OCR
RECOGNISING ACHIEVEMENT

GCSE

Information & Communication Technology A

General Certificate of Secondary Education **GCSE 1994**

General Certificate of Secondary Education (Short Course) **GCSE 1094**

Mark Schemes for the Units

January 2007

1994/1094/MS/R/07J

Oxford Cambridge and RSA Examinations

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All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

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Mark Scheme 2357/01
January 2007

1 Ticks to be as shown:

Item	Hardware (✓)	Software (✓)
Database		✓
Joystick	✓	
Microphone	✓	
Monitor	✓	
Printer	✓	
Spreadsheet		✓

[5]

2 Ticks to be as shown:

Task	A4 scanner (✓)	Digital camera (✓)	Graphics package (✓)
Inputting a picture from paper to a computer	✓		
Editing a picture on a computer			✓
Taking a new picture for use on a computer		✓	

[3]

3 Ticks to be as shown:

	Laser Printer (✓)	Dot Matrix Printer (✓)
Making many high quality copies in an office	✓	
Printing on multi-part stationery in a garage		✓

[2]

4 (a) Ticks to be as shown:

	CD ROM (✓)	Hard Disk (✓)	Magnetic Tape (✓)
Selling computer games	✓		
Storing files on a network		✓	
Backing up files on a network			✓

[3]

(b) Two from:

- easily damaged
- small capacity
- not all computers have floppy disk drives
- other media is more suitable, eg: USB sticks more portable
- can carry viruses
- slow to access

[2]

5 Ticks to be as shown:

Original Image	Changed Image	Fill (✓)	Resize (✓)	Flip (✓)	Crop (✓)
		✓			
					✓
			✓		

[3]

6 (a) Ticks to be as shown:

	Value (✓)	Label (✓)	Formula (✓)
Cell B1 contains a		✓	
Cell C2 contains a	✓		
Cell D3 contains a			✓

[3]

(b) C2 **[1]**

(c) D4 **[1]**

(d) Three from:
- (use/make) backup/copy/save as a new version
- (to) removable media/another folder/on-line folder/Internet
- regularly/frequently/backup frequency
- use anti-virus software
- protect from hackers/firewall/security
- keep backup away from original/computer
- password protection to prevent others changing it
- make file read only

[3]

7 (a) browser **[1]**

(b) One from:
- use the “back” button
- use the “refresh” button
- use the “history” feature
- use the “favourites” feature
- use the “tab” feature
- use the “bookmark” feature

[1]

(c) (i) (hyper)link **[1]**

(ii) One from:
- move to another page/position on page/different part of site
- open a window/popup/open another file

[1]

8 (a)
- una

uthorised (access)/without permission
- to computer/to system/to data/to information

Do not allow illegal/editing/use of **[2]**

(b) Two from:

- program/application/code/software
- copies itself/replicates
- from one computer to another
- damages/deletes/alters/corrupts files
- alters the way the computer works/stops the computer working

Do not allow deletes all files.
Do not allow file in first bullet point **[2]**

9 (a) Two from:

- sensors send analogue data
- computers only use digital data
- convert (the analogue signals/data from sensors into digital format)
- protect the computer input circuits
- protect users from electrical shock
- can connect more than one/different sensors at the same time

Do not allow water damage to computers **[2]**

(b) One from:

- must have a dedicated computer
- need for trailing wires
- sensors/wiring have to be waterproof
- maintenance of the system
- data needs to be secure and protected
- (data can be lost if) breakdowns/faulty components occur
- staff employment/training issues

[1]

(c) Six from:

- data exported
- to a data handling package/spreadsheet/database
- put into table/graphs/charts
- legends/titles/notes/comments added
- (table/graphs/charts) exported to report in eg DTP or WP package
- displayed on screens/printed out
- data used to control conditions in pool
- control temperature
- by turning on/off heaters
- control cleanliness
- by adjusting filters/chemicals/fresh water
- predictions/"what if" scenarios
- automatic alerts (to pool staff of changes in conditions)

[6]

(d) Named suitable sensor

- light
- pressure/touch/contact

Use of sensor

- detect a change of light intensity
- detects contact with the wall
- stops robot/alters direction
- data sent to on-board/remote computer/microprocessor
- computer/microprocessor uses data to make decisions/compare with inbuilt data **[2]**

10 (a) Three from:

- write email/subject
- attach article/use of send to in application/copy (and paste) content into email
- address email
- send

[3]

(b) Two from:

- can edit report
- can extract sections from report
- can forward report
- can print more copies
- easier to respond
- storage advantages/backup
- can be inserted directly into report

[2]

11 One from:

- to prevent spelling error/mistyping/typing errors
- verification

[1]

12 (a) Answers in table as follows:

Field	Example Data	Data Type
Player ID	2342	Number/ numeric/ integer
First name	Megan	Alphanumeric
Date of birth	15/10/1992	Date/alphanumeric/text/string
Position played	Goal defence	Alphanumeric/ text/string
Telephone number	01223 24293	Alphanumeric/ text/string
Available after school	Yes	Boolean

[4]

(b) (i) Player ID **[1]**

(ii) It is unique/always different **[1]**

(c)

- check/set of rules
- (that the data is) reasonable

Do not allow data is correct. **[2]**

(d) One from:

- presence
- only numbers/type
- length/number of digits/4 numbers or digits
- range
- format
- existence check

Accept valid examples **[1]**

Mark Scheme 2357/02
January 2007

1	(a)	• unauthorised (access)/without permission • to computer/to system/to data/to information **Do not allow** illegal/editing/use of

[2]

(b) Two from:
- program/application/code/software
- copies itself/replicates
- from one computer to another
- damages/deletes/alters/corrupts files
- alters the way the computer works/stops the computer working

Do not allow deletes all files.
Do not allow file in first bullet point **[2]**

2 (a) ***Answers in table as follows:***

Field	Example data	Data type
Player ID	2342	Number/numeric/ integer
First name	Megan	alphanumeric
Date of birth	15/10/1992	Date/alphanumeric/ text/string
Position played	Goal defence	Alphanumeric/text /string
Telephone number	01223 24293	Alphanumeric/text /string
Available after school	Yes	Boolean

[4]

(b) (i) Player ID **[1]**

(c) (ii) It is unique/always different **[1]**

	(c)	• Check/set of rules • (that the data is) reasonable **Do not allow** data is correct.

[2]

(d) One from:
- presence
- only numbers/type
- length/number of digits/4 numbers or digits
- range
- format
- existence check **[1]**

Accept valid examples.

3	(a)	**Three from:** • write email/subject • attach article/use of send to in application/copy (and paste) content into email • address email • send

[3]

(b) Two from:
- can edit report
- can extract sections from report
- can forward report
- can print more copies
- easier to respond
- storage advantages/backup
- can be inserted directly into report

[2]

4 One from:
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- stops robot/alters direction
- data sent to on-board/remote computer/microprocessor
- computer/microprocessor uses data to make decisions/compare with inbuilt data

[4]

6 Example points and expansions:

- Fraud
  - Using stolen credit cards
- Hacking
  - interception of credit/bank card details
  - use of your credit/bank card
- Non-delivery
  - pay for goods that never materialise
- Incorrect goods supplied
  - pay for wrong goods
  - difficulty in obtaining replacements
- Can't view/try goods
  - supplied with unwanted goods
- Use of secure sites
  - for transfer of personal/credit/debit card details
- Use of encryption
  - To protect/hide details
- Use of logons
  - using passwords and user-IDs
- Securing personal/credit/debit card details
  - by eg not allowing cookies/storage on vendor servers
  - free insurance to secure goods
  - use of separate password/security number
- Shop from home
  - Convenience of home delivery
  - No need for cash
  - Shop any time
  - Can check stock availability
  - Have to wait for goods
  - Housebound
- Can be delivered
  - Have to wait for delivery
  - Pay for delivery
  - Can track delivery
- Goods can cost less
  - Can compare prices
  - Reduced overheads
- Restrictive payment methods
  - Can't use cash
  - Must have credit/debit card

Marks to be awarded as follows:

	1 point	2 points	3 or more points
No expansions	1	2	3
1 expansion	2	3	4
2 expansions	3	4	5
3 or more expansions	4	5	6

One mark, up to maximum, is available for a reasoned conclusion.

[6]

7 (a) Two from:

- providing (user) instructions
- recording the development/what was done
- proof of development/ownership
- testing
- providing the user with help
- listing hardware requirements
- technical documentation
- feedback for development

[2]

(b) Two from:

- screen dumps of tests
- annotated printout of tests
- results/evidence of user testing
- user acceptance/feedback
- proof that the outcome matches what was required/specification requirements compared with actual performance
- a statement of what does not work

[2]

8 Example points and expansions:

- Accurate measurements
  - allows scale drawings
  - can exported to CAM
- Preset shapes
  - stored in library for easy access
  - easy replication of items
- 3D views/Modelling
  - gives realistic views.
  - allows what ifs
- Fly-through/walk through
  - allows various viewpoints
  - allows walk through
- Zoom feature
  - allows detailed drawings/views.
- Shading/texture/colour
  - for perspective/realistic appearance
- Library of objects
  - no need to draw each object from scratch
  - accurate drawings available
- Layering
  - allows objects to be placed in front/behind others.
- Grouping
  - for (easier) editing/movement of objects
- Copy/paste
  - for easier replication
  - allows (easy)moving of objects.
- Analysis/Calculations
  - for costing/estimates for manufacture
- Rotate
  - allows examination of design from different sides/perspective/angles

Do not allow standard features of software applications eg print, edit, save, delete etc.

Marks to be awarded as follows:

	1 point	2 points	3 or more points
No expansions	1	2	3
1 expansion	2	3	4
2 expansions	3	4	5
3 or more expansions	4	5	6

[6]

9 Example points and expansions:

- Robots in manufacturing
  - enhanced safety
- more IT workers needed/ ICT services
  - to maintain/install computer systems
- Job changes
  - retraining needed
- Flexible hours
  - work can be done at any time
- Internet/remote access
  - can work from home
  - research (online)
- Job satisfaction
  - boring/repetitive jobs now done by computer controlled machines
- ICT and communications
  - no need to travel to meetings
  - email
- Work rate
  - improved productivity
- Improved presentation of work
  - Use of ICT tools eg presentation, w/p software etc.
  - Backups/security of work
  - Error checking eg spell, grammar etc.
- Health and safety
  - RSI/back problems etc.
  - Change in working practices eg enforced breaks, eyesight checks etc.

***Marks to be awarded as follows*:**

	1 point	2 points	3 or more points
No expansions	1	2	3
1 expansion	2	3	4
2 expansions	3	4	5
3 or more expansions	4	5	6

***One mark, up to maximum, is available for a reasoned conclusion*.**

[6]

10 Answers from:

Storage medium	Advantage	Disadvantage
Hard disk	• large capacity • fast access • can be removable • can be networked	• often not portable • can be expensive to purchase
Tape	• large capacity • relatively cheap media	• prone to failure • serial access • slow to access
USB/Key sticks/Flash memory	• *cheap to purchase • easy to use • portable • most computers can use them • can be reusable	• relatively small capacity • easily lost
CD-R(W)s/ DVD-R(W)s	• *cheap to purchase • can be reusable • larger capacity than floppy or USB/Key sticks/Flash memory • portable • easy to store	• easily damaged
Zip/Jaz disks	• large capacity • durable	• expensive to purchase • slow to access
Floppy disks	• re-usable	• small capacity • slow to access • easily lost • easily damaged • some computers have no floppy drive

*Cheap to purchase must be part of a comparison.

***Marks to be awarded as follows*:**

A maximum of 4 marks if only one medium is discussed.
A maximum mark of 4 for all advantages or all disadvantages.
No marks for medium unqualified.

[5]

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<table>
<tr><th>Question</th><th>Answer</th><th>Mark</th></tr>
<tr><td>1</td><td>• Mouse
• Touch screen.</td><td>2</td></tr>
<tr><td>2</td><td>• A desktop publisher
• A data-base
• A word-processor
• A spreadsheet.</td><td>4</td></tr>
<tr><td>3</td><td>• Multimedia
• Icons
• Bar-code reader
• Graphics tablet.</td><td>4</td></tr>
<tr><td>4</td><td><table><tr><td></td><td>✓</td></tr><tr><td>Give different names and passwords to staff and students.</td><td>✓</td></tr><tr><td>Install a firewall.</td><td>✓</td></tr><tr><td>Back-up data regularly.</td><td></td></tr><tr><td>Lock the rooms where the computers are kept.</td><td>✓</td></tr><tr><td>Use virus checkers.</td><td></td></tr><tr><td>Ensure all software is licensed.</td><td></td></tr></table></td><td>3</td></tr>
<tr><td>5</td><td><table><tr><td></td><td>✓</td></tr><tr><td>Automatic pilot systems.</td><td>✓</td></tr><tr><td>Clearing cheques in a bank.</td><td></td></tr><tr><td>Controlling the environment in a greenhouse.</td><td>✓</td></tr><tr><td>Producing telephone bills.</td><td></td></tr><tr><td>Printing payslips.</td><td></td></tr><tr><td>Controlling a nuclear reactor.</td><td>✓</td></tr></table></td><td>3</td></tr>
</table>

<table>
<tr><th>Question</th><th>Answer</th><th>Mark</th></tr>
<tr><td>6</td><td>
<table>
<tr><th></th><th>RAM</th><th>ROM</th></tr>
<tr><td>Stores the data being processed</td><td>✓</td><td></td></tr>
<tr><td>Data can be changed.</td><td>✓</td><td></td></tr>
<tr><td>Data is fixed when the chip is made.</td><td></td><td>✓</td></tr>
<tr><td>Data is lost when the computer is switched off.</td><td>✓</td><td></td></tr>
</table>
</td><td>4</td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td>7</td><td>Two from:

• Type of card
• PIN
• Account number
• Bank code
• Sort/Bank branch code
• Expiry date.

Accept: Withdrawal limit.</td><td>2</td></tr>
<tr><td>8 (a)</td><td>Advantages:

Two from:
• Large amount of information available
• Up-to-date information
• Increased speed of results
• Multiplicity of sources
• Ability to narrow search.</td><td>2</td></tr>
<tr><td>(b)</td><td>Disadvantage:

One from:
• Inaccurate information may be found/Information found may not be reliable
• Too much information
• Correct skills needed
• Can be distracted.</td><td>1</td></tr>
<tr><td>(c)</td><td>Two from:
• Always connected
• Speed of downloading files
• Speed of connection
• Use of phone/fax on same line whilst connected
• No need to have second line for phone/fax
• More stable connection
• No timeout disconnections.</td><td>2</td></tr>
</table>

<table>
<tr><th>Question</th><th>Answer</th><th>Mark</th></tr>
<tr><td>(d)</td><td>One from:
• DVD
• CD of any type
• Removable HDD
• Memory stick/pen drive/RAM stick
• Zip drive
• Jaz drive.

Accept: Devices.</td><td>1</td></tr>
<tr><td>9 (a)</td><td>Two from:
• Interviews
• Questionnaires/surveys
• Observations
• Examine documentation.</td><td>2</td></tr>
<tr><td>(b)</td><td>Two from:
• There is always a safety-net/ Backup
• The new system may crash
• The new system performs unexpectedly
• To check if the new system is running correctly
• Results from each can be compared
• Not all workers have to be trained straight away
• Allows a slow but steady introduction/helps users to adjust to new system gradually
• Business can still continue with old system
• Errors (in data transfer from old to new) only show up when system is running.
• Bugs can be found/removed</td><td>2</td></tr>
<tr><td>10</td><td><table><tr><th>Stage</th></tr><tr><td>(C)</td></tr><tr><td>(E)</td></tr><tr><td>F/B</td></tr><tr><td>B/F</td></tr><tr><td>A</td></tr><tr><td>D</td></tr></table>
All correct, 4 marks
3 in correct sequence, 3 marks
2 in correct sequence/correct place, 2 marks
1 in correct place, 1 mark.</td><td>4</td></tr>
</table>

Question	Answer	Mark
11	**Three from:** • They must register with the DPA • The information must be obtained fairly • The information must be obtained/processed lawfully • The data will be held only for one or more specified and lawful purpose • The data will not be used for anything other than that [specified] purpose • The data will not be disclosed for anything other than that purpose • The data held for any purpose must be **adequate** in relation to that purpose • The data held for any purpose must be **relevant** in relation to that purpose • The data held for any purpose must not be excessive in relation to that purpose • The data must be accurate. • The data must not be transferred to countries without any adequate DPA (accept outside EU) • The data must be kept up to date • That data must not be kept for longer than necessary • That an individual whose data is held is entitled to be informed, **upon request** by them of any data that is held • An Individual can have access to such data held by them • Where appropriate, to have such data corrected or erased. • Data must be secure.	3

12 (a)	**Two from:** • Number of backing storage devices • Type of backing storage devices • Capacity/size of (backing) storage (devices) • Manufacturers/make • Types of (internal) memory • Capacity/size of (internal) memory • CPU/Processor speed • CPU/Processor type • Type of sound card • Type of graphics card • Type of network card • How to connect hardware • How to configure/install/set up hardware	**2**
(b)	**Three from:** • Set-up/installation procedures • Start-up procedures • Example screen shots/Screen layouts • Registration instructions • Testing instructions • (Telephone) help line • Internet help site • Internet bulletin boards • Users of similar systems • Specialist chat-room • Troubleshooting guide • How to use the system/tutorial • How to load software/how to install software • How to run software • How to save a file • How to search • How to sort • How to print • Print formats • Error messages • Software requirements • Sample runs • Examples of input/output/forms/reports/letters/screens	**3**

Question	Answer	Mark
13 (a) (i)	**One from:** • By coding it • S, M, H, T etc • By not writing the whole word/by only writing part of the word • User drop down table.	1
(ii)	**Two from:** • Quicker to enter/write down • Fewer (data entry) errors • Quicker to verify • Saves storage space • Simpler/easier validation (rules).	2
(b)	Validation.	1
(c)	Correct order only • 1903 • 2007	2
14	**Three from:** • Information stored electronically immediately • Time saved as no/reduced registration time needed… • …or at beginning of each lesson • Can be linked to swipe cards • Helps finds absentees from individual lessons • May reduce number of students missing lessons • Totals calculated automatically • Registration details automatically sent to office/central point • Produces attendance certificates automatically • Reduces human error • Saves office space. • Quicker/easier access to information/statistics • Improved data security • Statistics can be processed more easily (sort, search…) • Letters can be sent home automatically • Quicker data entry • Easier to compile reports/graphs	3

Question	Answer	Mark
15 (a)	**Four from:** Design of: • Documents • File structure/valid examples • Input forms • Input screens/user interface • Output screens • Printed output • Any validation needed • Flow charts • Structure charts etc • Data capture • Reports • Choosing hardware • Choosing software • Deciding on test data • Queries • Error messages	**4**

(b)	**Maximum one for stage plus two maximum for description:** • **Analysis** • Research (by observation/interview/questionnaires/examine documentation) • Record information found • Identify problems with current procedures • Establish input, output and processing needed • Identify suitable hardware (and software) • Identify user requirements. • **Testing** • Use test data • Using normal/abnormal/extreme • To ensure all parts of the system are working correctly • To identify any improvements required • Identify/document errors • User testing/testing to see if it meets user requirements • Test to see if meets design brief • **Implementation** • Create data/file structures • Create inputs/outputs • Set up any validation • Choose method of implementation • Using direct changeover (big bang)/phased/implementation/parallel running • Use test data • Using normal/abnormal/extreme • To ensure all parts of the system are working correctly • To identify any improvements required • Train staff to use the system. • **Documentation** • State the purposes • Limitations of system • State the hardware and software requirements • How to use the system • Input and output formats • Sample runs • Error messages. • **Evaluation** • Compared solution with original design • Conclusions drawn from testing • Any modifications and improvements made • Any improvements needed • Getting user feedback (about new system). • …using questionnaires/interviews • whether user requirements were met.	**3**
		Total: 60 marks

Mark Scheme 2359/02
January 2007

<table>
<tr><th>Question</th><th>Answer</th><th>Mark</th></tr>
<tr><td>1</td><td>Two from:
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• To check if the new system is running correctly
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<table>
<tr><th colspan="2">Question</th><th colspan="5">Answer</th><th>Mark</th></tr>
<tr><td>5</td><td>(a)
(i)</td><td colspan="5">One from:
• By coding it
• S, M, H, T etc
• By not writing the whole word/by only writing part of the word
• User drop down table.</td><td>1</td></tr>
<tr><td></td><td>(ii)</td><td colspan="5">Two from:
• Quicker to enter/write down
• Fewer (data entry) errors
• Quicker to verify
• Saves storage space
• Simpler/easier validation (rules).</td><td>2</td></tr>
<tr><td></td><td>(b)</td><td colspan="5">Validation.</td><td>1</td></tr>
<tr><td></td><td>(c)</td><td colspan="5">Correct order only
• 1903
• 2007</td><td>2</td></tr>
<tr><td>6</td><td>(a)</td><td colspan="5">One from:
• Any data item outside the allowable range
• Any number lower than the lowest allowable number
• Any number higher than the highest allowable number
• Any number outside the allowable range.
• Wrong data type input e.g. text in numeric field.</td><td>1</td></tr>
<tr><td></td><td>(b)</td><td colspan="5">One from:
• Data at the ends of the allowable range
• The lowest allowable number
• The highest allowable number.</td><td>1</td></tr>
<tr><td></td><td>(c)</td><td>Number of books</td><td>Normal (✓)</td><td>Abnormal (✓)</td><td>Extreme (✓)</td><td>4</td></tr>
<tr><td></td><td></td><td>2</td><td>(✓)</td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>1</td><td></td><td></td><td>✓</td><td></td></tr>
<tr><td></td><td></td><td>7</td><td></td><td>✓</td><td></td><td></td></tr>
<tr><td></td><td></td><td>6</td><td></td><td></td><td>✓</td><td></td></tr>
<tr><td></td><td></td><td>-1</td><td></td><td>✓</td><td></td><td></td></tr>
</table>

Accept normal for 1 book and 6 books

Question	Answer	Mark
7		7

- **Icons/small pictures**
- Represents many commands
- The commands do not need typing in
- Increases the speed which instructions can be given
- No errors are made typing in instructions
- Allows the new/inexperienced user to learn how to use the computer
- quicker/easier to understand GUI (rather than commands)
- No need to remember/learn commands

- **Windows**
- Can have individual screens of information
- May be manipulated to view more than one screen at a time
- Enable multi-tasking to occur
- On-screen advice can be viewed at the same time as the problem encountered

- **Menus**
- Provide a list of options to choose from
- Options may be selected using keyboard/mouse/light pen etc
- The choices do not need typing in
- Increases speed which choices can be made
- Fewer errors made when selecting choices
- Allows the new/inexperienced user to learn how to use the computer quicker
- **Pointers**
- Move around the screen in response to movements of the controlling device (mouse/joystick/roller-ball/nipple/touch pad etc)
- Useful/extra information given to user by changing shape of pointer
- Allows user to move quickly around the application/between menus

8	(a)	**Two from:** • A network • Global/worldwide • connected through telecommunication links • using TCP/IP protocols	**2**
	(b)	**3 from:** • **Parental settings** [1] allow parents to control viewable content [1] • **Home page** [1] display ISP specific content/facilities/help [1] • **Links to other sites** [1] to allow access to ISP recognised/approved sites [1] • **Bulletin boards** [1] provides electronic 'notice-board' to hold posted messages from members • **Chat rooms** [1] allows like minded users to 'converse' using IRC [1] • **News** [1] provides up-to-date world-wide events/weather [1] • **Search engine** [1] to allow user to find information (using key-words/ phrases) [1] • **Browser** [1] to allow user to access web page • **Tutorials** [1] to show the user how to navigate the web • **Spam protection** [1] to prevent/filter unsolicited e-mails • **Virus protection** [1] to block unwanted programs • **Firewalls** [1] to prevent unauthorised access. • **Spyware** [1] to prevent unauthorised monitoring of computer system [1] • **Video conferencing –** [1] using the internet to communicate visually [1] • **VOIP –** [1] allows users with the same ISP to use the internet as a phone [1] allows cheaper phone calls [1] • **Dedicated Modem/ Broadband connection** [1] to allow users to connect to the ISP/internet [1] • **Web hosting** [1] to allow user to create own website [1] • **Online support service** [1] to provide instant help [1] • **Instant messaging** [1] allowing users to converse over the Internet [1]	**6**

Question	Answer	Mark
9	**Three from:** • Information stored electronically immediately • Time saved as no/reduced registration time needed… • …or at beginning of each lesson • Can be linked to swipe cards • Helps finds absentees from individual lessons… • …so can improve security if used • May reduce number of students missing lessons • Totals calculated automatically • Registration details automatically sent to office/central point • Produces attendance certificates automatically • Reduces human error • Saves office space. • Quicker/easier access to information/statistics • Improved data security • Statistics can be processed more easily (sort, search…) • Letters can be sent home automatically • Quicker data entry • Easier to compile reports/graphs	3

10 (a)	**Four from:** Design of: • Documents • File structure/valid examples • Input forms • Input screens/user interface • Output screens • Printed output • Any validation needed • Flow charts • Structure charts etc • Data capture • Reports • Choosing hardware • Choosing software • Deciding on test data • Queries • Error messages	**4**

(b)	**Maximum one for stage plus two maximum for description:** • **Analysis** • Research (by observation/interview/questionnaires/examine documentation) • Record information found • Identify problems with current procedures • Establish input, output and processing needed • Identify suitable hardware (and software) • Identify user requirements. • **Testing** • Use test data • Using normal/abnormal/extreme • To ensure all parts of the system are working correctly • To identify any improvements required • Identify/document errors • User testing/testing to see if it meets user requirements • Test to see if meets design brief • **Implementation** • Create data/file structures • Create inputs/outputs • Set up any validation • Choose method of implementation • Using direct changeover (big bang)/phased/implementation/parallel running • Use test data • Using normal/abnormal/extreme • To ensure all parts of the system are working correctly • To identify any improvements required • Train staff to use the system. • **Documentation** • State the purposes • Limitations of system • State the hardware and software requirements • How to use the system • Input and output formats • Sample runs • Error messages. • **Evaluation** • Compared solution with original design • Conclusions drawn from testing • Any modifications and improvements made • Any improvements needed • Getting user feedback (about new system). • …using questionnaires/interviews • whether user requirements were met.	**3**

11	**Four from:** • User interviewed for requirements • Input screen/user interface is designed/created • Output format is designed/created • Set of questions that are going to be asked need to be designed/created. • Structure of knowledge base designed • Rule base designed/created • Inference engine designed/created • Knowledge from experts is collected • Knowledge entered into computer • Into Knowledge base.	**4**
12		

	1 point	2 points or more
No exps	1	2
1 exps	2	3
2 or more exps	3	4
3 or more exps	4	5

	Points	Expansions	5
	• Could use email	• Portable devices can be stolen • Provided he has an email address • Requires internet access at home. • Files may be too large for email attachments • Email may not arrive (must give valid reason e.g. ISP server is down)	
	• He could save his work to a floppy	• Too small for large multimedia files • Some computers do not have floppy disk drives	
	• CD-R(W)	• School system would have to have CD drive • Some CDs can only be written to once	
	• DVD/RW	• School system would have to have DVD drive • Some CDs can only be written to once	
	• Mobile phone/PDA	• Easily broken • Easily misplaced/lost/stolen	
	• memory stick	• Easy to lose • Network administrator may need to approve use	
	• laptop	• Bulky • Target for thieves	
	• iPOD/MP3	• Would need a compatible device/software at home/school.	
	• FTP	• Would need internet access	
	• Hard copy	• would have to re enter it/scan it at home	
	• Use own website	• Provided not blocked • Provided downloads are allowed • Would need permission from network administrator	
	One mark, up to maximum, is available for a reasoned conclusion.		

Total: 60 marks

General Certificate of Secondary Education
ICT A (1094/1994)
January 2007 Assessment Series

Unit Threshold Marks

Unit		Maximum Mark	a*	a	b	c	d	e	f	g	u
2357F	Raw	60				41	37	34	31	28	
	UMS	55				48	40	32	24	16	0
2357H	Raw	60	43	38	33	28	22	19			0
	UMS	80	72	64	56	48	40	32			0
2358	Raw	60	57	51	42	34	28	22	16	10	0
	UMS	120	108	96	84	72	60	48	36	24	0
2359F	Raw	60				32	28	24	20	16	0
	UMS	55				48	40	32	24	16	0
2359H	Raw	60	38	33	28	23	18	15			0
	UMS	80	72	64	56	48	40	32			0
2360	Raw	60	53	44	35	26	22	19	16	13	0
	UMS	120	108	96	84	72	60	48	36	24	0

Specification Aggregation Results

Overall threshold marks in UMS (i.e. after conversion of raw marks to uniform marks)

	Maximum Mark	A*	A	B	C	D	E	F	G	U
1094	200	180	160	140	120	100	80	60	40	0

	Maximum Mark	A*	A	B	C	D	E	F	G	U
1994	400	360	320	280	240	200	160	120	80	0

The cumulative percentage of candidates awarded each grade was as follows:

	A*	A	B	C	D	E	F	G	U	Total No. of Cands
1094	2.0	10.6	38.0	65.3	82.1	93.2	98.0	100.0	100.0	457
1994	5.6	19.4	55.6	81.9	95.8	100.0	100.0	100.0	100.0	195

For a description of how UMS marks are calculated see;
http://www.ocr.org.uk/exam_system/understand_ums.html

Statistics are correct at the time of publication

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