

Oxford Cambridge and RSA Examinations



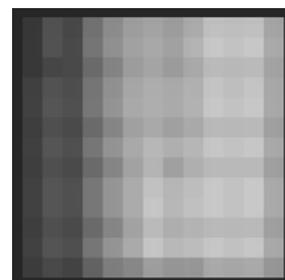
**GENERAL CERTIFICATE OF SECONDARY EDUCATION
GENERAL CERTIFICATE OF SECONDARY EDUCATION
(SHORT COURSE)**

**GCSE 1994
GCSE 1094**

INFORMATION AND COMMUNICATION TECHNOLOGY SPECIFICATION A

**COMBINED MARK SCHEME
AND REPORT FOR THE UNITS
JANUARY 2005**

GCSE



1094/1994/MS/R/05J

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REPORT ON THE UNITS

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RECOGNISING ACHIEVEMENT

Mark Scheme 2357/01
January 2005

1 (a) *The ticks should be:*

Item of hardware	Input	Storage	Output
Speakers			✓
Microphone	✓		
Mouse	✓		
CD Drive		✓	

[4]

(b) Scanner.

[1]

(c) Rotate.
Crop.

[2]

(d) *Two from:*

- Can print in colour.
- Can print to glossy/photo quality paper.
- Quiet in operation.
- Small (footprint on desk)/compact.
- Good/clear (colour) quality.
- Cheap to purchase.

[2]

(e) *Two from:*

- No paper in the printer.
- Paper jam.
- Out of ink.
- Printer not on-line/switched on/Printer off-line/switched off.
- Printer not connected/cable has come loose.
- Wrong type of cable.
- Wrong printer selected for printing.
- Access rights to the printer are denied.
- Printer set to wrong emulation.
- No driver has been set up in the computer.
- The margins might be outside the printable area.
- Print queue.

[2]

2 *Three from:*

- Icons (on desktop).
- Resizable windows.
- Menus.
- Pointer on screen/use a mouse/pointing device.
- (Multiple) windows/dialogue box.
- Scroll.

[3]

3 *The ticks should be:*

	RAM	Floppy Disk	CD - ROM
Data cannot be rewritten to it			✓
It has the fastest access time	✓		
It is removable with the smallest storage capacity		✓	
It loses its stored data when the power is switched off	✓		

If more than one tick in a row, then 0 marks for that row

[4]

4 (a) Unauthorised access (to computer systems or programs or data that do(es) not belong to the hacker). **[1]**

(b) *One from:*

Deletion/loss of files/data.

Alteration/editing of files/data.

Theft of files/data/personal details.

Changing of passwords/access rights.

Denial of access to folders/files.

A social/criminal problem e.g. blackmail, fraud, invasion of privacy.

Virus.

[1]

5 (a) *Two from:*

Converts digital data to analogue signals (1) and vice versa (1).

Converts analogue signals to digital data (1) and vice versa (1).

Telephone lines can only carry analogue data/signals.

Computers only use digital data.

[2]

(b) *One from:*

Data stays in digital format.

No need to convert to analogue signals.

Permanent connection

[1]

- (c) *Two from:*
 Ignore/close the email.
 Mark the email as unread.
 Print the email.
 Delete the email.
 Reply to the email.
 Forward the email.
 Save the email/attachment.
 Move the email to a folder.
 Archive the email.
 Block sender.
 Mark as spam.
 Add sender to address book. [2]
- (d) *Two from:*
 Open email package.
 Write email.
 Address email.
 Virus check file.
 Compress file.
 Send email.
- For third mark*
 Insert image into email body/attachment. [3]
- (e) *Two from:*
 Can be edited.
 Can be copy/pasted/imported into another application.
 Can be forwarded to another user.
 Usually received soon after being sent/quicker than post.
 Can choose the output format e.g. print or screen.
 Image not damaged/folded/lost.
 Can be received anywhere he likes.
 Can see animated images. [2]
- 6 (a) *Two from:*
 Accurate time intervals.
 More accurate readings/less errors.
 No forgetting to record the reading.
 Data already in digital format/no need to manually enter data into computer.
 Computers do not get tired.
 Can record data for long periods of time.
 Person can do other things while experiment proceeds/can record out of school hours/ no need for human supervision. [2]
- (b) Cell B9/A10/correct identification of the cell. [1]
- (c) (=)SUM(B2:B7).
One mark for the function.
One mark for the range.
- Allow R1C1 notations and other valid notations.*
- One mark for any other formula that works. [2]

- (d) *Three from:*
Select/highlight the data/cells A2 (or A1) to B7.
Copy/paste data into specialised graphing package/choose/select graph wizard/option.
Choose/select bar chart/type of graph (from menu).
Choose/select graph style/2D/vertical/column/colours.
Add titles/axis labels. [3]
- (e) *One from:*
Cut/copy and paste/drag and drop.
Save/export and import. [1]
- (f) (i) *One from:*
Centre.
Change font/serif to sans-serif.
Enlarge.
Change style e.g. colour/italics. [1]
- (ii) *One from:*
Re-position to e.g. centre or left.
Wrap text around/beside the graph.
Enlarge.
Change texture/colour etc
Give the chart a title
Change type of chart
Add values. [1]
- 7 (a) *Two from:*
Ph.
CO₂.
Humidity.
Moisture.
Pressure.
Light.
Flow.
Do not accept dampness or water [2]
- (b) *Two from:*
Create a backup/copy.
Keep archives.
Store the backup/copy/archive elsewhere.
Printout the data.
Save the data. [2]
- (c) *Two from:*
Protect the computer input circuits.
Convert the analogue signals/data from the sensors.
To digital data/signals for the computer.
Provide output to the motor.
Indication of a need for change.
Multiple signals going in and one going out. [2]

- 8 (a)** Boolean/Yes or No/ Y, N *for school dinners.*
Number/numeric/whole number/integer/auto number *for Pupil ID Number.*
Alphanumeric/text/string/memo *for address.*
Alphanumeric/text/string/memo *for contact telephone number.* **[4]**
- (b) (i)** Unable to sort/search on individual address lines/street name/town/city/post code/harder to search. **[1]**
- (ii)** Use separate fields for each address line/street name/town/city/post code.
Accept 'separate them'. **[1]**
- (c)** GENDER = F AND STAY FOR SCHOOL DINNERS = YES
Accept alternatives that work e.g.
STAY FOR SCHOOL DINNERS = YES AND GENDER = F
GENDER =F *to produce a subset, and then*
STAY FOR SCHOOL DINNERS = YES *on the subset.*
Marks should be awarded as follows:
1 mark for each correct search criterion
e.g. STAY FOR SCHOOL DINNERS = YES
e.g. GENDER = F
1 mark for the AND or description of search on a subset. **[3]**
- (d)** It is unique. **[1]**
- (e)** Checking that the data is correctly copied/transferred. **[1]**
- (f)** Visual checking.
Double entry. **[2]**

Total [60]



RECOGNISING ACHIEVEMENT

Mark Scheme 2357/02
January 2005

- 1 *Two from:*
 Converts digital data to analogue signals (1) and vice versa (1)
 Converts analogue signals to digital data (1) and vice versa (1)
 Telephone lines can only carry analogue data/signals.
 Computers use only digital data. [2]
- 2 (a) *Two from:*
 Accurate time intervals.
 More accurate readings/less errors.
 No forgetting to record the reading.
 Data already in digital format/no need to manually enter data into computer.
 Computers do not get tired.
 Can record data for long periods of time.
 Person can do other things while experiment proceeds/can record out of school hours/no need for human intervention. [2]
- (b) (=)SUM(B2:B7).
One mark for the function.
One mark for the range.

Allow R1C1 notations and other valid notations.

One mark for any other formula that works. [2]
- (c) *Three from:*
 Select/highlight the data/cells A2 (or A1) to B7.
 Copy/paste data into specialised graphing package/choose /select graph wizard/option.
 Choose/select bar chart/type of graph (from menu).
 Choose/select graph style/2D/vertical/column/colours.
 Add titles/axis labels. [3]
- 3 (a) Boolean/Yes or No/Y, N for *School dinners*
 Number/numeric/whole number/integer/*auto-number for Pupil ID Number*
 Alphanumeric/text/string /memo for *Address*.
 Alphanumeric/text/string/memo for *Contact telephone number*. [4]
- (b) (i) Unable to sort/search on individual address lines/street name/town/city/post code harder to search. [1]
- (ii) Use separate fields for each address line/street name/ town/city/post code.
 Accept/separate them. [1]

- (c) GENDER = F AND STAY FOR SCHOOL DINNERS = YES

Accept alternatives that work e.g.

STAY FOR SCHOOL DINNERS = YES AND GENDER = F

GENDER =F *to produce a subset, and then*
STAY FOR SCHOOL DINNERS = YES *on the subset.*

Marks should be awarded as follows:

1 mark for each correct search criterion

e.g. STAY FOR SCHOOL DINNERS = YES

e.g. GENDER = F

1 mark for the AND or description of search on a subset.

[3]

- (d) It is unique.

[1]

- (e) Checking that the data is correctly copied/transferred.

[1]

- (f) Visual checking.
Double entry.

[2]

- 4 (a) *Two from:*
Ph.
CO₂.
Humidity.
Moisture.
Pressure.
Light.
Flow.
Do not accept dampness or water. [2]
- (b) *Two from:*
Create a backup/copy.
Keep archives.
Store the backup/copy/archive elsewhere.
Printout the data.
Save the data. [2]
- (c) *Two from:*
Protect the computer input circuits.
Convert the analogue signals/data from sensors.
To digital data/signals for the computer.
Indication of a need for change.
Provide output to the motor.
Multiple signals going in and one going out. [2]
- (d) >
FORWARD
STOP [3]

- 5 (a) *Problems and solutions include:*
 Back/neck problems/pains.
 Use a suitable/5 wheeled/adjustable chair.
 Chair with arms.
 Table at the correct height.
 A foot rest.
 Document holder.
 ...Wearing back support.
 ...Monitor at right level.
 Eye problems.
 Use appropriate glasses.
 Eye tests.
 Tilting/adjustable monitor.
 Screen filters.
 Use a TFT monitor.
 Non-reflective desk.
 High resolution monitor.
 Suitable lighting.
 Blinds.
 Hand/Wrist problems/RSI.
 Ergonomic keyboard.
 Chair with arms.
 A wrist rest.
 Headaches.
 Use appropriate glasses.
 Tilting monitor.
 Non reflective desk.
 High resolution monitor.
 Suitable lighting.
 Blinds.
 Screen filters.
 ...Use of screen covers.
- Do not** accept 'take medication'.
Other solutions include:
 Regular breaks away from the computer.
 Blink regularly to avoid eye/corneal problems.
 Look away from the screen.
 Max time at computer e.g. 15 mins.
- 1 mark for the problem, up to 3 marks for solutions. [4]

- (b) *Four from:*
 Import/scan images.
 Select area from one image.
 Crop/Cut/copy area.
 Resize/scale area.
 Paste area (into other image)/stick them together.
 Use of layers/back/front.
 Blur/merge edges.
 Correct faults/error. [4]

- 6 *Six from:*
Comparison with the design specification/aims/objectives.
What the software should/can do/advantages.
What problems were encountered with the software/
disadvantages.
Modifications/improvements of the system.
Limitations of the system.
Possible extensions/add ons of the system.
Comments on (user) documentation/instructions.
Methods of testing.
Results of testing by users.
Results of surveying the users for comments/feedback
from users.

[6]

- 7 *Points from:*
- Log off correctly.
 - Require user Ids.
 - To identify the user.
 - Set passwords.
 - For security purposes.
 - Rules for setting password/example rule.
 - To make passwords more secure/difficult to guess.
 - Rules for use of passwords by user/example rule.
 - To protect against breach of security of password.
 - Rules for attempts at password guessing/example eg three attempts and account lockout.
 - To prevent password cracking.
 - Set access rights.
 - For security/control access to files/folders.
 - Use of firewalls.
 - To control/monitor access to/from computer/network.
 - Monitor access.
 - To detect intrusions/raise the alarm/send alerts.
 - Audit access.
 - To check for intrusions/unusual activity.
 - No remote connections.
 - To prevent attacks from outside.
 - Physical security measure(s).
 - To prevent use of computers.
 - Laws e.g. Computer Misuse Act.
 - To impose penalties for hacking.
 - Save to other storage device.
 - ...so it is not saved on the PC.
 - Encryption.
 - ...so they could not read it.

This question to be marked as a graded response question using this grid of criteria:

	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]

8 Discussion points based upon:

Benefits

Access to centralised resources.

To allow use of e.g. single copies of applications/clipart.

Improved editing/sharing/access to resources.

To allow sharing of files between many users.

Easier co-operation on projects by staff/pupils.

Can allow pooling of materials/interchange of materials.

Sharing of physical resources.

e.g. one printer to save space/costs.

Sharing of files.

Use of servers to store files.

Central storage is more secure.

Server-based applications.

Single/easier configuration/update.

Access to the Internet.

Via single connection/controlled access.

Access to email.

Use of email servers to send/collect/distribute email.

Centralised backups.

Can be scheduled/managed centrally/no need to remember to backup own files.

Centralised antivirus systems.

Can be easier to keep up-to-date.

User account.

...can be accessed from different computers

Central administration.

...monitoring accounts/internet access/change of passwords.

Virtual/electronic learning/classroom/remote access.

...monitoring what pupils are doing.

...teacher/pupil interaction.

Problems.

Hacking.

Danger of loss/deletion/alteration/copying of data.

Viruses.

Spread easily/quickly/difficult to control/need to virus scan regularly.

Plagiarism.

Easy to copy/distribute others work.

Failure of network means no computer access.

All services fail/all computers unusable.

Raised profile of security issues.

Increased need for security/awareness of issues.

Security.

All users need to adhere to rules else system compromised.

Need for password rules.

E.g. to use/change passwords regularly.

Forgotten passwords.

Time/effort to reset/re-issue password.

Masquerading as other users.

Illegal access to another users files.

Need for qualified technical staff.

Increased costs.

Access to inappropriate materials.

...pornographic materials.

Multiple users.

...can create slow downs.

This question to be marked as a graded response question using this grid of criteria:

	1 point	2 points	3 points	4 or more points
No expansions	1	2	3	4
1 expansion	2	3	4	5
2 expansions	3	4	5	6
3 expansions	4	5	6	7
4 expansions	5	6	7	8
5 or more expansions	6	7	8	9

1 mark is also available for a reasoned conclusion - **up to the maximum for the question**

[9]

Total [60]



RECOGNISING ACHIEVEMENT

Mark Scheme 2359/01
January 2005

Question	Answer	Mark
1	<ul style="list-style-type: none"> • OCR. • Light sensor. 	[2]

2		True OR False
	A touch screen is necessary on home computers	False
	MICR is used in banking	True
	The data on a DVD may be changed	True
	Supermarkets use bar-code readers	True
	ROM is a volatile storage medium	False

[5]

3 Two from:

- Reduction in staff/reduced wages bill.
- Fewer errors / increased accuracy.
- More consistent standards.
- Reduction in production cost after initial set-up costs.
- Reduction in time taken to produce each unit.
- 24 hour production/continuous process / 24/7 working.
- Less reliant on staff health/attendance/robots do not go on strike.

[2]

4 Two from:

- Magnetic tape / DAT (drive).
- CD-R / CD-RW (drive).
- DVD / DVD-R /DVD-RW (drive).
- Zip (drive).
- Flash memory / memory stick/ pen drive.
- Disk (drives) which use combination of optical and magnetic methods.

[2]

5 a) Two from:

- Presence.
- Existency.
- Type / alphanumeric / text / string.

[2]

- b)** Numeric / number / date / integer / text / alphanumeric.
DO NOT accept year.

[1]

Question Answer Mark
c)

Two from:

- To **reduce** input errors.
- To **reduce** spelling mistakes.
- To **increase** input speed.
- To **decrease** sorting/searching/query/processing time.
- To **decrease** storage space.
- To make validation easier.

[2]

6 Maximum two from each column:

Advantages	Disadvantages
<ul style="list-style-type: none"> • Able to make sales 24 hours a day. • May result in decreased staffing-reduction in wages. • May increase sales. • Will not need to pay for premises. • Will not need to pay for fittings in shops. • Wider customer base. • Cheaper advertising costs. 	<ul style="list-style-type: none"> • May need to increase staffing levels-increase in wages. • Will need to buy in expertise to set-up. • Will need to train/re-train staff. • Will need to install security measures. • May decrease sales in shops. • Maintenance costs.

[4]

*Staffing levels **must** be explained **IF** awarding marks in disadvantages **AND** advantages.*

7 Four from:

- No (long) commands to learn / remember.
- **Icons** (to represent complex actions) making it easier/quicker to learn to use.
- Wysiwyg.
- (Use of multiple / different) **windows** to enable switching between tasks quicker.
- Multi-tasking is possible.
- Selection of options via drop-down **menus**.
- Direct manipulation of object using **pointer**.
- Less training required to become proficient.
- Specific tools for individual tasks may be used.

[4]

8 Two from:

- Direct changeover / Big bang.
- Pilot running.
- Parallel running.

[2]

- 9 (a) **Two from:**
- Select “Favourites” / “Bookmarks” (or equivalent).
 - Select “Add” (or equivalent).
 - Select folder to be saved in (or equivalent).
 - Give appropriate name and select “OK”.
- [2]
- (b) **Four from:**
- Quicker to update.
 - Fewer printing/production costs.
 - Reach a larger audience.
 - No storage space (for books) required.
 - No postal/transport costs.
 - Fewer staff needed.
 - Reduced number of processes to reach publication stage.
 - Direct links to other relevant sites.
 - Able to offer >number of links to other references.
 - More than one person at a time can use site.
 - May include sound.
 - Quicker distribution.
 - May contain moving images.
 - More information on internet based.
 - For multimedia content, max 1 mark.
- [4]
- 10 (a) **One from:**
- Check that the user exists.
 - Identifies the user to the system.
- [1]
- (b) **One from:**
- Gives identified user access to the ISP.
 - Reduces the risk of unauthorised access.
 - Security.
- [1]
- 11 (a) **Two from:**
- Is/may be cheaper (**THAN** telephoning).
 - No need to be drawn into long conversation/can be brief.
 - No need to disturb recipient's activity.
 - No need to disturb others around you.
 - May be quicker to arrange (and re-arrange) a meeting.
 - Messages can be sent simultaneously to large groups.
- [2]
- (b) **Two from:**
- May be distracted by the arrival notification.
 - May need to send many messages to come to common agreement.
 - Slower if qualified.
 - Can be/May be more expensive (if many messages sent).
 - Less sociable/lack of human touch.
 - Poor/no reception.
 - Difficult for some people.
- DO NOT** accept just the opposite of advantages unless the expansion is different*
- [2]

Question	Answer	Mark
12 (a)	<p>Two from:</p> <ul style="list-style-type: none"> • Portable. • Useable on most computers (with same OS). • Cheap form of storage medium. • security- file kept away from computer. • Security- in case of corruption of hard drive. • Security-Theft • Security- hacking <p>Accept for one mark security unqualified 2 marks for two different security points made</p>	[2]
(b) (i)	<p><i>Correct answer only.</i> CD-writer.</p>	[1]
(b) (ii)	<p>Two from:</p> <ul style="list-style-type: none"> • Because it has a larger capacity. • Music files are large. • Because it is portable. • It can be stored away from computer for safekeeping. • Because it is more durable. • Less likely to be corrupted/overwritten. • Cannot be overwritten <u>unless using CD-RW.</u> 	[2]
13 (a)	<p>Two from:</p> <ul style="list-style-type: none"> • Encrypting data is data that is scrambled or mixed up. • Encryption key. • Decryption key. <p>1 mark for key on its own</p>	[2]
(b)	<p>Two from:</p> <ul style="list-style-type: none"> • Encryption reduces the use of the data (by unauthorised persons). • Some data are sensitive/secret. • For security. <p>1 mark maximum for examples: State secrets / industrial processes / exam papers before exam date etc.</p>	[2]

Question Answer Mark
Two paired answers from:

14	Changes	Reasons
	Increase space for answers/provide boxes for answers.	Answers may be difficult to read / illegible if squeezed into present space.
	Binary response	May get many different answers said in different ways so unable to use.
	Make questions more objective/restrict number of responses.	May get many different answers said in different ways so unable to use.
	Create questions that will indicate what needs to be changed.	Questions do not lead to providing information that would help the library to change / improve.
	Make questions less vague.	Name, age, address too vague.
	Offer a sliding scale.	To allow for a much finer assessment of responses.
	Get rid of name and address.	Because not required for purpose.

[4]

Maximum 2 marks for changes. Maximum 2 marks for reasons.

Must give 2 different changes for maximum marks

- 15 (a) **One paired answer from:**
Wages/labour is major expense in UK (1) so by moving to developing countries decrease in wage bills brought about (1).
Premises are very expensive to rent or buy in the UK (1) whilst they are cheaper to buy / rent / in developing countries (1).
Costs can be reduced (1) so improving profits (1).

2nd mark for expansion.

[2]

- (b) **Two from:**
- Increased training costs/time (resulting in lowering of profits).
 - Language problems.
 - Alienating customer base.
 - Costs of communication may rise (so cancelling out increased profits).
 - Break down in diplomatic relations with country (results in decreased/ cancelled services).
 - Need representatives 'on the spot' as advisors/trainers (who may be difficult to find/employ).
 - Union problems.
 - Set up costs may be high.

[2]

Question	Answer	Mark
16	<p>Three from:</p> <ul style="list-style-type: none">• Data must be kept up-to-date.• Data must be accurate.• Data must be obtained/processed legally.• Data must be relevant.• Data must only be used for stated purpose.• Data must not be kept longer than necessary.• Data must be kept secure.• Data holder must register with DPC.• Data subjects have right to examine data held.• Data subjects have right to have incorrect data removed/changed.• Cannot be passed out of the EU.	[3]
17	<p>Two from:</p> <ul style="list-style-type: none">• He could interview the staff/manager.• He could create and distribute a questionnaire.• He could spend some time observing the present system in action.• He could collect and study the documentation used/produced by the present system.	[2]
		TOTAL [60]



RECOGNISING ACHIEVEMENT

Mark Scheme 2359/02
January 2005

Question	Answer	Mark
1	<p>Four from:</p> <ul style="list-style-type: none">• Quicker to update.• Fewer printing/production costs.• Reach a larger audience.• No storage space (for books) required.• No postal/transport costs.• Fewer staff needed.• Reduced number of processes to reach publication stage.• Direct links to other relevant sites.• Able to offer >number of links to other references.• More than one person at a time can use site.• May include sound.• Quicker distribution.• May contain moving images.• More information on internet based.• For multimedia content, max 1 mark.	[4]
2	<p>(a) Two from:</p> <ul style="list-style-type: none">• Is/may be cheaper (THAN telephoning).• No need to be drawn into long conversation/can be brief.• No need to disturb recipient's activity.• No need to disturb others around you.• Quicker if qualified.• Messages can be sent simultaneously to large groups. <p>(b) Two from:</p> <ul style="list-style-type: none">• May be distracted by the arrival notification.• May need to send many messages to come to common agreement.• Slower if qualified.• Can be/May be more expensive (if many messages sent).• Less sociable/lack of human touch.• Poor/no reception.• Difficult for some people. <p><i>DO NOT accept just the opposite of advantages unless the expansion is different</i></p>	[2]

Question	Answer	Mark
3	<p>(a) Two from:</p> <ul style="list-style-type: none"> • Portable. • Useable on most computers (with same OS). • Cheap form of storage medium. • security- file kept away from computer. • Security- in case of corruption of hard drive. • Security-Theft. • Security- hacking. <p>Accept for one mark security unqualified 2 marks for two different security points made</p>	[2]
	<p>(b) (i) <i>Correct answer only.</i> CD-writer.</p>	[1]
	<p>(ii) Two from:</p> <ul style="list-style-type: none"> • Because it has a larger capacity. • Music files are large. • Because it is portable. • It can be stored away from computer for safekeeping. • Because it is more durable. • Less likely to be corrupted/overwritten. • Cannot be overwritten <u>unless using CD-RW.</u> 	[2]
4	<p>(a) Two from:</p> <ul style="list-style-type: none"> • Encrypting data is data that is scrambled or mixed up. • Encryption key. • Decryption key. <p>1 mark for key on its own</p>	[2]
	<p>(b) Two from:</p> <ul style="list-style-type: none"> • Encryption reduces the use of the data (by unauthorised persons). • Some data are sensitive/secret. • For security. <p>1 mark maximum for examples: State secrets / industrial processes / exam papers before exam date etc.</p>	[2]

Question 5 **Answer** **Mark**

Changes	Reasons
Increase space for answers/ provide boxes for answers.	Answers may be difficult to read / illegible if squeezed into present space.
Binary response.	May get many different answers said in different ways so unable to use.
Make questions more objective/restrict number of responses.	May get many different answers said in different ways so unable to use.
Create questions that will indicate what needs to be changed.	Questions do not lead to providing information that would help the library to change / improve.
Make questions less vague.	Name, age, address too vague.
Offer a sliding scale.	To allow for a much finer assessment of responses.
Get rid of name and address.	Because not required for purpose.

[4]

*Maximum 2 marks for changes. Maximum 2 marks for reasons.
Must give 2 different changes for maximum marks*

- 6 (a) **One paired answer from:**
Wages/labour is major expense in UK (1) so by moving to developing countries decrease in wage bills brought about. (1)
Premises are very expensive to rent or buy in the UK (1) whilst they are cheaper to buy / rent / in developing countries. (1)
Costs can be reduced (1) so improving profits. (1)

2nd mark for expansion

[2]

- (b) **Two from:**
- Increased training costs/time (resulting in lowering of profits).
 - Language problems.
 - Alienating customer base.
 - Costs of communication may rise (so cancelling out increased profits).
 - Break down in diplomatic relations with country (results in decreased/ cancelled services).
 - Need representatives 'on the spot' as advisors/trainers (who may be difficult to find/employ).
 - Union problems.
 - Set up costs may be high.

[2]

Question	Answer	Mark
7	<p>Three from:</p> <ul style="list-style-type: none">• Data must be kept up-to-date.• Data must be accurate.• Data must be obtained/processed legally.• Data must be relevant.• Data must only be used for stated purpose.• Data must not be kept longer than necessary.• Data must be kept secure.• Data holder must register with DPC.• Data subjects have right to examine data held.• Data subjects have right to have incorrect data removed/changed.• Cannot be passed out of the EU.	[3]
8	<p>Five from:</p> <p>A knowledge base:</p> <ul style="list-style-type: none">• Is a collection of (many) <u>experts</u>' knowledge. <p>A rule base:</p> <ul style="list-style-type: none">• Contains all the rules known by the system.• (These rules) used to associate items in the knowledge base. <p>An inference engine:</p> <ul style="list-style-type: none">• (using the rules applicable) does the searching of the knowledge base. <p>A suitable input interface:</p> <ul style="list-style-type: none">• Will display questions for the user to enter answers.• May display questions as multi-choice or Yes/No type. <p>A suitable output interface:</p> <ul style="list-style-type: none">• Will display answers / results in an acceptable format.• May display results in the form of percentages of probability. <p><i>Maximum 1 mark for each definition.</i></p>	[5]

9

Mark	
1	<ul style="list-style-type: none"> • 1 point
2	<ul style="list-style-type: none"> • 2 points OR 1 point + 1 expansion
3	<ul style="list-style-type: none"> • 2 points AND 1 expansion • 3 points
4	<ul style="list-style-type: none"> • 2 points AND 2 expansions • 3 points + 1 expansion • 2 points AND 1 expansion AND 1 conclusion
5	<ul style="list-style-type: none"> • 3 points AND 2 expansions • 3 points AND 1 expansion AND 1 conclusion
6	<ul style="list-style-type: none"> • 3 points AND 3 expansions • 3 points + 2 expansions + 1 conclusion

Example answer

Points	Expansions
Could email work home.	BUT needs to have an email address.
He could save his work to a floppy / CD-R/ memory stick etc.	<ul style="list-style-type: none"> • because it is a suitable device • BUT would need permission from network administrator. • and would need a compatible device/ software at home.
He could print out his work.	BUT then he would have to re enter it / scan it at home.
He could access his work directly from home on the Internet.	BUT would need the facility installed at school to enable him to do this / or access to the Internet at home.
<p><i>Example conclusions:</i></p> <ul style="list-style-type: none"> • From the choices he has I would say that e-mailing his work home is the simplest, quickest and probably the most secure, providing he has an email address. • Printing his work out is probably the worst option because it would be too time consuming to type it all in again at home, and then he has to reverse the process when he comes back to school. 	

[6]

10

Two paired answers from:*(i.e. 1 mark for each adaptation – 1 mark for reason)*

Braille keyboard (1) to enable the student to input data by touch. (1)

Braille printer (1) to enable student to understand output work (may then be able to check it). (1)

Voice recognition system / microphone (1) to allow student to interact with software on computer. (1)

Audio output / speakers (1) to allow constant feedback to student as keyboard is used. (1)

Enlarged keyboard/monitor/screen display to allow input and output (1) will facilitate access for the student. (1)

Coloured/contrasting colours set up (1) may allow student to see screen display. (1)

Magnifying glass software (1) to enlarge specific areas of screen on normal monitor. (1)

Software to allow large print hard copies (1) to allow student to check/read work. (1)

[4]

11 (a) (i)

Two from:

- He could **interview** the staff/manager/customers.
- He could create and distribute a **questionnaire**.
- He could spend some time **observing** the present system in action.
- He could collect and study the **documentation** used/produced by the present system.

[2]

(ii) **Six from any two appropriate columns OR five from any two appropriate columns PLUS a conclusion:
Maximum of 4 from any one column.**

	Interview	Questionnaire	Observation	Documentation
ADV	Adaptable to circumstances.	Can pre-plan questions.	Can see events as they actually are not as people would like you to think they are.	Can be referred to again and again.
	Can pre-plan questions.	Can be done in own time.	Can follow specific events from start to finish.	Can take information from them as and when required.
	Greater depth of information.	Can collect essential information quickly from many people.		

DIS ADV	Time consuming for all parties. May not be convenient for interviewee /interviewer. People may not answer truthfully /completely.	Needs careful planning of questions to get just what is wanted/ misunderstanding of questions People may not answer truthfully /completely. Not all returned.	Very time consuming for observer. Observed may change because they are being observed and not reflect accurate procedure.	Need to be sure that all documentation is collected to give complete picture. Looking at documents being used at present may distract from development.
<p><i>Example conclusion:</i> Having looked at these two methods it seems to me that sometimes an interview will be the best method to use, whereas if you need to collect lots of information from many people then a questionnaire would be best. Different circumstances will result in different methods being used. (1)</p>				

[6]

(b) Any paired one from:

- He may need to produce a feasibility report (1) so the manager can make the decision to go ahead. (1)
- He will need to identify any problems (with the present system) (1) in order to tackle solving them. (1)
- He will need to analyse / produce flowcharts / dfd's etc. (1) of the present system (using the information he has collected). (1)
- He will need to design (1) any additions to the present system (specific items acceptable) (1).
- He will need to establish the information / data / input / output / processing required (1) in order to produce a satisfactory solution. (1)
- He will need to identify appropriate hardware / software (1) to enable the inputs and processing to produce the required output. (1)
- System testing (1) to iron out problems. (1)

2nd mark for expansion.

[2]

12

Mark	
1	<ul style="list-style-type: none"> • 1 point
2	<ul style="list-style-type: none"> • 2 points OR 1 point + 1 expansion
3	<ul style="list-style-type: none"> • 2 points AND 1 expansion • 3 points
4	<ul style="list-style-type: none"> • 2 points AND 2 expansions • 3 points + 1 expansion • 2 points AND 1 expansion AND 1 conclusion
5	<ul style="list-style-type: none"> • 3 points AND 2 expansions • 3 points AND 1 expansion AND 1 conclusion
6	<ul style="list-style-type: none"> • 3 points AND 3 expansions • 3 points + 2 expansions + 1 conclusion
7	<ul style="list-style-type: none"> • 3p And 3 expansions AND conclusion

To be awarded **seven** marks candidates must explore at least **two** opposing views to statements made.

For example:

Points	Expansions
<ul style="list-style-type: none"> • There is so much data freely available on the Internet. 	<ul style="list-style-type: none"> • that (it is much easier for) anyone with a grievance can acquire / get the means to cause disruption to the normal running of the country.
<ul style="list-style-type: none"> • Once secret information can be found on the Internet. 	<ul style="list-style-type: none"> • Which could be used to cause (untold) harm to innocent people. • <i>such as</i> bomb making, terrorist methods etc.
<ul style="list-style-type: none"> • But not all the information freely available is bad. 	<ul style="list-style-type: none"> • much of it can be used for the (greater) benefit of society • <i>for example</i>, details about research into new drugs or treatments can be found and discussed anywhere in the world.
<ul style="list-style-type: none"> • Communicating all round the world in secret in seconds with dissidents made possible. 	<ul style="list-style-type: none"> • means that terrorist plans and actions may be co-ordinated in a way never before possible • bringing about the maximum destruction possible on a wide front.
<ul style="list-style-type: none"> • The other side of this coin though is the ability for families separated by huge distances to communicate. 	<ul style="list-style-type: none"> • to maintain daily contact because of relative cheapness and be able to offer almost instant support to each other.

<ul style="list-style-type: none"> • Becoming possible to monitor / police Internet activity. 	<ul style="list-style-type: none"> • Which means use of the Internet no / little different from all other types of security risks. • But this monitoring / policing may infringe upon civil liberties / human rights.
<p><i>Example conclusions:</i></p> <ul style="list-style-type: none"> • With all the information available on the Internet I think it would be wrong to censor this information so that the evil that people do <i>might</i> be avoided. Terrorism is not something that began with the 'creation' of the Internet. Who will do the censoring? • Due to the speed of e-mail and its immediacy I think it would wrong to say that this part of the Internet is a threat to national security. The fact that it allows millions of people to maintain close contact with each other for 'good' reasons for me outweighs the threat made by far fewer people with negative intentions. 	

TOTAL 60 Marks

Mark [7]

