



2011 Information Systems

Higher

Finalised Marking Instructions

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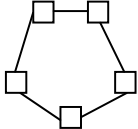
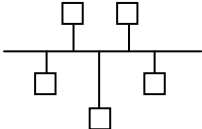
Part One: General Marking Principles for Information Systems – Higher

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 always 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. You can do this by posting a question on the Marking Team forum or by e-mailing/phoning the emarker Helpline.
- (b) Marking should always be positive ie, marks should be awarded for what is correct and not deducted for errors or omissions.
- (c) Technical terms which have been spelled incorrectly should still be awarded the relevant mark
- (d) In situations where the subsequent part of a question depends on the correct answer to the first part, candidates who answer the first part incorrectly and then go on in the subsequent part of the question to give a correct answer based on their answer to the first part will be awarded the relevant mark for the subsequent part of the question.
- (e) In situations where the candidate has achieved the maximum number of marks available without getting to the end of their answer, a marker should award the maximum marks. However, in situations where there is only one correct answer and the candidate has split their answer with a / or an or, then this should not be accepted as a separate response and the marks should not be awarded. For example, if the correct answer for a data type question is date then a response of (date/time) or (date or time) would attract 0 marks as the / and the or combines the answer making it incorrect.
- (f) In situations where the candidate writes the correct answer followed by an alternative incorrect answer then this should not be penalised. However, if the candidate writes an incorrect answer followed by a correct alternative answer this should not be awarded the marks. For example if the correct answer to a 1 mark question is written and the candidate includes an alternative incorrect answer such as visual then the following would apply:
Written (visual) = 1 mark
Written/visual = 0 marks (example of combining as in (e) above).
Visual (written) = 0 marks

Part Two: Marking Instructions for each Question

Question			Expected Answer/s	Max Mark	Additional Guidance
1			<p>You could delete the only copies of a customer's (Claire Morrison) details (2 marks)</p> <p>Deletion anomaly (1 mark) because of customer's details (1 mark)</p>	2	Must mention customer or Claire Morrison to get 2 marks
2			<p>1NF (1 mark)</p> <ul style="list-style-type: none"> as there is still a partial dependency (2 marks) as Item Number determines description and price (2 marks) as there are no multi-valued attributes/repeating groups (2 marks) 	3	<p>UNF – still partial dependency (1 mark)</p> <p>2NF/3NF – no multi valued attributes or repeating groups (1 mark)</p>
3			<p>Discount Price or Discount Rate or Total (£) or Overall Total (1 mark)</p> <p>As these are calculated (1 mark)</p>	2	
4			Object (1 mark) link (1 mark)	2	
5	a		One to Many (1 mark)	1	
5	b		Many to Many (1 mark)	1	
6			A key with more than one attribute/field (2 marks)	2	<p>Two attributes – 1 mark</p> <p>More than 2 attributes – 1 mark</p>
7			<p>To describe (1 mark) the structure of the database (1 mark)</p> <p>Or</p> <p>To structure/design the database (1 mark) before implementing it (1 mark)</p> <p>Or</p> <p>To describe each attribute (1 mark) in terms of entity, name, type, key and validation (1 mark for any two)</p>	2	Data about data or metadata – 1 mark
8			Decision Support System (1 mark)	1	
9			<p>To deal with a vast amount of day to day transactions (2 marks)</p> <ul style="list-style-type: none"> vast amount of data operational data (or day to day transactions) <p>(1 mark) per bullet</p>	2	Vast amount of transactions – 1 mark

Question			Expected Answer/s	Max Mark	Additional Guidance
10			<ul style="list-style-type: none"> Choice of fonts (size, style or colour) Choice of transitions Use of background colour Consistency Avoid information overload Layout of elements Use of media <p>(1 mark) per bullet</p>	2	Only 1 mark for consistency
11			<ul style="list-style-type: none"> Timelining Resource allocation Gantt (or Pert) charts Optimisation Critical path analysis <p>(1 mark) per bullet</p>	2	
12	i		 <p>(1 mark)</p>	1	
	ii		 <p>(1 mark)</p>	1	
13			<ul style="list-style-type: none"> Software can be moved from one environment/platform to another Software can run on a variety of systems Software can run on a variety of operating systems Software is machine independent <p>(2 marks for any bullet)</p>	2	Software used on different computers or hardware – 0 marks

Question			Expected Answer/s	Max Mark	Additional Guidance
14			<ul style="list-style-type: none"> • A sequence of instructions that can be used to automate a complex or repetitive task • You can use a single button to perform a whole series of actions • Complex sequences of operations can be simplified by recording or by programming • A macro is often associated with a single keystroke to execute a sequence of instructions <p>(2 marks for any bullet)</p> <ul style="list-style-type: none"> • Keystroke/button • recorded or scripting • series of instructions • any example of a set of instructions • automate tasks <p>(1 mark for each bullet)</p>	2	
15			<ul style="list-style-type: none"> • Invasion of privacy or description of this • It is illegal and he should not break the law <p>(2 marks for each bullet)</p> <ul style="list-style-type: none"> • wrong/unethical - accessing his account without owner's permission • wrong/unethical –only trying to help • wrong/unethical – trying to find owner • wrong/unethical - owner's account/personal details - private • should pass it on to his boss/IT dept <p>(1 mark for each bullet)</p>	2	<p>Computer Misuse Act (0 marks)</p> <p>he should (0 marks)</p> <p>he should not (0 marks)</p>

Question	Expected Answer/s		Max Mark	Additional Guidance	
16	UNF	1NF	2NF	3NF	
	<u>Room</u> Type Capacity Period Day Start time Finish time Teacher Class Class Size Subject	<u>Room</u> Type Capacity <u>Period</u> <u>Day</u> Start time Finish time Teacher Class Class Size Subject <u>Room</u> *	<u>Room</u> Type Capacity <u>Period</u> * <u>Day</u> Teacher Class Class Size Subject <u>Room</u> * <u>Period</u> Start time Finish time	<u>Room</u> Type Capacity <u>Period</u> * <u>Day</u> Class* Teacher <u>Room</u> * <u>Class</u> Class Size Subject <u>Period</u> Start time Finish time	

There are **6 marks** for the **process** and **11 marks** for the **final 3NF**.

Process (ignore entity names)

1NF

1 mark for creating a second entity including Room

1 mark for including Period, Day, Start time, Finish time, Teacher, Class, Class Size & Subject (ignore extra attributes)

2NF

1 mark for removing Period or suitable part of compound key

1 mark for leaving a copy of Period or suitable part of compound key **only** behind

3NF

1 mark for removing a non-key dependency provided a PK is not removed with it

1 mark for leaving a copy of the non-key dependency behind.

Looking only at 3NF

(4 marks for attributes)

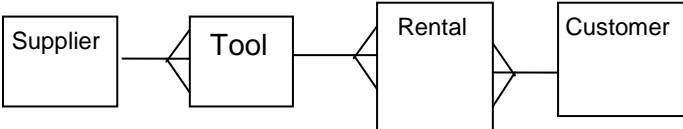
- 1 mark** for each entity having the correct attributes (a misplaced **non-key** attribute would only lose 1 mark, ie would not lose the mark in both entities)

(4 marks for Primary keys)

- 2 marks** for the compound Primary key (Period+Day+Room)
- 1 mark** for Period as PK
- 1 mark** for Class as PK

(3 marks for Foreign keys)

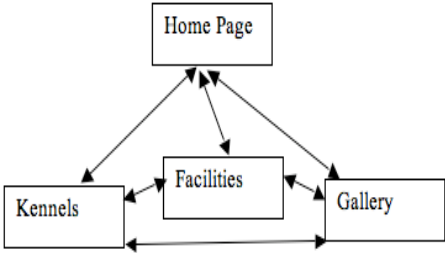
- 1 mark** for each correct Foreign key (do not award a mark for foreign keys where two tables have the same PK)

Question		Expected Answer/s	Max Mark	Additional Guidance
17	a	 <p>1:M between Supplier and Tool (2 marks) 1:M between Tool and Rental (2 marks) 1:M between Customer and Rental (2 marks)</p>	6	1 mark should be awarded for each relationship where the cardinality is wrong
17	b	<p>Entity Integrity is affected because: PK will not be unique (1 mark) as more than one person living at this address / use the same phone number (2 marks) OR PK may be null (1 mark) as some people may not have a telephone (2 marks) OR PK has to have a value (1 mark) yet some customers may not have a phone (2 marks)</p>	3	1 mark for not unique or null 2 marks for reason (in context)
17	c	<p>A: Yes (1 mark) B: Yes (1 mark) C: No (1 mark) D: Lookup from Customer table (1 mark)</p>	4	
18	a	<ul style="list-style-type: none"> Security of data – protection Privacy of data – protection of personal/sensitive data. <p>(1 mark for each bullet)</p>	2	Need protection or idea of protection for security and personal or sensitive for privacy

Question			Expected Answer/s	Max Mark	Additional Guidance
18	b	i			
			Password	Suitable	Unsuitable
			scotland	correct length (8 characters)	only lower case used
					does not include a number
					does not include a symbol
					recognisable word
			tom110695	correct length (8 characters)	name and/or date could be easily guessed
				mixture of letters and numbers	
			Hs%2	mixture of letters and numbers	only 4 characters used
				and symbols	
				not meaningful	
				upper and lower case used	
1 mark each for any suitable or unsuitable up to max 3 marks					
18	b	ii	Methods of keeping data secure include: <ul style="list-style-type: none">access rights - can be allocated to files or folders to allow different levels of access eg read, write, create, delete, modify, executeencryption - could be used to change data into a form that only the intended receiver can decipherfirewall – could be used to prevent unwanted intrusionanti-virus – key loggers (not damage or deletion of files)code of conduct – set of guidelines for employees handling data (1 mark for each method, 1 mark for valid description)	4	For access rights: must refer to files or folders – 1 mark OR different levels of access – 1 mark Must refer to key loggers
18	c		Criteria for software evaluation include: functionality, performance, usability, compatibility, reliability, portability, support, resource requirements, data migration (1 mark for each valid criteria from the list above)	5	Only acceptable answers

Question		Expected Answer/s	Max Mark	Additional Guidance
19		<p>Copyright Designs and Patents Act – protects the ownership rights of the originators (1 mark) (of intellectual property such as design, music and software.)</p> <p>Data Protection Act – protects the rights of the individuals who have data held on them. (1 mark) or The organisation is responsible for the data security, accuracy and conditions of use of that data. (1 mark)</p> <p>Freedom of Information (Scotland) Act – enables any person to obtain information from public authorities (1 mark)</p> <p>Regulation of Investigatory Powers Act – covers the intercepting (and monitoring) of electronic communications. (1 mark)</p> <p>Health and Safety at Work Act – designed to protect the employees in the work place. (1 mark) or Specific concerns are addressed relating to use of ICT. (1 mark)</p> <p>(1 mark for each correctly named Act, 1 mark for each related description)</p>	6	<p>1 mark for each Act</p> <p>1 mark for a description of the purpose that relates to the purposes mentioned opposite</p> <p>Stops copying documents – 0 marks Stops using other people's ideas – 1 mark</p> <p>Allow omission of Scotland</p>

Question		Expected Answer/s	Max Mark	Additional Guidance
20	a	<p>Data – a collection of raw facts and figures with no meaning. Any appropriate example eg 1,2,3, Tadpoles</p> <p>Information – data that has been processed in some way as to make it meaningful eg Skill Level 3</p> <p>Knowledge – derived from information or combining information with existing knowledge generating more knowledge eg Skill Level 3 means a swimmer has completed that task at an acceptable level can now move on to the next level.</p> <p>(1 mark for each definition, 1 mark for each relevant example)</p>	6	<p>Accept giving it a context or structure</p> <p>Accept other examples similar to this as long as it comes from the swimming scenario</p> <p>For knowledge – do not accept quotes from the report</p>
20	b	<p>Complete – every part of the report card has been filled in.</p> <p>Relevant – information on the card relates to the swimmer Lewis James, (so it is useful for him).</p> <p>Concise – information is brief, with only a 1, 2 or 3 allowed.</p> <p>Reliable – the report has been completed by a qualified swimming coach who you would assume knows what they are doing.</p> <p>(1 mark for each correct statement linked to the scenario)</p>	4	

Question			Expected Answer/s	Max Mark	Additional Guidance
21	a		<p>Requirements Specification should cover:</p> <ul style="list-style-type: none"> • purpose – to advertise dog boarding facilities • user/audience – dog owners • content – information about kennel facilities and exercise • delivery media – world wide web <p>(1 mark each for any 3 valid criteria – max 3 marks 1 mark for each criteria linked to the scenario – max 3 marks)</p>	6	budget, timescale - 1 mark
21	b		<p>Requirements Specification provides the basis of a binding contract for the client to ensure that the developer does exactly as specified.</p> <p>The Requirements Specification is useful to the developer as it outlines <u>exactly</u> what is required in the project and can be used throughout development as a project guide.</p> <p>(1 mark for importance to client, 1 mark for developer)</p>	2	<p>Need the idea of a binding contract</p> <p>Need the idea that it outlines <u>exactly</u> what is required in the project</p>
21	c	i	 <p>1 mark for 4 labelled boxes, 1 mark for all page links, 1 mark for directional arrows linking pages</p>	3	

Question			Expected Answer/s	Max Mark	Additional Guidance
21	c	ii	Web navigational structure 1 mark	1	Award 1 mark for structure based on answer to c(i)
21	d		<ul style="list-style-type: none"> rough or blurred image (1 mark) of dog appears quickly(1 mark) so users know that the dog photograph is appearing (1 mark) and don't click to another link quickly(1 mark) If the dog photograph is a large file (1 mark) then this is useful if users have a slow connection. (1 mark) 	2	Must link to scenario for full marks
21	e	i	<ul style="list-style-type: none"> JPEG use more colours than GIF therefore allows better quality images to be shown <p>1 mark for any valid point, max 2 marks</p>	2	
21	e	ii	Media Specialist (1 mark)	1	Insist on actual term
21	e	iii	<ul style="list-style-type: none"> photographs can be altered in graphics package automatically changed in webpage <p>(1 mark for each bullet)</p>	2	0 marks awarded for description of what object linking is
21	f		<p>Waggy Breaks</p> <ul style="list-style-type: none"> site design, text, photos cannot be used (1 mark) by another kennel (business) (1 mark) <p>Dog Owners</p> <ul style="list-style-type: none"> Photos cannot be used (1 mark) Without owner's permission (1 mark) <p>(1 mark for any valid bullet, but must mention dog owners and Waggy Breaks to get any marks)</p>	4	For full marks the candidates answer should cover the need to copyright Waggy Breaks material and also that submitted by individual dog owners.

Question			Expected Answer/s	Max Mark	Additional Guidance
21	g		<ul style="list-style-type: none"> • Absolute URL • as the http service on WWW is specified, located at the waggybreaks.co.uk domain <p>(1 mark for absolute, 1 mark for reason)</p>	2	Award mark for – Contains the host name and the full path name of the file
22	a		<p><i>Screen Testing</i> Each separate screen must be tested to ensure it matches the design and functions correctly eg buttons and navigational functions, text fonts and colours, video and audio clips working.</p> <p><i>Integration Testing</i> Ensures that all screens work together in the application.</p> <p><i>Acceptance Testing</i> Performed by the client who will test the finished application to ensure it does what the original contract specifies</p> <p><i>Usability Testing</i> Carried out by a selected group of users who will work on typical tasks relevant to the application.</p> <p>(1 mark each for two correctly named types of testing, 1 mark for the corresponding description)</p>	4	<p>Accept generic description OR actual example from this scenario</p> <p>Need “matches the design” for full marks</p> <p>Need to state performed by client to ensure it does what was originally specified</p>
22	b	i	Project Development Documentation 1 mark	1	
22	b	ii	<ul style="list-style-type: none"> • requirements specification • navigational maps • storyboards, • record of testing <p>(1 mark for each valid item)</p>	2	

Question			Expected Answer/s	Max Mark	Additional Guidance
22	c		<ul style="list-style-type: none"> • fitness for purpose • accessibility • clarity of presentation <p>(1 mark for each valid item)</p>	2	
23	a		<ul style="list-style-type: none"> • Details of fonts, styles and sizes, colour • Background colour (of slide) • User interactivity (button colour, style, size, etc) • Navigation (note of slide that arrow button links to) • Graphic details – picture file name, dimensions etc <p>(1 mark each for any valid item that would be included on the storyboard shown)</p>	3	Accept fonts, font styles, font sizes or font colour
23	b	i	<p>Kerning :</p> <ul style="list-style-type: none"> • adjust letter spacing between certain letter pairs • eg A and v in the surname McAvoy <p>(1 mark for each bullet)</p>	2	
23	b	ii	<p>Anti-aliasing :</p> <ul style="list-style-type: none"> • gives smoother appearance • on the text heading Morgan Primary OR the graphic of the child <p>(1 mark for each bullet)</p>	2	Accept the example of the text or the graphic in the presentation
24	a		<ul style="list-style-type: none"> • Form – visual or written • Level – operational or tactical • Type – sampled <p>(1 mark for each bullet)</p>	3	

Question			Expected Answer/s	Max Mark	Additional Guidance
24	b		<p>Audio files could be added to the CBT material to provide a commentary of a particular method being demonstrated.</p> <p>Video files could be used to provide footage of how to create an icing decoration.</p> <p><i>(1 mark each for any valid example of audio and video use linked to the scenario)</i></p>	2	Accept other reasonable descriptions as long as they link to the scenario
24	c		<ul style="list-style-type: none"> • Embedded fonts OR • Graphical text (2 marks) • scanned image then inserted into document (1 mark) 	2	Embed the font or embedded fonts – 2 marks
24	d		<ul style="list-style-type: none"> • DVD has greater capacity/storage capacity/data capacity (1 mark) • faster (data) transfer rate (1 mark) 	2	Not memory capacity

Question			Expected Answer/s	Max Mark	Additional Guidance
25	a	i	<p><i>Any of the above with notation variations are acceptable. The 'tree' can go across or down. It is not acceptable for branches to rejoin in a tree structure.</i></p> <p>1 mark for a tree structure and 1 mark for each correct set of branches for each gemstone.</p>	4	<p>7 & 8 can be separate branches</p> <p>'Colour' should not be chosen – only 2 marks are available (for tree structure and Tanzanite).</p>
25	a	ii	<p>What is the hardness? (or specific gravity)</p> <ul style="list-style-type: none"> • 6 • 7 or 8 • 9 <p>1 mark for the question and 1 mark for options</p>	2	<p>Is hardness 6 or any one value? (1 mark)</p> <p>Is hardness 6, 7, 8, or 9 (2 marks)</p> <p>Based on the decision tree – accept "What is the colour?"</p>

Question			Expected Answer/s	Max Mark	Additional Guidance
25	b	i	<ul style="list-style-type: none"> • hardness = 6 • specific gravity = 3.35 • colour = blue-violet <p>1 mark for one pair – 1 mark for getting both the other pairs.</p>	2	notation variations like (colour, blue-violet) are acceptable.
25	b	ii	<p>IF hardness IS 6 AND 'specific gravity' IS 3.35 AND colour IS blue-violet THEN gemstone IS 'Tanzanite'</p> <p>1 mark for the rule 1 mark for use of IF, AND and IS (or =) 1 mark for use of gemstone variable or any similar 1 mark for use of IF, AND, THEN) in upper case</p>	4	<p>(accept variations like gemstone IS 'Tanzanite' IF hardness IS 6 AND 'specific gravity' IS 3.35 AND colour IS blue-violet) (3 marks for style + 1 mark for rule = 4 marks)</p>
25	c		<p>There is a range of values for some attributes (or an exemplification). 1 mark</p> <ul style="list-style-type: none"> • Ask Mark for further clarification • Make a separate rule for each value • Use 'Or' in the rules • Include a range in the rules <p>1 mark for any bullet point</p>	2	
25	d		<p>Level is operational (or tactical) 1 mark Form is written 1 mark Type is sampled 1 mark</p>	3	
25	e		<p>Knowledge elicitation (or acquisition) – Mark provides his expertise 2 marks System validation – Mark confirms the advice given during testing 2 marks Naming the three stages 1 mark</p>	4	<p>Knowledge representation – Mark has no role 1 mark</p> <p>Must mention stage (1 mark) then his role (1 mark)</p> <p>Role without stage – (0 marks)</p>

Question			Expected Answer/s	Max Mark	Additional Guidance
26	a		<p>Fact – user entered details or data from satellite positioning or data from onboard instruments or position data for other vessels or local weather forecast or local tides 2 marks</p> <p>Rule – to advise a course or calculate an estimated arrival time or to avoid a collision 2 marks</p>	4	<p>(Facts and rules 1 mark)</p> <p>Must mention fact</p> <p>Must mention rule</p> <p>Rules have conditions eg knowledge has rules with conditions taken from satellite positioning (2 marks)</p>
26	b		<ul style="list-style-type: none"> The conclusion is clear Explanation facilities are available <p>1 mark for each bullet</p>	2	The explanation facilities are not shown – do not accept where the candidate only states the facility was good
26	c		<ul style="list-style-type: none"> The captain/user is legally responsible for a collision (2 marks) <p>They have no legal responsibility (1 mark)</p> <ul style="list-style-type: none"> It only offers advice They should make clear they have no responsibility Unforeseen circumstances may occur (any example) <p>1 mark for any bullet</p>	2	
26	d		<ul style="list-style-type: none"> man overboard stop for a break <u>unexpected</u> weather change or weather forecast not accurate increase in shipping traffic any other 'reasonable' unforeseen circumstance or obstacle <p>1 mark each for any bullet</p>	2	
27	a	i	$A \wedge \neg B \rightarrow C$ <p>1 mark for correct use of \neg for 'not'</p> <p>1 mark for conditions in logical order, use of \wedge for 'and' and use of \rightarrow</p>	2	
27	a	ii	$CF_{conc} = CF_{rule} \times \min(CF_{cond1}, CF_{cond2}, \dots)$ $CF_C = 0.8 \times \min(0.6, 0.75)$ $CF_C = 0.8 \times 0.6$ $CF_C = 0.48$ (or 48%) <p>2 marks for 0.48 (or 48%) – 1 mark for only the formula</p>	2	

Question			Expected Answer/s	Max Mark	Additional Guidance
27	b	i	<p>takes('Susan', 'Higher English')</p> <p>(or take(susan, english) or higher(english, susan)) or english(susan, higher)</p> <p>(1 mark for the predicate with two attributes)</p>	1	
27	b	ii	<p>takes('Alistair', 'Mathematics') ^ takes('Alistair', 'Information Systems')</p> <p>1 mark for two similar predicates to (i) – even if (i) is wrong</p> <p>1 mark for use of ^</p>	2	Do not deduct marks for omitting quotes
28	a		<ul style="list-style-type: none"> expert system provides advice/ DSS produces results or reports expert system asks questions/ DSS - user enters data or uses queries with criteria expert system will make a decision (or plan)/DSS will help check a decision (or plan) expert system has a knowledge base of facts and rules/DSS uses operational (or tactical or company) data expert system uses an inference engine/DSS calculates <p>2 marks for any bullet – comparison required</p>	4	
28	b		<ul style="list-style-type: none"> Knowledge Representation Language (KRL) implemented in LISP (or BLISS) used in production systems uses forward chaining uses the RETE algorithm first successful such language used in R1/XCON developed in 1970s classify VAX systems <p>1 mark for any bullet</p>	2	

Question			Expected Answer/s	Max Mark	Additional Guidance
28	c	i	<ul style="list-style-type: none"> There is a conflict set 2 marks More than one rule may be able to be fired 2 marks More than one rule may match the conditions in working memory 2 marks 	2	More than one rule stored 1 mark
28	c	ii	<ul style="list-style-type: none"> To determine or generate the conflict set Used after a change to working memory (or when new facts are established) To determine which rules can be fired Maintains list of rules whose conditions match the working memory 2 marks for any bullet	2	
28	c	iii	<ul style="list-style-type: none"> Does not fire same rule twice 2 marks Avoids looping by preventing rules repeatedly firing 2 marks Removes a rule from the conflict set after firing 2 marks 	2	Does not fire a rule OR Removes a rule 1 mark Note: One rule only

Question		Expected Answer/s	Max Mark	Additional Guidance
29	a	<p>A – Supasonic Electronics B – body C – center D – 1 E – font F – alt G – /table</p> <p>1 mark each</p>	7	Ignore tag marks and inverted commas
29	b	<p>The main difference is that a tag is an <i>inline</i> element and <div> tag is a <i>block</i> element.</p> <p>1 mark for each of these ideas.</p>	2	Must mention that span affects content in a line whereas div affects content in a block
29	c	<p>Supasonic Electronics now selling direct to you – all on 1 line 1 mark</p> <p>at incredible prices which will amaze everyone – on next line 1 mark</p> <p>-blank line here- Full money-back guarantee. } 1 mark</p>	3	
29	d	<p>similarity – both deal with standards 1 mark</p> <p>difference – W3C deals with Web 1 mark IETF with Internet 1 mark</p>	3	
30	a	<ul style="list-style-type: none"> biased, shows only favourable reviews credible, gives contact details of company or not credible – any make of mobile phone, is this possible?/there is no evidence <p>OR</p> <p>not credible - 10% lower than anyone else, is this possible?/there is no evidence</p> <p>1 bullet – 2 marks</p>	4	

Question			Expected Answer/s	Max Mark	Additional Guidance
30	b	i	<ul style="list-style-type: none"> No need to exit authoring package and then enter ftp package No need to login to server with account and password each time No need to navigate to correct server/folder <p>Any 2 bullet for 1 mark each</p>	2	
30	b	ii	<p>Advantages</p> <ul style="list-style-type: none"> No need to learn HTML Layouts easily controlled/created Final product easily previewed Style sheets easily produced Editing is easier <p>Any bullet point for 1 mark</p> <p>Disadvantages</p> <ul style="list-style-type: none"> Can produce extraneous/bloated code – increased download time May not give “fine control” over final layout May be expensive <p>Any bullet point for 1 mark</p>	2	
30	c		The total sales (1 mark) would be constantly changing and require to be constantly updated. (1 mark)	2	
30	d		<p>form is written or visual (1 mark)</p> <p>level is tactical or operational (1 mark)</p> <p>type is sampled (1 mark)</p>	3	

Question			Expected Answer/s	Max Mark	Additional Guidance
30	e	i	<ul style="list-style-type: none"> • Geographical location • Browser used • IP address • Operating system of client • Entry page to site • Link/Page used to link to site • If site has been visited before (number of times) • Number of users/hits • Number of page hits <p>Any 2 bullet points @ 1 mark each</p> <p>examples</p> <ul style="list-style-type: none"> • Geographical location – adapt origin of reviews eg more from Wales • Browser – optimise for frequently used browser • Entry page – redirect to homepage for easier navigation • Site visits – personalise the page • Amend or delete a page with low number of hits <p>Any 2 bullet points @ 1 mark each</p>	4	other suitable answers acceptable
30	e	ii	<p>Cookies (1 mark) may collect personal information (1 mark)</p> <p>Users may not like the storage (1 mark) of the link page used to visit this site (1 mark)</p> <p>There should be no privacy issues (1 mark) as data is not of a personal nature (1 mark)</p> <p>1 mark for stated opinion, 1 mark for reasoning</p> <p>May object to any information being held about them (1 mark)</p>	2	

Question			Expected Answer/s	Max Mark	Additional Guidance
31	a		<p>Encrypt the message (1 mark) using public key (1 mark)</p> <p>Decrypt the message (1 mark) using private key (1 mark)</p>	4	Public key or private key on their own – 0 marks
31	b	i	<ul style="list-style-type: none"> • header • message data • origin (IP) address • destination (IP) address • packet number (ID) or sequence number • checksum <p>Any 4 bullets @ 1 mark each</p>	4	
31	b	ii	<p>Alternative route available (1 mark) in case of network problem (1 mark)</p> <p>If packet fails to arrive then only that packet has to be re-sent (2 marks)</p>	2	
31	b	iii	<ul style="list-style-type: none"> • address of next node/router/device 1 mark • paths 1 mark • metrics (information) regarding this 1 mark • no of hops 1 mark • traffic information 	2	examples of these are sufficient for marks
32	a		<p>To guard against:</p> <ul style="list-style-type: none"> • identity theft • paedophiles • pornography • email scams • copyright breach – downloading music/movies • terrorism • harmful material <p>any2 bullet points @1 mark each</p>	2	any other answers acceptable
32	b		<p>Answers should centre around censorship (1 mark) versus freedom of speech (1 mark)</p> <p>Breach of privacy (1 mark)</p>	2	

[END OF MARKING INSTRUCTIONS]