

GCSE

Edexcel GCSE

IGCSE ICT (4385)

November 2006

Mark Scheme

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November 2006 Foundation Section

1. Answers may include:
Floppy disk, CD, Flash memory device, DVD, Hard disk, Zip disk, tape drive.
Accept any 5 storage media OR devices. e.g. CD or CD drive.
DO NOT accept e.g. CD and CD drive.

5 marks.

2. a. Look for the following ideas:
Typing key words / search criteria.
Displaying titles / descriptions of relevant web sites.
Key words highlighted in description.

Max 2 marks

- b. Use of filter software / age settings / safe settings

In the search engine.

OR

Use of parental controls / safe settings
In the browser.

2 marks

- c. Answers may include:
False information
Out of date information.
Viruses
Popups / redirects
Malware / adware / dialers
Time problems / too much data available
Search problems, where to start looking / which words to use

3 marks

Total 7 marks

3. a. E2 / F2 1 mark

- b. A2 / E2 1 mark

- c. B6 = currency 1 mark
 C2 = number 1 mark
 E1 = text 1 mark

- d. B2
 F2

2 marks

- e. The HLOOKUP would fail/error message/wrong answer in F2/wrong price.
1 mark

Total 8 marks

4.

- a. Answers may include:
Cable is faster
Cable is more secure
Radio is quicker to set up
Radio is more flexible
Radio is easier to extend
3 marks. Accept reverse arguments.

b. Server. Any server function. e.g. security / file serving / sharing.
1 mark

Router. A description of sending / switching signals.
A description of connecting correct computers together.
1 mark

Wireless access point. Acts as router / hub
A description of having transmitter / receiver for radio signals
1 mark

c. Line from router
Line to wireless access point
2 marks

Total 8 marks

5. a. Answers may include:

Typical. A recent date, a sensible name / title
Invalid. Tomorrow's date for borrowing, impossible book title / name, non-existent name / title.
Extreme. Today's date for borrowing, first or last book title / name by alphabetical order

3 marks

b. Answers may include:

Contents page
Installation guide
How to use the software OR any specific action, e.g. Searching for a book / borrower, how to lend a book, how to return a book
Troubleshooting
Mail merging letters / reminders

Max 3

c. So that changes / repairs can be made to the database / macros, etc.
By someone else / by the administrator / if Sarah is not there

2 marks

Total 8 marks

6. a. Milk blocks beams. 1 mark
Lowest clear beam / highest blocked beam 1 mark

2 marks

- b. Amounts of milk. 1 mark
Amounts of food 1 mark

2 marks

- c. One mark for a suitable package, probably database or spreadsheet.
Two marks for reasons which match the software.

Database
Easy to search.
Easy to sort.
Produces reports.

Spreadsheet
Does calculations
Makes charts / graphs

3 marks

- d. Answers may include:
Shows cow is in place
Identifies which cow
Saves energy / only on if cow is there.

Max 2 marks

Total 9 marks

7

- a. Input of numbers
b. Print of total
c. Decision about end condition
d. Running total
e. Resets total to 0.

5 marks

Total for foundation section 50 marks.

November 2006 Common Section

1H / 8F. Award one mark for each usable validation method. (4)
Award one mark for each correct description. (4)
Do NOT award marks for repeated methods or descriptions.
For TYPE check, allow character / number / integer check.

Hotel name: Presence, length, type.
Star rating: Presence, length, type, format.
Number of rooms: Presence, length, range, type.
Date: Presence, format, length, type.

8 marks

2H / 9F. Award one mark for each sensible measure. (3)
Award one mark for a description of how the measure works. (3)
Answers may include:
Firewall.
Prevents the computer being 'seen electronically' / showing a connection

Do not have shared drives / folders.
Drives / folders do not show on the connection, OS stops access to drives / folders.

Passwords / User IDs on drives / folders / files.
Drives / folders / files cannot be opened without the password.

Encrypt drives / folders / files.
Files are scrambled / unreadable, even if they can be seen over the connection.

6 marks.

3H / 10F.

a. Look for:
The town centre is kept clean and tidy
5 choices
numbered choices
navigation button / next question
title / question number / company ID
Instructions for using the screen

Max 5 marks

b. Process name. Verification 1 mark
Reason To ensure the number is correct 1 mark

5 marks

Total 7 marks

4H / 11F. a. 8 bits = 1 byte / Uses 1, 2, 4 bytes
To hold colour information
For each pixel

OR 8 bit = 256 colours
16 bit = $256 \times 256 = 65536$ / 32 bit = 4294967296 colours
For each pixel

Max 2 marks

b. Answers may include:
Faster scanning
Faster processing
Smaller file size
Faster web page loading

Max 2 marks

c. Answers may include:

Re-scan	Re-size in the art package
At lower resolution	To size needed on web site
Makes smaller input file.	Makes smaller output / stored file

Compress the picture
Convert to / store as .jpg or other compressed format (NOT zip.)
Makes smaller output / stored file.

Max 2 marks for each of 2 methods

Total 8 marks

5H / 12F. a. (i) Web sites related
by similar content / topic / theme

2 marks

(ii) Answers may include:
Advertising the club.
For new members
For events
For cash / sponsorship
Finding out about
(cycling) news.
Events
Improving contacts
With other clubs
With other interested organisations, e.g. Cycle companies

Max 2 marks

- b. (i) The web master / someone in the club / a responsible person,
observes / monitors content. 1 mark
- (ii) Look for the following ideas:
Protection of youth / child / underage members. 1 mark
Protection from inappropriate material / people. 1 mark

Total 7 marks

6H / 13F. a. Use of equations / formula / maths
To simulate behaviour (of the bridge)

2 marks

- b. Answers **MUST** relate to bridges. Answers may include:
Cheaper than building physical structures / bridges.
Faster than building physical structures / bridges.
Can test to destruction.
Can test in unusual / extreme conditions.
Easy to make design changes.

2 marks

- c. Answers may include:
Variation in building material used.
Errors in maths / models.
Human error (at any stage)

2 marks

- d. Answers may include:
Computer games, simulating aircraft, guns, people, etc.
Science software, simulating ecology, radiation, chemicals, etc.
CAD software, simulating, rooms, machines, vehicles, etc.
Spreadsheets, simulating cash flow, movement of an object, etc.

Look for:

A plausible situation.

A description of what is being simulated.

2 marks.

7H / 14F. Award one mark for the role, award one mark for a sensible example, situation / process.

Carrying out software instructions. Decoding / running / operating code / program line

during a situation / process. e.g. When running a game. / When an icon is clicked.
Allow any piece of software / action within a piece of software.

Performing arithmetic operations. + - / x numbers.

during a situation / process. e.g. When running a SUM function. / When altering a variable. Allow any action which involves arithmetic.

DO NOT ALLOW generalised answers such as running a spreadsheet.

Processing control signals. Something acts on / reacts to signal from something else / sends signal to something else.

during a situation / process.

Allow any reasonable idea within the CPU e.g. Control unit / clock sends timing signals to the arithmetic logic unit / any other part of CPU, so that everything is synchronised / in time with each other / works together.

Allow any external signal which sets an interrupt or which would set an interrupt. e.g. Keyboard entry sends signal to make CPU stop its current task and deal with the keyboard.

6 marks

Total for common section 50 marks

November 2006 Higher Section

8. a. Answers may include:
Flash memory devices may need drivers installed
CDs cheaper to make (than flash memory)
CDs more robust (than flash memory)
CDs can be copy protected

3 marks

- b. Zip disk is magnetic, not optical
Zip disk has smaller capacity / 100Mb / 250 Mb
Zip disk is sealed in plastic cover / looks like a floppy disk
Zip disk is re-writable, CD is not.

2 marks

Total 5 marks

9. a. On-line encyclopaedia
Ask on line community / forum / e-mail someone.
On-line library
Use of general information sites, schools, universities, government, NGOs.
e.g.
Use of other known sites
via url
via bookmark / favourites

2 marks

- b. Look for the following ideas:
Use of logic / syntax, AND, OR, NOT.
Use of key words
Use of () / “” to keep key phrases as one unit.
Filtering first set of results with further restrictions.
No foreign language sites
Use filter / age / safe settings to remove inappropriate sites

Max 3 marks

- c. Answers may include:

Information on a web site may be out of date
Information on a web site may be accidentally wrong.
Information on a web site may be deliberately wrong.

2 marks.

Total 7 marks

10. a. = B2
* E2

2 marks

b. Look for the following ideas:
Put wood type in A2
Get price from table
Put price in B2

3 marks

c. IF (F2 > £5000 ,
“alert message “ ,
“” / no alert)

3 marks

Total 8 marks

11. a.

Marks are for a correct function of a named piece of equipment.
A = hub / switch / router 1 mark
switches/routes/directs signals to correct destination computer. 1 mark
B = server 1 mark
Any server function. e.g. security / file serving / sharing. 1 mark
C = wireless access point / router 1 mark
switches/routes/directs signals to correct destination computer. 1 mark

b. Connection from Network A hub
To Network B wireless access point OR to a new wireless access point

OR connect the servers together, with additional NICs.

2 marks

Total 8 marks.

12. a. Answers may include:

Component / bottom up / white box testing	alpha testing
Testing individual parts	testing by developer
Overall / system / top down / black box testing	beta testing
Testing the system as a whole	testing by other people
acceptance / user testing	
User testing in work situation	

1 mark for each type

1 mark for a sensible description of that type.

Max 6 marks

NOT descriptions of data being used for tests, normal, extreme, incorrect, validations, etc.

- b. How to set security options, e.g. passwords / access levels
How to make alterations to the database,
Allow two specific alterations. e.g. new reports, changing fields

2 marks

Total 8 marks

13. a. Answers may include:

Measure volume, with a liquid level sensor.
Measure weight, with a balance.
Measure depth, with a pressure sensor.

One mark for what is measured. One mark for how it is measured.
NO manual methods allowed.

2 marks.

- | | |
|---|---------|
| b. Input milk volume | 1 mark |
| Use of pre-set / stored value | 1 mark |
| OR use of pre-set / stored range of values | 2 marks |
| A comparison of values | 1 mark |
| A decision on the amount of food. | 1 mark |

4 marks

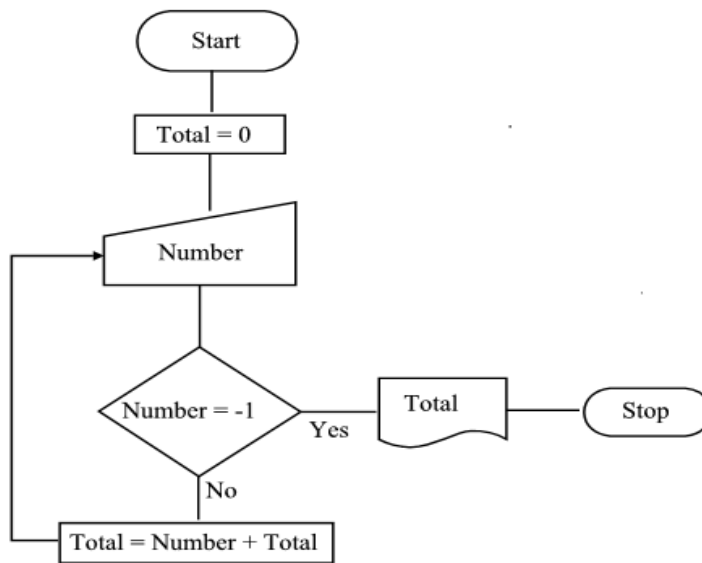
- c. Answers may include:

Electronic tag / collar / implant.	1 mark
Means of detecting it, e.g. radio, infra red.	1 mark
Link to cow I.D	1 mark
In database / file	1 mark

Max 3 marks

Total 9 marks

14. A possible flowchart is:



Possible structured English solutions are:

Start

Set Total as 0

Do (a loop)

Input a number (from keyboard)

If number input = -1 Then

Print Total

Stop

Else

Total = Number + Total

Loop

Start

Set Total as 0

Do (a loop)

Input Number

Total = Number + Total

Loop until Number = -1

Print Total

Stop

Look for the following marking points:

Start and Stop

Set Total = 0

Input a number

Make a decision about -1

If -1 Print Total

If not -1 Total = Number + Total

A loop which makes sense

Max 5 marks.

Total for higher section 50 marks.

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