabytes.** ***Show all working.***	**2** **(PS)**	
			1500 x 1.6 = 2400Mb **(1 mark)** 2400 / 1024 = 2.34 Gb **(1 mark)**		No unit measurement required as it's in the question. Full marks for 2.34
13	e		**The centre's gym has a variety of exercise bikes. Each bike is programmed to calculate the average speed reached over a minute.**		
13	e	i	**State the *standard algorithm* used to find the highest average speed for the cyclist.**	**1** **(PS)**	
			Finding the maximum **(1 mark)**		
13	e	ii	**The program has been updated to monitor the cyclist's heart rate. Name the stage of the software development process that has been carried out.**	**1** **(PS)**	
			Maintenance **(1 mark)**		
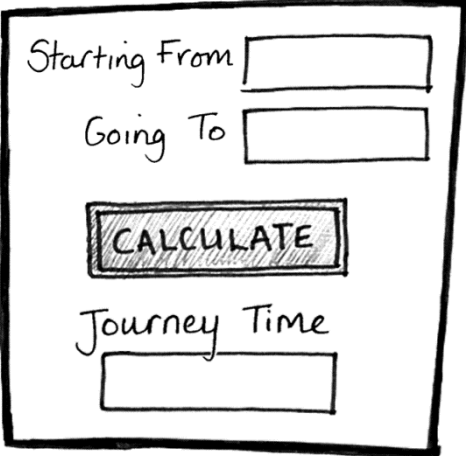
Question			Expected Answer/s	Max Mark	Additional Guidance
13	e	iii	**A new customer has problems when controlling the program options. Name the documentation that this customer should refer to.**	**1** **(PS)**	
			• User guide • FAQs **(1 mark)**		
13	e	iv	**The documentation can be downloaded from the Internet as a standard file format. Explain why standard file formats are used in this situation.**	**1** **(KU)**	
			Allows the file to be read by any word processor. **(1 mark)**		
				(10)	

Question			Expected Answer/s	Max Mark	Additional Guidance
14			**A supermarket chain, Tesda, allows customers to use self service tills.**		
14	**a**		**The customer uses a device to capture an item's barcode. Name this device.**	**1** **(KU)**	
			Scanner Barcode reader **(1 mark)**		
14	**b**		**As the customer adds items to a bag, a program calculates the total weight of the bag. If this bag weighs more than 5 kg a beeping sound is made.**		
14	**b**	**i**	**State the device that produces this sound.**		
			• speakers • sound card **(any 1, 1 mark)**	**1** **(KU)**	
14	**b**	**ii**	**Part of the algorithm used to generate the beeping sound is shown below:** 2.1 repeat 2.2 add item weight to total weight 2.3 if total weight >5 then 2.4 start beeping noise 2.5 endif 2.6 until no more items **Name the type of loop used in the algorithm above.**	**1** **(PS)**	
			Conditional **(1 mark)**		

Question			Expected Answer/s	Max Mark	Additional Guidance
14	**c**		**The store manager wants a program to calculate when a 2 for 1 promotion should be made available to shoppers. A promotion is offered when the following conditions are met:** **• 300 items or more are left in stock** **• remaining days are less than 10 days** **Part of the algorithm is shown below:** 3.1 let remaining days = sell by date – todays date 3.2 if ——————————————— then 3.3 start 2 for 1 promotion 3.4 endif		
14	**c**	**i**	**Complete step 3.2 of the algorithm.**	**2** **(PS)**	
			• items >= 300 AND remainingdays < 10 • items >299 AND remainingdays <= 9 • or correct combination of above (1 mistake deduct **1 mark**) (2 mistakes deduct **2 marks**)		
14	**c**	**ii**	**Pseudocode is the design notation used above.** **State one *graphical design notation* that could have been used.**	**1** **(KU)**	
			• Structure Diagram • Flowchart • Semantic net • Data flow diagram **(any 1, 1 mark)**		

Question			Expected Answer/s	Max Mark	Additional Guidance
14	d		The supermarket tills are connected to a powerful computer system which processes all the supermarket's data.		
14	d	i	Name the type of computer system used.	1 (KU)	
			Mainframe (1 mark)		
14	d	ii	State the most appropriate backing storage device that could be used to access this data quickly.	1 (PS)	
			• Hard (disk) drive • SSD (1 mark)		
14	e		State two benefits to Tesda of networking their computer systems across the country.	2 (KU)	
			• Centralised storage • Share data • Upgrading software • Stock checking easier • Send data quickly (any 2, 1 mark each)		
				(10)	

Question			Expected Answer/s	Max Mark	Additional Guidance
15			**A truck haulage company is planning a program to calculate and display journey times. A sketch of the user interface is shown below:**		
15	a		**Name the stage of the software development process when this sketch would be created.**	1 **(PS)**	
			Design **(1 mark)**		
15	b		**The calculation for the journey time is:** **Distance *divided* by Speed *add* Break Times**		
15	b	i	**Using a high level language with which you are familiar, write a line of code for this calculation.**	2 **(PS)**	
			Time := (Distance / Speed) + Break Time (**1 mark** for assignment), (**1 mark** for both correct operators)		

Question			Expected Answer/s	Max Mark	Additional Guidance
15	b	ii	**State a suitable *variable type* for the journey time.**	**1** **(PS)**	
			• Real • Integer • Number **(any 1, 1 mark)**		
15	c		**The programmers decide to use *pre-defined* functions in the code. Describe one benefit of using pre-defined functions.**	**1** **(PS)**	
			• No need to spend time writing code to work out particular task • Error free as they have been pre-tested **(1 mark)**		
15	d		**The program code is entered using a *text editor*.** **Name one feature of a text editor.**	**1** **(KU)**	
			• Format • Edit code **(any 1, 1 mark)**		
15	e		**Explain why the completed program needs to be translated.**	**1** **(KU)**	
			• To translate the high level language into machine code • So that the computer can understand it **(any 1, 1 mark)**		

Question			Expected Answer/s	Max Mark	Additional Guidance
15	f		**The haulage company uses *e-mail* to distribute the program to their managers for testing.** **Describe two disadvantages of using e-mail to distribute this program.**	**2** **(PS)**	
			• Possible virus • File sizes may be too large for attachment • Software incompatibility issues **(any 2, 1 mark each)**		
15	g		**The completed software is evaluated to check its *fitness for purpose*. State what is meant by the term fitness for purpose.**	**1** **(KU)**	
			Program matches software specification **(1 mark)**		
				(10)	

[END OF SECTION II]

Section III

Part A – Artificial Intelligence

Question			Expected Answer/s	Max Mark	Additional Guidance
16			**The annual AiFutures Conference showcases developments in game playing programs since the 1950's.**		
16	a		**Early computer games that followed a set of simple rules were used to demonstrate artificial intelligence.**		
16	a	i	**State one reason why early game playing programs were used to demonstrate artificial intelligence.**	**1** **(KU)**	
			• Restricted environment • Defined set of rules • Clear good state **(any one, 1 mark)**		
16	a	ii	**Name one early computer game program that demonstrated artificial intelligence.**	**1** **(KU)**	
			• Noughts and crosses • Draughts (checkers) • Chess **(any one, 1 mark)**		
16	b		**State one development in hardware, other than processing speed, that has made progress in the field of game playing possible.**	**1** **(KU)**	
			• Increased RAM • Increased capacity of hard drives **(any one, 1 mark)**		

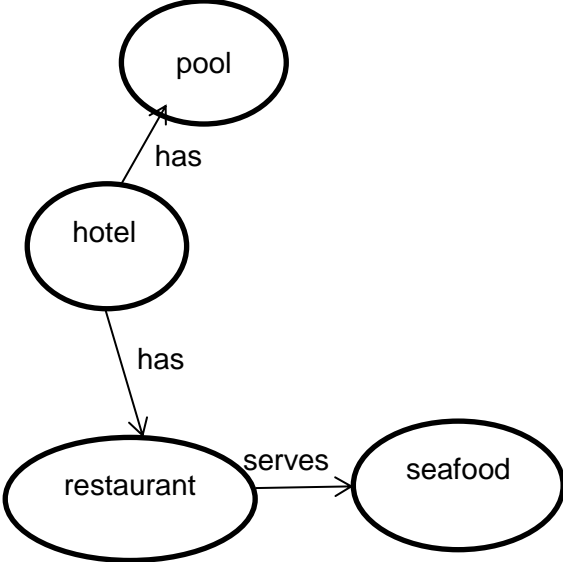| Question			Expected Answer/s	Max Mark	Additional Guidance
16	**c**		**Name and describe the test that is used to determine whether a computer shows intelligence..**	**2** **(PS)**	
			• Turing Test • **(1 mark)** • The user communicates with an unseen respondent. If he cannot tell if it is a computer or a person using a computer then it is said to be intelligent. • **(1 mark)**		
				5	

Question			Expected Answer/s	Max Mark	Additional Guidance
17			**MagicMow is an intelligent robot that cuts grass. It responds to spoken commands such as START, CUT and STOP.**		
17	**a**		**State one advantage of using an intelligent robot for cutting grass rather than a robot with no intelligence.**	**1** **(PS)**	
			• Can navigate around objects e.g. flowers, fences • Can adapt to different lengths of grass **(any one, 1 mark)**		
17	**b**	**i**	**State the area of artificial intelligence that is being used by the robot to understand spoken commands.**	**1** **(KU)**	
			• Speech recognition • Natural Language Understanding • NLU • NLP **(any one, 1 mark)**		
17	**b**	**ii**	**Suggest two factors that might make communication with the robot difficult.**	**2** **(PS)**	
			• Background noise • Accent • Sore throat • Not speaking clearly • Low quality microphone **(any two, 2 marks)**		

Question			Expected Answer/s	Max Mark	Additional Guidance
17	**c**		**The robot navigates around flowerbeds and stops cutting when it reaches the edge of the grass. State the area of artificial intelligence that allows the robot to detect the edge of the grass.**	**1** **(KU)**	
			Vision system **(any one, 1 mark)**		

Question			Expected Answer/s	Max Mark	Additional Guidance
18			**MovieMania software can be used with the latest palmtop computer systems.**		
18	a		**Handwriting recognition is used for booking movie tickets.**		
18	a	i	**Name an input device that is built into a palmtop computer system that allows handwriting recognition.**	**1** **(KU)**	
			Touchscreeen **(1 mark)**		
18	a	ii	**Describe what the user must do before using handwriting recognition for the first time.**	**1** **(PS)**	
			Need to train (calibrate) system **(1 mark)**		
18	b		**Users answer questions about the types of movies that they like. The program then recommends a movie.** **State the type of artificial intelligence program that is being used to recommend a movie.**	**1** **(PS)**	
			• Expert System • Neural Network **(any one, 1mark)**		
18	c		**MovieMania is thinking of using a chatterbot facility to provide information about new movie releases.** **State one early example of a program that used language processing.**	**1** **(KU)**	
18	c		ELIZA SHRDLU **(1 mark)**		
				(4)	

Question			Expected Answer/s	Max Mark	Additional Guidance

19			The theme park DareParc has launched a number of new rides. This knowledge base contains some facts and rules about the new rides and events.
			
			1 type(infinity,thrill). (*infinity is a thrill ride*)
			2 type(pirates, water).
			3 type(coralreef,water).
			4 type(hauntedhouse,fright).
			5 family_fun(farmland). (*farmland is a family fun event*)
			6 family-fun(crazygolf).
			7 suitable_for(infinity,adults). (*infinity is suitable for adults*)
			8 suitable_for(pirates,teenagers).
			9 suitable_for(coralreef,children).
			10 suitable_for(hauntedhouse,children)
			11 half_price(X) if (*ride X is half price if it is a*
			      family_fun(X). *family fun event*)
			12 with_adult(X) if type(X,water) and (*ride X needs an adult if ride X*
			      suitable_for(X,children). *is a water ride and ride X is*
			      suitable for children)		

19	a	i	State the result of the following query: ?type(pirates,fright).	1 (PS)	
			• No • False (any one, 1 mark)		
19	a	ii	State the first result of the following query: ?half_price(X).	1 (PS)	
			X=farmland (1 mark)		

Question			Expected Answer/s	Max Mark	Additional Guidance
19	b		**Using the numbering system to help you, *trace* how the system will evaluate the following query as far as the first solution:** **?with_adult(X)**	**4** **(PS)**	
			Match at line 12 Subgoal 1 type(X, water) Match at line 2 X = pirates **(1 mark)** Subgoal 2 suitable_for (pirates, children) **(1 mark)** Subgoal fails Backtrack to subgoal 1 type(X, water) Match at line 3 X = coralreef **(1 mark)** Subgoal 2 suitable_for (coralreef, children) **(1 mark)** Subgoal succeeds (match at line 9)		
19	c		**The knowledge base is updated to include facts about the following new ride:** ***Domino is a thrill ride suitable for adults.*** **Write two facts that should be added to the knowledge base.**	**2** **(PS)**	
			Type (domino ,thrill). suitable_for (domino, adults). **(2 marks for both correct)**		

Question			Expected Answer/s	Max Mark	Additional Guidance
19	**d**		**One way of representing information before creating a knowledge base is by using a *semantic net*.** **Draw a semantic net to represent the facts about DareParc hotel:** **has(hotel, pool).** **has(hotel, restaurant).** **serves(restaurant, seafood).**	**3** **(PS)**	
			   (1 mark for each fact correct.**)** **(3 marks** all correct.**)** **(Lose 1 mark** if there is an error with arrows.**)** **(Lose 1 mark** if there is an error with predicates.**)**		
				(11)	

Section III

Part B – Computer Networking

Question			Expected Answer/s	Max Mark	Additional Guidance
20			A local vet implants microchips into animals which contain data such as name, address and age. The microchip also contains a tracking device so the animal can be found if lost.		
20	a	i	Name the type of network that would be used for the tracking device.	1 (PS)	
			WWAN Wireless Wide Area Network (1 mark)		
20	a	ii	The type of transmission used for tracking the animal is *unicast*. Explain why unicast is used.	1 (PS)	
			The tracking transmitter/system is communicating with the one microchip (1 mark)		
20	b		The vet uses a mobile phone to *e-mail* customers. The vet's e-mail address is: B_Ark@vetworld.com.		
20	b	i	State the domain name of this e-mail address.	1 (PS)	
			vetworld.com (1 mark)		

Question			Expected Answer/s	Max Mark	Additional Guidance
20	b	ii	**State two benefits to the vet of using e-mail to communicate with customers.**	**2** **(PS)**	
			• Instant response • Attachments can be sent • Mailing lists can be used • Saves cost of postage **(any 2, 1 mark each)**		
20	b	iii	**The vet's phone uses *WAP* technology. What do the letters WAP stand for?**	**1** **(KU)**	
			Wireless Application Protocol **(1 mark)**		
20	c		**The vet's surgery has a smart fridge that stores medicines. This fridge can order new medicines online when stocks are low.** **What term is used to describe this example?**	**1** **(KU)**	
			Converging technology **(1 mark)**		
				(7)	

Question			Expected Answer/s	Max Mark	Additional Guidance
21			**Queenshill school runs a website club. The students create web pages and publish them on the *World Wide Web* (*WWW*) when completed.**		
21	**a**		**Explain why the school needs an *ISP*.**	**1** **(KU)**	
			Provides access to the Internet To host website Gives e-mail **(1 mark)**		
21	**b**		**State the type of software required to view the web pages.**	**1** **(KU)**	
			(Web) browser **(1 mark)**		
21	**c**		**The students must sign an IT user contract before they can join the club.** **State two items that should be included in this contract.**	**2** **(PS)**	
			• rules stating the correct use of the school's computers and Internet • cyberbullying policy • relevant sanctions relating to abuse • uploading private information **(any 2, 1 mark each)**		
21	**d**		**The students create a *URL* for their web page.** **State the purpose of a URL.**	**1** **(PS)**	
			To identify the web page on the WWW **(1 mark)**		

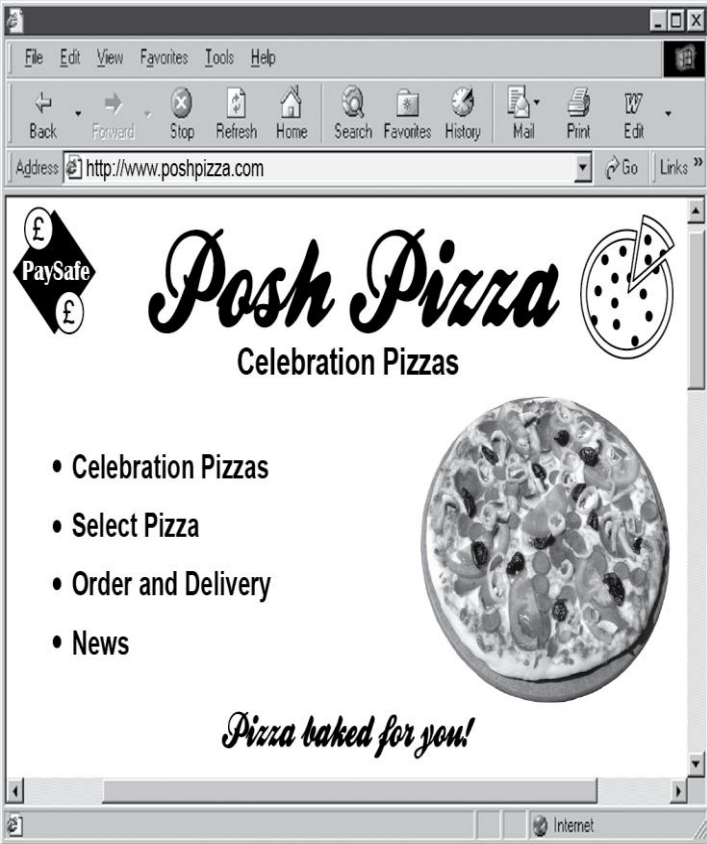| Question			Expected Answer/s	Max Mark	Additional Guidance
21	e		**The students allow advertising on their web pages.** **Name the type of *e-commerce* service provided.**	1 (KU)	
			e-marketing **(1 mark)**		
21	f		**Students often buy goods online.** **State one benefit to the students of buying goods online.**	1 (PS)	
			• can buy 24/7 • cheaper than High Street stores • more variety to choose from • no travel costs **(any 1, 1 mark)**		
21	g		**The school is concerned that the computers may become infected with viruses.** **State one method that could be used to help prevent computer viruses.**	1 (KU)	
			use anti-virus software **(1 mark)**		
				(8)	

Question			Expected Answer/s	Max Mark	Additional Guidance
22	a		**The Scotia Bank uses data encryption across its network of computers.** **State one limitation of sending encrypted files.**	**1** **(PS)**	
			The recipient must have the correct key **(1 mark)**		
22	b		**As part of the bank's *backup strategy* it uses a fireproof safe.** **Describe two additional steps to ensure an effective backup strategy.**	**2** **(PS)**	
			To save data on appropriate backing storage **(1 mark)** and make regular backups **(1 mark)**		
22	c		**A network technician suggests that the bank use a *leased line* instead of *ADSL* for their Internet connection.**		
22	c	i	**Explain how using a leased line would improve security.**	**1** **(PS)**	
			• Transmission line only accessible to company • No other users taking up bandwidth **(any 1, 1 mark)**		
22	c	ii	**State one disadvantage of using a leased line.**	**1** **(PS)**	
			Expensive to set up and maintain **(1 mark)**		

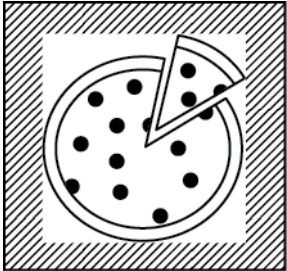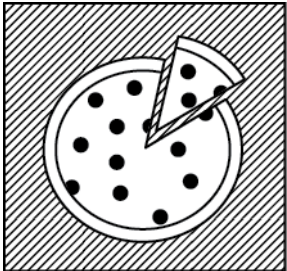| Question			Expected Answer/s	Max Mark	Additional Guidance
22	d		A bank employee downloads a help document from the Internet.		
22	d	i	Name the Internet service being used.	1 (KU)	
			File Transfer Protocol (1 mark)		
22	d	ii	The employee uses this document to help him create macros within the bank's spreadsheet. State one example of a task that a macro could perform within the spreadsheet.	1 (PS)	
			• charting • complex sorting • report creation • formulas • any other valid spreadsheet task (any 1, 1 mark)		
22	e		The bank is concerned that employees are using the Internet at work for personal use. State one measure the bank could take to prevent Internet misuse.	1 (PS)	
			• Internet filtering • Firewall (any 1, 1 mark)		

Question			Expected Answer/s	Max Mark	Additional Guidance
22	**f**		**The *Regulation of Investigatory Powers Act* enables the government to monitor Internet use.** **State two powers this Act provides the government with to monitor employees' Internet use.**	**2** **(PS)**	
			• log web access • access web history • use encryption keys • e-mail **(any 2, 1 mark each)**		
				(10)	

Part C - Multimedia Technology

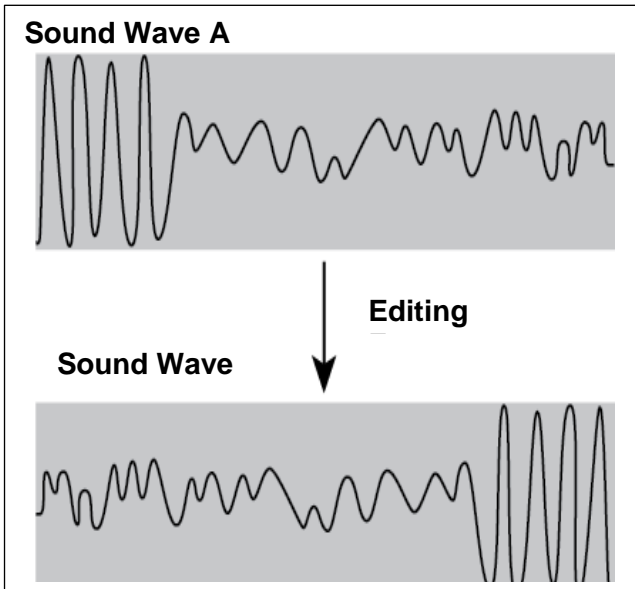| Question			Expected Answer/s	Max Mark	Additional Guidance
23			**DynamoDesign has created a website for the local pizza restaurant.**		
23	a		**A digital camera is used to take photographs of the pizzas.**		
23	a	i	**Describe the purpose of a *charged coupled device* (CCD) in a digital camera.**	1 (KU)	
			It has sensors to capture light coming in through a lens. Converting light signals into analogue **(1 mark)**		

Question			Expected Answer/s	Max Mark	Additional Guidance
23	a	ii	Each photograph takes up 36,524,407 bits of memory. Calculate how many Megabytes of memory are equal to 36,524,407 bits. Show all working.	2 (PS)	
			• Bits to bytes (/8) =4565550.875 • Bytes to kilobytes (/1024) = 4458.55 • Kilobytes to Megabytes (/1024) = 4.35 (All 3 bullet points – 2 marks) (Any 2 bullet points – 1 mark) (< 2 bullet points – 0 marks)		Accept 4.35 for 2 marks
23	a	iii	Describe the effect of increasing the resolution of this photograph on the file size.	1 (PS)	
			The file size will be increased. (1 mark)		
23	a	iv	Name the type of storage used to store photographs within the camera.	1 (KU)	
			• Flash Memory • SSD (1 mark)		
23	b		DynamoDesign uses a *text editor* to create the website.		
23	b	i	Describe how a text editor could be used to create the website.	1 (KU)	
			Text editor used to enter and edit HTML code (1 mark)		

Question			Expected Answer/s	Max Mark	Additional Guidance
23	b	ii	Name one other type of editor that could be used by DynamoDesign to create the website.	1 (KU)	
			• WYSIWYG editor (1 mark)		
23	c		The logo for the website is saved in GIF format. **Logo A** Logo A is altered so that the background pattern can be seen. **Logo B** 		
23	c	i	Name the feature of GIF which allows the background pattern to be seen in Logo B.	1 (PS)	
			Transparency (1 mark)		

Question			Expected Answer/s	Max Mark	Additional Guidance
23	c	ii	**State two other features of the GIF file format.**	**2** **(KU)**	
			- Lossless compression. - Limited to 256 colours - Animation **(any two, 2 marks)**		
23	d		**DynamoDesign adds 'My Favourite Pizza' option to the website. Name the stage of the software development process that is being carried out.**	**1** **(PS)**	
			Maintenance (**1 mark**)		
				(11)	

Question			Expected Answer/s	Max Mark	Additional Guidance
24			**News4U creates video clips of local news events and then uploads them to a national news website.**		
24	a		**News4U is recording video footage of a local charity race.** **Describe one suitable item of hardware that is needed to capture the video.**	**1** **(KU)**	
			• Digital video camera • Digital camera • Smart phone **(1 mark)**		
24	b		**The video of a local charity race takes up 6·8 Gigabytes (Gb) and lasts for 20 minutes.**		
24	b	i	**The video file was compressed using the MPEG format.** **State how MPEG compression reduces the file size.**	**1** **(KU)**	
			Only changes between frames is saved rather than entire frames **(1 mark)**		
24	b	ii	**State two other ways that the video file size could be reduced.**	**2** **(PS)**	
24	b	ii	• Reducing resolution (video window size) • Reducing the colour depth • Reducing the frame rate **(any two, 2 marks)**		

Question			Expected Answer/s	Max Mark	Additional Guidance
24	b	iii	Explain how the video editing software could be used to reduce the video clip to 15 minutes.	1 (PS)	
			Cropping (or trimming) **1 mark**		
24	c		A song by a local band is used as background music for the video clip.		
24	c	i	The software used to edit the band's song has a number of editing features. Name the editing feature that changed Sound Wave A into Sound Wave B.		
			Reverse **(1 mark)**	1 (PS)	

Question			Expected Answer/s	Max Mark	Additional Guidance
24	c	ii	**The keyboard track for the video clip is stored as a MIDI file.** **State one attribute of a MIDI instruction.**	**1** **(PS)**	
			• Type of instrument • Pitch of note • Volume of note • Duration of note • Tempo **(any one, 1 mark)**		
24	c	iii	**The sound file is saved in an uncompressed format.** **State one advantage of an uncompressed format.**	**1** **(PS)**	
			No information is lost from the original recording. **(1 mark)**		
24	c	iv	**Name the hardware that is needed to output sound from speakers.**	**1** **(PS)**	
			Sound card **(1 mark)**		
24	d		**The video clip of the charity race can be viewed on a mobile phone.** **State the term used to describe a mobile phone that has similar functions to a palmtop computer system.**	**1** **(PS)**	
			Smart phone **(1 mark)**		
				(10)	

Question			Expected Answer/s	Max Mark	Additional Guidance
25			**A logo has been created for a graphics design company using a *vector graphics package*.** **Logo A** **Logo B** 		
25	a		**Logo A was drawn and then edited to produce Logo B.**		
25	a	i	**Describe how Logo B was created from Logo A.**	1 **(PS)**	
25	a	i	Image of paint palette has been rotated. **(1 mark)**		
25	a	ii	**If the logo is increased in size, state what effect this would have on the quality when printed.**	1 **(PS)**	
			No effect on printout quality **(1 mark)**		

Question			Expected Answer/s	Max Mark	Additional Guidance
25	**a**	**iii**	**State one other advantage of using a vector graphic package rather than a bit-mapped graphics package for creating this logo.**	**1** **(PS)**	
			• The shapes can be redrawn to any scale without the loss of quality. • Resolution independence • Each object is editable and can be moved, duplicated or modified. • Objects can be grouped and treated as a single object. • Objects can be overlapped without destroying the image underneath. • Simple vector graphics have smaller file sizes than bit-maps which store every pixel. **(any one, 1 mark)**		
25	**b**		*VRML* **is a graphics file type. State what the letters VRML stand for.**	**1** **(KU)**	
			Virtual reality markup language **(1 mark)**		
				(4)	

[END OF SECTION III]

[END OF MARKING INSTRUCTIONS]