

Information & Communication Technology B

General Certificate of Secondary Education **GCSE 1995**

General Certificate of Secondary Education (Short Course) **GCSE 1095**

Mark Schemes for the Units

January 2010

1995/1095/MS/10J

OCR (Oxford Cambridge and RSA) is a leading UK awarding body, providing a wide range of qualifications to meet the needs of pupils of all ages and abilities. OCR qualifications include AS/A Levels, Diplomas, GCSEs, OCR Nationals, Functional Skills, Key Skills, Entry Level qualifications, NVQs and vocational qualifications in areas such as IT, business, languages, teaching/training, administration and secretarial skills.

It is also responsible for developing new specifications to meet national requirements and the needs of students and teachers. OCR is a not-for-profit organisation; any surplus made is invested back into the establishment to help towards the development of qualifications and support which keep pace with the changing needs of today's society.

This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by Examiners. It does not indicate the details of the discussions which took place at an Examiners' meeting before marking commenced.

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.

Mark schemes should be read in conjunction with the published question papers and the Report on the Examination.

OCR will not enter into any discussion or correspondence in connection with this mark scheme.

© OCR 2010

Any enquiries about publications should be addressed to:

OCR Publications
PO Box 5050
Annesley
NOTTINGHAM
NG15 0DL

Telephone: 0870 770 6622
Facsimile: 01223 552610
E-mail: publications@ocr.org.uk

CONTENTS

GCSE Information and Communication Technology B (1995)

GCSE Information and Communication Technology B (Short Course) (1095)

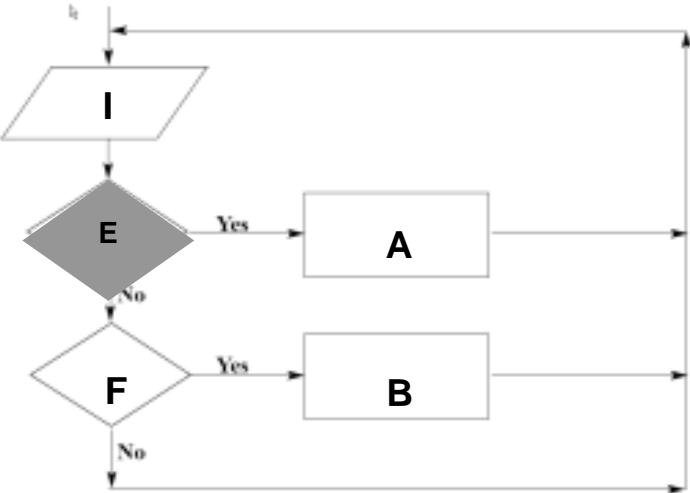
MARK SCHEMES FOR THE UNITS

Unit/Content	Page
2380/01 Paper 3 (Foundation)	1
2380/02 Paper 3 (Higher)	8
Grade Thresholds	17

2380/01 Paper 3 (Foundation)

Question		Syllabus Ref	Expected Answer	Mark																																				
(1)			<table border="1"> <thead> <tr> <th>Device</th> <th>Input</th> <th>Output</th> <th>Storage</th> </tr> </thead> <tbody> <tr> <td>CDR drive</td> <td></td> <td></td> <td>✓</td> </tr> <tr> <td>Digital camera</td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>Graphics tablet</td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>Inkjet printer</td> <td></td> <td>✓</td> <td></td> </tr> <tr> <td>Laser printer</td> <td></td> <td>✓</td> <td></td> </tr> <tr> <td>Plotter</td> <td></td> <td>✓</td> <td></td> </tr> <tr> <td>Scanner</td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>Speakers</td> <td></td> <td>✓</td> <td></td> </tr> </tbody> </table> <p>One mark for each correct row. Zero mark for a row if two ticks given</p>	Device	Input	Output	Storage	CDR drive			✓	Digital camera	✓			Graphics tablet	✓			Inkjet printer		✓		Laser printer		✓		Plotter		✓		Scanner	✓			Speakers		✓		[8]
Device	Input	Output	Storage																																					
CDR drive			✓																																					
Digital camera	✓																																							
Graphics tablet	✓																																							
Inkjet printer		✓																																						
Laser printer		✓																																						
Plotter		✓																																						
Scanner	✓																																							
Speakers		✓																																						
(2)	(a)		<p>One mark for each advantage up to two, one mark for a disadvantage up to one.</p> <p>Advantages</p> <ul style="list-style-type: none"> • Printers can be shared • Access work from any computer • Share files • Have an intranet • Can monitor use • Data can be quickly and easily transferred between computers • Users can communicate with each other • Central maintenance/software installation 	[3]																																				

Question		Syllabus Ref	Expected Answer	Mark
(2)	(a) con t'd		Disadvantages <ul style="list-style-type: none"> • Problems with server/server breaks down effects all other computers • Viruses pass (quickly) from machine to machine • Increased security problems (other people's files) • Increased installation costs (<u>not</u> just more expensive) • Big brother. watching you issues • Need more skill to manage it 	[1]
(b)			<p>One mark for each correct point up to four. Maximum of three marks unless there is a comparison:</p> <p>WAN</p> <ul style="list-style-type: none"> • Wide Area Network • Town • National, and/or International • World wide <p>LAN</p> <ul style="list-style-type: none"> • Local Area Network • local • Uses comms to connect connects with wires • Short range wireless • Room/building 	[4]

Question	Syllabus Ref	Expected Answer	Mark
(3) (a)		 <pre> graph TD Start(()) --> I[/I/] I --> E{E} E -- Yes --> A[A] E -- No --> F{F} A --> Join(()) F -- Yes --> B[B] F -- No --> Join Join --> I </pre> <p>One mark for correct answer only</p>	[4]
(b) (i)		<p>One mark for any sensor: Heat sensor/thermistor/thermostat/temperature sensor</p>	[1]
		<p>One mark for any point up to two but they must relate to the company not an individual:</p> <ul style="list-style-type: none"> • The temperature in each room may be different • Size of rooms may affect the temperature 	[2]

Question		Syllabus Ref	Expected Answer	Mark														
(4)			One mark for point one for a valid expansion Saving costs (1) + expansion eg no need for a big office (1) Saving time (1) + expansion eg no time lost travelling (1) Customer satisfaction improved (1) + eg flexible working allows hours of service to be extended (1) More convenient (1) + expansion eg no need to have on-site location in a city (1)	[6]														
(5)			<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Task</th> <th>Type of software</th> </tr> </thead> <tbody> <tr> <td>to calculate the cost of customer purchases</td> <td>Spreadsheet</td> </tr> <tr> <td>to develop a web blog</td> <td>Web design software or browser</td> </tr> <tr> <td>to model numeric data</td> <td>Spreadsheet</td> </tr> <tr> <td>to produce a folded health and safety leaflet</td> <td>Graphics software DTP</td> </tr> <tr> <td>to record and search for customer details</td> <td>Database</td> </tr> <tr> <td>to write a letter to a customer</td> <td>Word Processing</td> </tr> </tbody> </table>	Task	Type of software	to calculate the cost of customer purchases	Spreadsheet	to develop a web blog	Web design software or browser	to model numeric data	Spreadsheet	to produce a folded health and safety leaflet	Graphics software DTP	to record and search for customer details	Database	to write a letter to a customer	Word Processing	[6]
Task	Type of software																	
to calculate the cost of customer purchases	Spreadsheet																	
to develop a web blog	Web design software or browser																	
to model numeric data	Spreadsheet																	
to produce a folded health and safety leaflet	Graphics software DTP																	
to record and search for customer details	Database																	
to write a letter to a customer	Word Processing																	

Question		Syllabus Ref	Expected Answer	Mark														
(6)			<table border="1"> <thead> <tr> <th>Statement</th> <th>Tick three boxes only</th> </tr> </thead> <tbody> <tr> <td>Personal data must be processed fairly and lawfully.</td> <td>✓</td> </tr> <tr> <td>Personal data can be passed to other organisations without the consent of the data subject.</td> <td></td> </tr> <tr> <td>Personal data should be accurate and up to date.</td> <td>✓</td> </tr> <tr> <td>Data can be used for any purpose.</td> <td></td> </tr> <tr> <td>Suitable measures must be taken to ensure the safety of personal data.</td> <td>✓</td> </tr> <tr> <td>Data should be the minimum required for the purpose and can be kept indefinitely.</td> <td></td> </tr> </tbody> </table>	Statement	Tick three boxes only	Personal data must be processed fairly and lawfully.	✓	Personal data can be passed to other organisations without the consent of the data subject.		Personal data should be accurate and up to date.	✓	Data can be used for any purpose.		Suitable measures must be taken to ensure the safety of personal data.	✓	Data should be the minimum required for the purpose and can be kept indefinitely.		[3]
Statement	Tick three boxes only																	
Personal data must be processed fairly and lawfully.	✓																	
Personal data can be passed to other organisations without the consent of the data subject.																		
Personal data should be accurate and up to date.	✓																	
Data can be used for any purpose.																		
Suitable measures must be taken to ensure the safety of personal data.	✓																	
Data should be the minimum required for the purpose and can be kept indefinitely.																		
(7)			<p>One mark for each point up to two for each file format</p> <p>Bit-mapped</p> <ul style="list-style-type: none"> • where pictures are represented as a set of pixels accept dots • Each colour of dot is stored separately in a file • If enlarged, the dots simply get bigger producing a jagged image • Can be very large files • unless compressed (made smaller) eg .gif or .jpg format. <p>Vector</p> <ul style="list-style-type: none"> • images as mathematical instructions • Vector graphics have smaller file sizes • When resized no jagged images are visible • However, complicated images such as photo images do not convert to Vector images easily 	[4]														

Question		Syllabus Ref	Expected Answer	Mark										
(8)	(a)		<table border="1"> <tr> <td></td> <td>Tick two boxes only</td> </tr> <tr> <td>Space check</td> <td></td> </tr> <tr> <td>Presence check</td> <td>✓</td> </tr> <tr> <td>Drop down menu</td> <td></td> </tr> <tr> <td>Range check</td> <td>✓</td> </tr> </table>		Tick two boxes only	Space check		Presence check	✓	Drop down menu		Range check	✓	[2]
		Tick two boxes only												
Space check														
Presence check	✓													
Drop down menu														
Range check	✓													
	(b)		<p>The diagram consists of three boxes on the left and three boxes on the right. Arrows indicate the following connections:</p> <ul style="list-style-type: none"> Verification box points to the top-right description: "checking of data at the time of input – check carried out by the software to make sure the data is reasonable" Validation box points to the middle-right description: "collection of data over a period, followed later by processing" Batch processing box points to the bottom-right description: "checking that data entered into a computer system is accurate" 	[3]										

Question	Syllabus Ref	Expected Answer	Mark
(9)		Marks awarded for: A main home page one mark Clear labels for pages one mark Clear structure eg a tree structure one mark Clear links from the main home page one mark Clear links to the main home page one mark Links between other pages shown one mark At least four named pages one mark At least two named pages appropriate to EnviroMax eg recycling page one mark for each up to a maximum of two	[9]

Question	Syllabus Ref	Expected Answer	Mark
3 (a)		One mark for each point and one for a valid expansion Contact outside hours (1) + expansion eg faster response (1) Customer satisfaction improved (1) + eg flexible working allows hours of service to be extended (1) More convenient (1) + expansion eg no need to have on-site location in a city (1)	[3]
3 (b)		One mark for any valid way up to two eg Saves transport costs Less pollution Saves energy Saves paper Highlights the issues to a large audience Encourages participation	[3]
4 (a)		One mark for each valid point up to three and one mark for a valid advantage eg Use wireless card (1) as then can access from a laptop wherever there is a signal (1) Link laptop to mobile phone (1) then can access using the phone as a modem (1) Use bluetooth/WiFi (1) to link to network on train for whole journey (1) Use a Blackberry (1) then you have email access in pocket-size device (1) Use 3G/2G/WiFi on mobile phone/Smartphone (1) then you have email access in compact device (1) Use SmartBook (1) has built-in mobile phone/3G etc capability (1)	[6]

Question	Syllabus Ref	Expected Answer	Mark
4 (b)		One mark for a valid point. Use satellite	[1]
5		One mark for each valid point up to three. <ul style="list-style-type: none"> • Uses electricity • High Energy consumption • Landfill: Computers are made of poisonous materials like lead, chromium, cadmium and mercury which if not disposed of correctly can contaminate the environment • Radiation emitted from computer monitors (risk to users) • Excess Packaging. 	[3]
6		One mark for each valid format. <ul style="list-style-type: none"> • Bitmapped • Compressed bitmapped • Vector • Specific examples eg BMP, PIC, PCT, PCX, GIF, JPEG, JPG, TIF, WMF etc. 	[2]

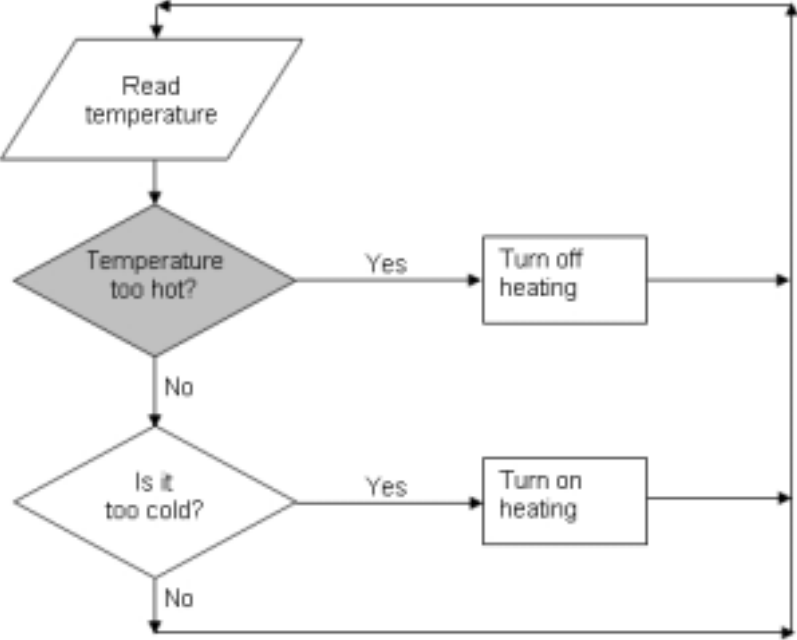
Question	Syllabus Ref	Expected Answer	Mark
7		<p>One mark for each valid feature and second for benefit.</p> <ul style="list-style-type: none"> • Windows/dialogue boxes (1) benefit eg easy to use as you just click (1) • Icons (1) plus benefit (1) eg no language skills needed • Menus (1) plus benefit (1) eg simple to navigate • Pointers/mice (1) plus benefit eg no need to type set commands(1) • Help (1) plus benefit eg you can easily find help without a manual(1) • Drag and drop (1) plus benefit eg you can easily move text and images(1) • Poppers.....(1) plus benefit (1) • Toolbars (1) plus benefit (1) • Desktop (1) plus benefit (1) 	[8]
8 (a)		<p>One mark for each statement up to two</p> <p>Can shop at a convenient time as access available 24 hours per day seven days per week</p> <p>Wider range of goods which may not be available in local area/country</p> <p>No travel – saving environmental costs</p> <p>Can compare prices from different suppliers</p>	[2]
8 (b)		<p>One mark for each statement up to two</p> <p>Cannot try on/test drive/etc before buying</p> <p>Cost of delivery</p> <p>Do not have goods on day of buying</p> <p>Tax problems if buying from abroad.</p> <p>Loss of social interaction do not leave house</p> <p>Cannot use cash, must have a credit or debit card</p>	[2]

Question	Syllabus Ref	Expected Answer	Mark
9 (a)		<p>One mark for stating rule WHAT the worker should do up to four eg</p> <p>You must not type without using the wrist rest provided (1) You must ensure that you use the screen filter provided (1) You must take regular breaks (1) You must adjust your chair to a suitable position (1) You must tilt your monitor to a suitable position (1)</p>	[4]
9 (b)		<p>One mark for stating rule WHAT the worker should do the second for expansion of how it helps eg Examples: Do not disclose passwords to other people(1) – prevent outsiders accessing data (1) Do not use damaged floppies (1) – prevent damage to disk drives (1) Do not copy data to portable devices (1) – could be lost or stolen (1) Do not log in from a public computer (1) – passwords etc may be saved to machine (1) Do not log on in a public place (1) – others may see the data (1)</p>	[4]
10		<p>One mark for each point up to two and another for expansions up to two, one for each expansion eg</p> <p>Eye strain (1) good use of colour (1) not too bright for continuous use to prevent this (1) Stress (1) Good menu design (1) reduces navigation time (1) RSI (1) Short cut keys (1) less mouse movement (1) font size (1) No flashing images (1)</p>	[4]

Question	Syllabus Ref	Expected Answer	Mark
11		Marks awarded for: A main home page (1) Clear labels/names for pages (1) Clear tree structure (1) Clear links from (1) and to (1) the main home page Links between other pages shown (1) At least four named pages (1) At least two named added pages appropriate to EnviroMax eg recycling page; one mark for each up to a maximum of two	[9]
12 (a)		One mark is awarded for each point up to two <ul style="list-style-type: none"> • allocates and monitors system resources example eg memory management • provides user Interface • manages sequences of instructions • hides the complexity of the hardware from the user 	[2]
12 (b)		One mark is awarded for each point up to two <ul style="list-style-type: none"> • provides interface/communication between the computer/operating system/application package and peripheral • example eg printer driver translates data into a form the computer/peripheral can understand • provides error messages 	[2]

Question	Syllabus Ref	Expected Answer	Mark
12 (c)		<p>One mark is awarded for each point up to three</p> <ul style="list-style-type: none"> • (use of) keyboard/type • speech recognition/(using a) microphone • scanning/use of web cam • Optical Character Recognition/OCR • Magnetic Ink Character Recognition/MICR • Optical Mark Recognition/OMR • use of touch screen • (selection from list using) mouse etc • use of sensors • use of barcode reader • transfer of pre-captured data from an external device eg digital camera, digital voice recorder 	[3]
12 (d)		<p>Validation (1) plus expansion (1)</p> <ul style="list-style-type: none"> • checking that data is sensible (allow suitable alternative word NOT CORRECT)/rejecting data that is unreasonable/eg Presence check/Format check etc/description/actual example. <p>Verification (1) plus expansion (1)</p> <ul style="list-style-type: none"> • checking that data is entered correctly by double entry or proof reading 	[4]

Question	Syllabus Ref	Expected Answer	Mark
13 (a)		<p>One mark for any benefits from: Reduced overheads including heating, lighting, canteen facilities (1) No need to just employ people from the locality/wider field to search for skills (1) Smaller offices required saving on cost (1) Increase in productivity due to less distraction (1) etc.</p> <p>Any two limitation from: Not so easy to determine how hard staff are working (1) More vulnerable to security breaches/viruses/hacking (1) Decrease in productivity due to less social interaction (1)</p>	[3]
13 (b)		<p>One mark for any one benefit from: Higher job satisfaction (1) No travel costs/travel time (1) More flexible working arrangements (1) More opportunities for the disabled to find work without Travelling (1)</p> <p>Any one limitation from: Difficult to distinguish between work and home (1) Disturbances from family (1) Feeling isolated (1)</p>	[2]

Question	Syllabus Ref	Expected Answer	Mark
14		 <pre> graph TD Start([Read temperature]) --> Hot{Temperature too hot?} Hot -- Yes --> Off[Turn off heating] Off --> LoopBack1(()) LoopBack1 --> Start Hot -- No --> Cold{Is it too cold?} Cold -- Yes --> On[Turn on heating] On --> LoopBack2(()) LoopBack2 --> Start Cold -- No --> LoopBack3(()) LoopBack3 --> Start </pre>	[4]
		Total	[80]

Grade Thresholds

General Certificate of Secondary Education
ICT B (1095/1995)
January 2010 Examination Series

Unit Threshold Marks

Unit		Maximum Mark	a*	a	b	c	d	e	f	g	u
2377F	Raw	40				37	32	27	23	19	0
	UMS	55				48	40	32	24	16	0
2377H	Raw	40	39	36	32	29	27	26			0
	UMS	80	72	64	56	48	40	32			0
2378	Raw	64	63	57	49	41	35	30	25	20	0
	UMS	120	108	96	84	72	60	48	36	24	0
2379	Raw	64	63	57	49	41	35	30	25	20	0
	UMS	120	108	96	84	72	60	48	36	24	0
2380F	Raw	55				27	22	18	14	10	0
	UMS	55				48	40	32	24	16	0
2380H	Raw	80	49	42	35	28	19	14			0
	UMS	80	72	64	56	48	40	32			0

Specification Aggregation Results

Overall threshold marks in UMS (ie after conversion of raw marks to uniform marks)

	Maximum Mark	A*	A	B	C	D	E	F	G	U
1095	200	180	160	140	120	100	80	60	40	0

	Maximum Mark	A*	A	B	C	D	E	F	G	U
1995	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
1095	7.8	36.0	58.1	75.0	89.7	95.1	98.0	99.5	100	408
1995	0.0	5.1	20.7	52.0	77.8	91.4	99.0	100	100	198

616 candidates were entered for aggregation this series

For a description of how UMS marks are calculated see:

http://www.ocr.org.uk/learners/ums_results.html

Statistics are correct at the time of publication.

OCR (Oxford Cambridge and RSA Examinations)
1 Hills Road
Cambridge
CB1 2EU

OCR Information Bureau

(General Qualifications)

Telephone: 01223 553998

Facsimile: 01223 552627

Email: helpdesk@ocr.org.uk

www.ocr.org.uk

For staff training purposes and as part of our quality assurance programme your call may be recorded or monitored

Oxford Cambridge and RSA Examinations
is a Company Limited by Guarantee
Registered in England
Registered Office; 1 Hills Road, Cambridge, CB1 2EU
Registered Company Number: 3484466
OCR is an exempt Charity

OCR (Oxford Cambridge and RSA Examinations)
Head office
Telephone: 01223 552552
Facsimile: 01223 552553

© OCR 2010

