

QUESTION 3.



- 7 (a) (i) – at least one computer used to “serve” ...
– ... other computers are referred to as “clients”
– server provides services / applications etc. ...
– ... which may be requested by clients
- (ii) any **two** from:
- files and resources are centralised
 - creation of security / manage security
 - user needs user name and password to access network
 - centralised back-up
 - intranet capability
 - Internet monitoring
 - clients can be less powerful machines, therefore less expensive to buy
 - saving resources on server reduces the burden on the client

[2]

(b) router

[1]

(c)

Statement	Sequence number
The requested web page is displayed on the client computer	5
The user clicks on the hyperlink and the web page is requested from the web server	1
The requested web page content is transmitted to the client computer	3
The client computer processes the JavaScript code using the web browser software	4
The web server locates the requested web page	2

[5]

QUESTION 4.

Cambridge
International
AS & A Level

Cambridge International Examinations
Cambridge International Advanced Subsidiary and Advanced Level



COMPUTER SCIENCE

9608/11

Paper 1 Written Paper

May/June 2017

MARK SCHEME

Maximum Mark: 75

Published

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

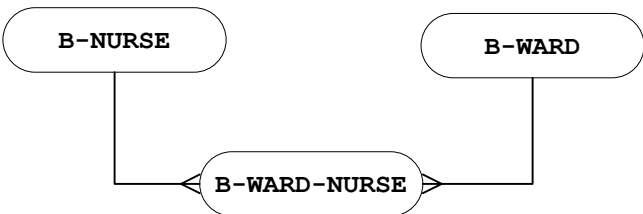
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Question	Answer		
1(a)	Many-to-one		
1(b)(i)	A-NURSE (<u>NurseID</u> , FirstName, FamilyName, WardName)		
1(b)(ii)	- The primary key <u>WardName</u> in the A-WARD table links to the foreign key <u>WardName</u> in the A-NURSE table.	1 1	
1(c)(i)	Many-to-many relationship		1
1(c)(ii)	B-WARD-NURSE (<u>WardName</u> , <u>NurseID</u>) Both attributes (with no additions) Joint primary key correctly underlined	1 1	2
1(c)(iii)	 Correct relationship between B-NURSE and B-WARD-NURSE Correct relationship between B-WARD and B-WARD-NURSE	1 1	2
1(d)(i)	SELECT NurseID, FamilyName FROM B-NURSE WHERE Specialism = 'THEATRE';	1 1 1	3
1(d)(ii)	UPDATE B-NURSE SET FamilyName = 'Chi' WHERE NurseID = '076';	1 1 1	3



Question	Answer															
2(a)(i)	<table><tr><td>1</td><td>A laser beam and a rotating mirror are used to draw an image of the page on the photosensitive drum.</td></tr><tr><td>2</td><td>C // The image is converted on the drum into an electrostatic charge.</td></tr><tr><td>3</td><td>Electrostatic charge attracts toner.</td></tr><tr><td>4</td><td>The charged paper is rolled against the drum.</td></tr><tr><td>5</td><td>D // The oppositely-charged paper picks up the toner particles from the drum. After picking up the toner, the paper is discharged to stop it clinging to the drum.</td></tr><tr><td>6</td><td>A // The paper passes through a fuser, which heats up the paper. The toner melts and forms a permanent image on the paper.</td></tr><tr><td>7</td><td>B // The electrical charge is removed from the drum and the excess toner is collected.</td></tr></table>	1	A laser beam and a rotating mirror are used to draw an image of the page on the photosensitive drum.	2	C // The image is converted on the drum into an electrostatic charge.	3	Electrostatic charge attracts toner.	4	The charged paper is rolled against the drum.	5	D // The oppositely-charged paper picks up the toner particles from the drum. After picking up the toner, the paper is discharged to stop it clinging to the drum.	6	A // The paper passes through a fuser, which heats up the paper. The toner melts and forms a permanent image on the paper.	7	B // The electrical charge is removed from the drum and the excess toner is collected.	
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7	B // The electrical charge is removed from the drum and the excess toner is collected.															
	C in the correct place	1														
	DA,	1														
	AB	1														
2(a)(ii)	Inkjet printer	1														
2(b)	Hard disk drive // HDD	1														
	Solid state drive //SSD // flash memory	1														
	One from:															
	<i>Hard disk</i>															
	Inexpensive per unit of storage	1														
	<u>Larger</u> storage capacity than flash drive	1														
	<i>Solid state storage</i>															
	No moving parts / noise	1														
	Robust	1														
	Low latency // Fast read/write time	1														



Question	Answer	
3(a)	Sampling rate The <u>number of samples</u> taken <u>per unit time</u> // the number of times the amplitude is measured <u>per unit time</u> Increasing the sampling rate will increase the accuracy / precision of the digitised sound // Increasing the sampling rate will result in smaller quantisation errors.	1 1
3(b)(i)	Pixel Smallest picture element which can be drawn Screen resolution The number of pixels which can be viewed horizontally and vertically on the screen // or by example - A typical screen resolution is 1680 pixels × 1080 pixels.	1 1
3(b)(ii)	8	1
3(b)(iii)	Working: Max <u>two</u> from: - Number of pixels is 2048×512 - One pixel will be stored as one byte - Number of kilobytes = $(2048 \times 512) / 1024$ Answer: <u>One</u> mark: Number of kilobytes = 1024 KB	1 1 1 1
3(b)(iv)	<u>One</u> from: - Confirmation that the file is a BMP - File size - Location/offset of image data within the file - Dimensions of the image in pixels // image resolution - Colour depth (bits per pixel) - Type of compression used, if any	1 1 1 1 1 1



Question	Answer	
4(a)(i)	500	
4(a)(ii)	496	
4(a)(iii)	502	
4(a)(iv)	86	1
4(b)	00000001 00010001 00001100 01100001 Both correct op codes Operand 0001 0001 Operand 0110 0001	3
4(c)	256	1
4(d)(i)	07 C2 07 C2	2
4(d)(ii)	LDI 63 LDI 63	2



Question	Answer																																																																																	
5(a)(i)	- Count the number of one bits in the <u>first seven</u> bit positions - Add a 0 or 1 to bit position 0, to make the count of one bits an <u>odd</u> number																																																																																	
5(a)(ii)	A = 1 B = 1																																																																																	
5(a)(iii)	Two from: - A parity bit is worked out for each <u>column</u> 1 - The computer checks the parity of each bit position in parity byte // the computer generates copy of the parity byte and <u>compares</u> 1 - If incorrect parity then there is an error in the data received // No parity error means no error in the data received 1 - The position of the incorrect bit can be determined 1	2																																																																																
5(b)(i)	<table><tr><th colspan="8">Bit position</th></tr><tr><th>7</th><th>6</th><th>5</th><th>4</th><th>3</th><th>2</th><th>1</th><th>0</th></tr><tr><td>1</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td></tr><tr><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr><tr><td>1</td><td>1</td><td>1</td><td>1</td><td>0</td><td>0</td><td>0</td><td>1</td></tr><tr><td>1</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td></tr><tr><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td></tr><tr><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td></tr></table> <table><tr><td>0</td><td>1</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>0</td></tr></table>	Bit position								7	6	5	4	3	2	1	0	1	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	1	0	1	1	1	1	1	0	0	0	1	1	1	0	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	0	0	0	2
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5(b)(ii)	Three from: - Consider each row in sequence 1 - Identify any row with incorrect parity 1 - Repeat the process for each column in sequence 1 - Identify where a row and column with incorrect parity intersect 1	3																																																																																



Question	Answer	
6(a)	Main memory management Input/Output Management Secondary storage Management Human computer interface The user moves the mouse on the desktop The user closes the Spreadsheet program The user selects the Save command to save their spreadsheet file The user selects the Print command to output their spreadsheet file One mark for each correct line from each left hand box to max <u>three</u> marks.	
6(b)(i)	File compression software	1
6(b)(ii)	Backup software	1
6(b)(iii)	Disk repair software	1
6(b)(iv)	Anti-virus software	1



Question	Answer	
7(a)	Two from: - The user's web browser is the client software 1 - The requested web page has program code / script embedded <u>within it</u> 1 - This code is interpreted by the web browser 1	
7(b)	Four from: - The browser parses the URL to obtain the Domain Name 1 - The browser software passes the Domain Name to the nearest Domain Name Server (DNS) 1 - The DNS stores a list of Domain Names and matching IP addresses 1 - The DNS Name Resolver looks for the Domain Name in its database 1 - If found the corresponding IP address is returned to the originator 1 - If not found the request is forwarded to another higher level DNS 1 - The original DNS adds the returned IP address to its cache 1 - The original DNS returns the IP address to the originator 1 - The browser uses the IP address to request the required web page from the <u>web server</u> 1 - The web server retrieves the page and delivers it to the originator 1 - The browser software interprets <u>the script</u> and displays the web page 1	Max 4
7(c)(i)	Message1, Message2 1 x 1	2
7(c)(ii)	6 – 19	1
7(c)(iii)	11	1
7(c)(iv)	Checks that the product code has not be left blank // presence check on product code	1
7(c)(v)	Two checks from: One mark for check and one mark for description - Range check 1 - Check the number entered is (say) between 1 and 100 1 - Format check 1 - Checks the product code is a particular format // Checks the number has digit characters only // by example 1 - Length check 1 - The number of items has exactly five characters 1 - Existence check 1 - To ensure the product code has been assigned 1	Max 4

Question	Answer	
6(a)	Two from: - The <u>file</u> is made available from a web/email/FTP server - The user's <u>browser</u> is the client software - The client (software browser) <u>requests</u> the <u>file</u> from the server - The desired <u>file</u> is returned to the client computer	1 1 1 1
6(b)	1. The user keys in the Uniform Resource Locator (URL) into the browser Software. 2. E // The Domain Name Service (DNS) uses the domain name from the browser to look up the IP address of the web server. 3. D // The web server retrieves the page 4. F // Sends the web page content to the browser 5. B // Browser software renders the page and displays	4 1 1 1 1
6(c)(i)	Output1, Output2 RunnerID // Runner ID	1 1
6(c)(ii)	6 – 21	1
6(c)(iii)	13	1
6(c)(iv)	Checks that the RunnerID entered starts with the characters CAM or VAR only	1
6(c)(v)	Two checks from: One mark for check and one mark for description - Format check RunnerID is three letter characters followed by two digit characters //Position is digit characters only - Length check RunnerID has exactly five characters - Range check The value for Position is between 1 and (say) 50 - Presence check The text box for RunnerID or Position is not empty - Existence check To ensure that RunnerID has been registered - Uniqueness check To ensure no two runners have the same number	Max 4 1 1 1 1 1 1 1 1

QUESTION 6.



Cambridge Assessment International Education
Cambridge International Advanced Subsidiary and Advanced Level



COMPUTER SCIENCE

9608/11

Paper 1 Written Paper

October/November 2017

MARK SCHEME

Maximum Mark: 75

Published

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

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Cambridge Assessment
International Education



Question	Answer									
1(a)(i)	119									
1(a)(ii)	−120									
1(a)(iii)	<table border="1"><tr><td>1</td><td>1</td><td>1</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td></tr></table>	1	1	1	0	1	1	1	1	
1	1	1	0	1	1	1	1			
1(a)(iv)	Lowest value: −128 Highest value: +127	1								
1(b)(i)	0110 0101 0011	1								
1(b)(ii)	The second block of four binary digits represents a digit larger than 9 // 14	1								
1(b)(iii)	A string of digits on any electronic device displaying numeric values	1								

Question	Answer	Marks
2(a)		4
2(b)(i)	One mark from: - The program code can be translated to run on any processor / platform - Source code is translated into machine independent intermediate code not machine dependent code	1



Question	Answer
2(b)(ii)	Two marks from: • Java uses a two-step translation process • Java code is partially interpreted – partially compiled • Code is translated first into intermediate code / "bytecode"... • ...using the Java compiler • The bytecode is finally interpreted by the Java Virtual Machine

Question	Answer	Marks																																													
3(a)	Two marks from: - Physical measures - Access rights - Encryption - Firewall - Use authentication methods such as usernames and passwords - Anti-malware program	Max 2																																													
3(b)(i)	<table border="1"><tr><td>7</td><td>X</td><td>6</td><td>=</td><td>42</td></tr><tr><td>8</td><td>X</td><td>5</td><td>=</td><td>40</td></tr><tr><td>6</td><td>X</td><td>4</td><td>=</td><td>24</td></tr><tr><td>5</td><td>X</td><td>3</td><td>=</td><td>15</td></tr><tr><td>3</td><td>X</td><td>2</td><td>=</td><td>6</td></tr><tr><td>1</td><td>X</td><td>1</td><td>=</td><td>1</td></tr><tr><td></td><td></td><td></td><td>Total:</td><td>128 / 11</td></tr><tr><td></td><td></td><td></td><td></td><td>11 R 7</td></tr><tr><td colspan="4">Check digit:</td><td>11 – 7 = 4</td></tr></table> 1 mark for 6 values 1 mark for 2 steps Accept 128 MOD 11 = 7 1 mark for subtraction Answer: 786531 4 (1 mark for answer)	7	X	6	=	42	8	X	5	=	40	6	X	4	=	24	5	X	3	=	15	3	X	2	=	6	1	X	1	=	1				Total:	128 / 11					11 R 7	Check digit:				11 – 7 = 4	4
7	X	6	=	42																																											
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6	X	4	=	24																																											
5	X	3	=	15																																											
3	X	2	=	6																																											
1	X	1	=	1																																											
			Total:	128 / 11																																											
				11 R 7																																											
Check digit:				11 – 7 = 4																																											
3(b)(ii)	One mark for name of check One mark for description Max two checks Uniqueness check Each PatientID must be unique Length check Each PatientID is exactly 7 characters Format check / Type check All 7 characters must be <u>digits</u> Presence check PatientID must be entered	Max 4																																													



Question	Answer																															
4(a)	A – System clock B – Control unit C – Main memory E – Control bus F – Data bus																															
4(b)	<table border="1"> <thead> <tr> <th>ACC</th><th>CountDown</th><th>OUTPUT</th></tr> </thead> <tbody> <tr> <td></td><td>15</td><td></td></tr> <tr> <td>67</td><td></td><td>C</td></tr> <tr> <td>15</td><td></td><td></td></tr> <tr> <td>14</td><td>14</td><td></td></tr> <tr> <td>51</td><td></td><td>3</td></tr> <tr> <td>14</td><td></td><td></td></tr> <tr> <td>13</td><td>13</td><td></td></tr> <tr> <td>32</td><td></td><td></td></tr> <tr> <td>88</td><td></td><td>x</td></tr> </tbody> </table> (1) (1) + (1) (1) (1)	ACC	CountDown	OUTPUT		15		67		C	15			14	14		51		3	14			13	13		32			88		x	5
ACC	CountDown	OUTPUT																														
	15																															
67		C																														
15																																
14	14																															
51		3																														
14																																
13	13																															
32																																
88		x																														
4(c)	Three marks from: - The assembler scans the assembly language instructions in sequence - When it meets a symbolic address checks to see if already in symbol table - If not, it adds it to the symbol table in the symbolic address column - If it is already in symbol table check if absolute address known - If the absolute address is known, it is entered in the appropriate cell - If the absolute address is not known mark / leave as unknown	Max 3																														
4(d)(i)	The op code / mnemonic / instruction table	1																														
4(d)(ii)	A – 1110 0110 0110 1000 (1) (1) B – E6 68 (1)	3																														



Question	Answer	
5(a)(i)	Three marks from: • Diaphragm / cone • (Voice) coil of wire • Spider / Suspension • (Permanent) Magnet • Basket • Dust cap • Outer frame	
5(a)(ii)	Four marks from: • Takes an electrical signal and translates it into physical vibrations to create sound waves • An electric current in the coil creates an electro-magnetic field • Changes in the audio signal causes the direction of the electric current to change • The direction of the current determines the polarity of the electro-magnet // changing the direction of the current changes the direction of the polarity of the electro-magnet • The electro-magnet is repelled by or attracted to the permanent magnet • Causing the coil to vibrate • The movement of the coil causes the cone / diaphragm to vibrate • That vibration is transmitted to the air in front of the cone / diaphragm as sound waves • The amount of movement will determine the frequency and amplitude of the sound wave produced	Max 4
5(b)(i)	One mark from: • External hard disk drive // SSD • External CD / DVD drive • Pen drive • Blu-ray drive	1
5(b)(ii)	Two marks from: • Additional secondary file storage // storing files • Backup of files • Archiving of files • Transfer files to second computer	Max 2



Question	Answer	
6(a)	Two marks from: - A system of moral principles - That guide behaviour / decision making - Based on philosophical / religious views - By example, e.g. respectful and considerate behaviour	
6(b)	One mark for identifying the issue One mark for correct principle One mark for possible action Max 2 issues (2 × 3 marks) 1 Uncomfortable with one of his colleagues Client and Employer // Management / Colleagues // Judgement // Self For example: Team building exercises // arranged meeting 2 Unfamiliar with programming language Self // Client and Employer // Product // Profession // Colleagues For example: Undergo training 3 Visit to unfamiliar workplace Client and employer // Management // Judgement // Profession // Colleagues For example: He should speak to his manager to discuss situation	Max 6

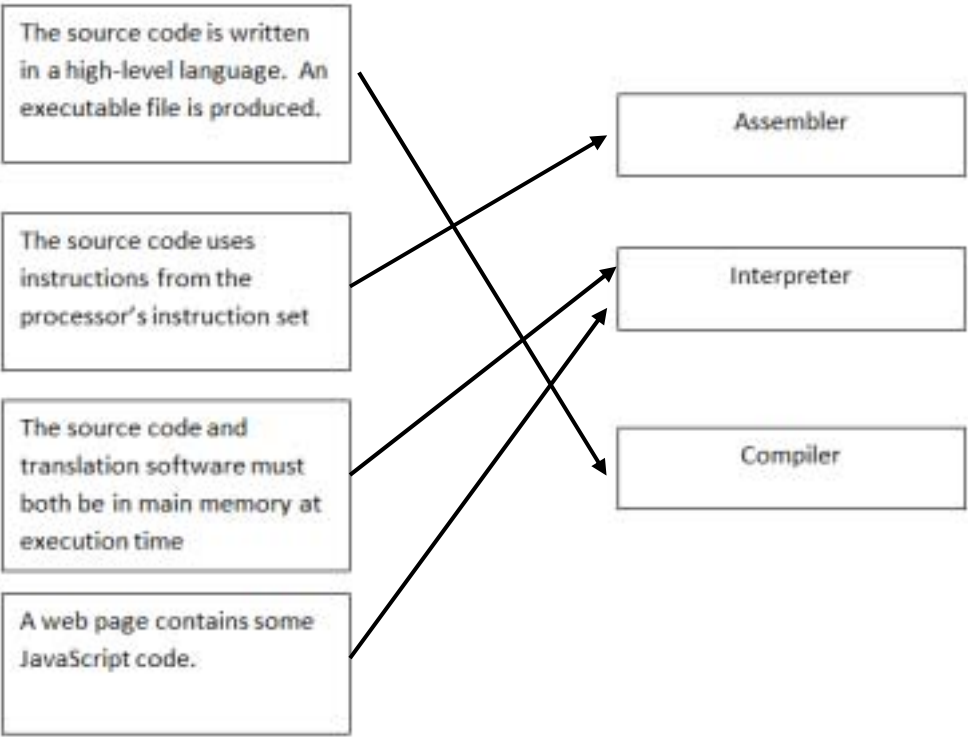
Question	Answer	Marks
7(a)(i)	<u>PatientID</u> } <u>DoctorID</u> } (1) <u>AppointmentDate, AppointmentTime</u> (1)	2
7(a)(ii)	One PATIENT attends many APPOINTMENTs One DOCTOR takes many APPOINTMENTs Special case for 1 mark only (only if no one to many relationships shown) Many PATIENTs are seen by many DOCTORs	2



Question	Answer	
7(b)	Two marks from: Either: - Add an attribute (for example <code>Attended</code>) - To the appointment table // <code>APPOINTMENT</code> Or: - Add an attribute (for example <code>AppointmentsMissed</code>) - To the patient table // <code>PATIENT</code>	
7(c)(i)	Available to work at both <code>SITE-A</code> and <code>SITE-B</code>	1
7(c)(ii)	<code>APPOINTMENT(Site, AppointmentDate, AppointmentTime, DoctorID, PatientID)</code>	1
7(d)(i)	One mark per line <code>UPDATE DOCTOR</code> <code>SET DoctorID = '017'</code> <code>WHERE DoctorID = '117';</code>	3
7(d)(ii)	1 Mark per bullet, max 2 - Referential integrity should be maintained // Referential integrity could be violated. - Data becomes inconsistent - There may be records in the <code>APPOINTMENT</code> table showing doctor ID 117 - The <code>APPOINTMENT</code> table might not be automatically updated - Records in the <code>APPOINTMENT</code> table will become orphaned	Max 2
7(e)	One mark per line <code>SELECT AppointmentDate, AppointmentTime</code> <code>FROM APPOINTMENT</code> <code>WHERE PatientID = '556';</code>	3

QUESTION 7.



Question	Answer	
2(a)	1 Mark for each correct connection  <pre> graph LR A["The source code is written in a high-level language. An executable file is produced."] B["The source code uses instructions from the processor's instruction set"] C["The source code and translation software must both be in main memory at execution time"] D["A web page contains some JavaScript code."] AS["Assembler"] I["Interpreter"] CO["Compiler"] A --> CO B --> AS C --> I D --> I </pre>	
2(b)(i)	1 Mark per bullet, max 2 • Once translated the compiler software is not needed to run the program • Compiled code should execute faster • Compiler produces an executable file • The executable file produced by a compiler can be distributed without users having sight of the source code // source code is kept secure // users are unable to make changes to the program • Cross-compilation is possible	2
2(b)(ii)	1 Mark per bullet, max 2 • Easier de-bugging • The interpreter stops when error encountered • error can be corrected in real time • The interpreter translates a statement then executes it immediately • Parts of the program can be tested, without all the program code being available.	2



Question	Answer
3(a)(i)	1 Mark per bullet, max 3 • Security is keeping the data safe • From accidental / malicious damage /loss • By example of need for security • Privacy is the need to restrict access to personal data • To avoid it being seen by unauthorised people • By example of need for privacy

QUESTION 8.



Question	Answer	
6(a)	1 mark per bullet point to max 2 • \$age • \$message • allowed	
6(b)	Allowed	1
6(c)	1 mark per bullet point • Passes the value in \$message / message variable ... • ... back to the code that called it // ... to replace the function call	2
6(d)	1 mark per bullet point to max 4 • The (client web) <u>browser</u> requests the web page from the web server • The web server accesses the page (from its hard drive) • The web server processes / executes the PHP code ... • ... and produces the HTML for the web page // ... the web server creates the web page • The web server returns the (HTML) web page to the client web <u>browser</u>	4

Question	Answer	Marks

QUESTION 9.



Question	Answer	Marks
4(a)(i)	1 mark per bullet point to max 3 . If no application to the bank max 2 • The bank's server holds the customer account data / website • ... and performs the requested tasks / processes. The computers used by the customers are the clients ... • ... that send requests to the server • ... which returns the results of the request • ... E.g. a customer asks for a list of recent transactions on their account.	3
4(a)(ii)	1 mark per example to max 2 e.g. • Sending and receiving email • A company or school centrally storing files • Using a print server • Using a file server	2
4(b)	1 mark per bullet point to max 3 • All data is held on the server // All processing is performed on the server • The server only sends the results of the query to the client • The client does not have access to all the data • ... which keeps the data more secure / consistent • Customers can be identified when they log in • ...from a database of usernames and passwords	3



Question	Answer									
4(c)(i)	1 mark per bullet point to max 2 - Less interference in the signal - The signal does not degrade as quickly // Needs less signal boosting - More secure // more difficult to hack - Greater bandwidth // <u>Faster</u> transmission speeds possible									
4(c)(ii)	1 mark per bullet point to max 2 - Initial installation cost is higher // Cable / hardware is more expensive to buy per metre - Specialists / trained personnel are needed to install / maintain - Difficult to terminate // The electronics at both ends are more complex - Fibres can break <u>when bent</u> - Only transmits data in one direction // Cannot transmit power, only data	2								
4(d)(i)	1 mark per table - Table CUSTOMER with fields FirstName, LastName, DateOfBirth, CustomerID - Table ACCOUNT_TYPE with fields AccountID, Name, Bonus - Table CUSTOMER_ACCOUNT with fields ID, CustomerID, AccountID, Amount CUSTOMER (<u>CustomerID</u>, FirstName, LastName, DateOfBirth) ACCOUNT_TYPE (<u>AccountID</u>, Name, Bonus) CUSTOMER_ACCOUNT (<u>ID</u>, CustomerID, AccountID, Amount)	3								
4(d)(ii)	1 mark for 1 or 2 correct Primary Keys, 2 marks for 3 correct Primary Keys CUSTOMER: CustomerID ACCOUNT_TYPE: AccountID CUSTOMER_ACCOUNT: ID	2								
4(d)(iii)	1 mark for both table name and Foreign Key Table: CUSTOMER_ACCOUNT Foreign Key: CustomerID / AccountID	1								
4(d)(iv)	1 mark for each correct term <table><tr><th>Definition</th><th>Term</th></tr><tr><td>All the data about one entity</td><td>Table / Relation</td></tr><tr><td>The data in one row of a table</td><td>Tuple / Record</td></tr><tr><td>A column or field in a table</td><td>Attribute</td></tr></table>	Definition	Term	All the data about one entity	Table / Relation	The data in one row of a table	Tuple / Record	A column or field in a table	Attribute	3
Definition	Term									
All the data about one entity	Table / Relation									
The data in one row of a table	Tuple / Record									
A column or field in a table	Attribute									

QUESTION 10.



Question	Answer	Marks
3(a)	1 mark per bullet point • multiply • addition • value1	2
3(b)	100	1
3(c)	To increment the value in <u>value1</u> (by one)	1



Question	Answer
3(d)	1 mark per bullet point to max 2 • <code>value1</code> will still be a string // No conversion to integer • it will concatenate the digits together rather than add • by specific example e.g. if 3 is input. 33 will be output rather than 6

QUESTION 11.



Question	Answer	
6(a)(i)	1 mark per bullet point to max 3 • <code>checkAnswer</code> • <code>Math.floor // floor</code> • <code>Math.random // random</code> • <code>getElementById</code> • <code>toString</code> • <code>alert</code>	
6(a)(ii)	1 mark per bullet point • 12 • 17 and 19	2
6(a)(iii)	14	1
6(a)(iv)	1 mark per bullet point to max 2 • Converts the number in the variable <code>answer</code> to a string • Compares the value in <code>userAnswer</code> with the string value of <code>answer</code> • The <code>if</code> determines which line is executed next	2
6(b)	1 mark per bullet point to max 4 • Using program libraries saves time • ... as she does not have to write some routines • Program library routines should already be thoroughly tested • ... so, Willow can use them without having to spend time checking they work / correcting errors • Program library routines may perform complex tasks • ... so, Willow won't have to work out how to code them	4