

GCSE 2004  
*June Series*



# Mark Scheme

## Information and Communication

### Technology Specification A (Short Course)

*(Subject Code 3527/H)*

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*Dr Michael Cresswell Director General*

**1. Mark first three answers (unless clarification)**

- |     |                        |                           |                   |
|-----|------------------------|---------------------------|-------------------|
| (a) | graphics digitiser     | concept keyboard          | MICR (reader)     |
|     | keyboard               | scanner                   | OCR (reader)      |
|     | light pen              | digital camera/web cam    | OMR (reader)      |
|     | mouse/tracker ball     | joystick/games controller | bar code (reader) |
|     | sensor/thermistor      | graphics tablet           | laser pen         |
|     | touch screens/pad      | microphone                |                   |
|     | Interactive whiteboard |                           |                   |

**Other answers may be possible – please make sure these are not backing store.**

**Any 3 X 1 (3)**

- |     |  |                            |
|-----|--|----------------------------|
| (b) | laser printer                                | bubble-jet/ink-jet printer |
|     | Plotter                                      | actuator                   |
|     | Screen/Monitor (VDU)/Interactive Whiteboard/ | digital projector          |
|     | Speaker                                      | lights                     |
|     | dot-matrix printer                           | buzzer                     |
|     | motor  |                            |

**NB – allow “printer” for one mark but if a second named printer is given, then ignore the first one i.e. if given a mark for “printer” then no additional mark would be given for the answer “laser printer”**

**Could have THREE different printers for 3 marks.**

**Any 3 X 1 (3)**

- |     |                   |                                |
|-----|-------------------|--------------------------------|
| (c) | CD-ROM (drive)    | floppy disk (drive)            |
|     | DVD ROM (drive)   | memory stick/pen drive         |
|     | DVD Ram (drive)   | zip disk (drive)               |
|     | hard disk (drive) | - allow hard drive             |
|     | CD-R (drive)      | CD-RW (drive)                  |
|     | Flash card        | Dat tape/Magnetic tape (drive) |

**Allow ROM/RAM/EPROM etc. for 1 mark each**

**NOT just disk drive OR CD OR Compact Disc**

**Any 2 X 1 (2)**

**Total 8 marks**

- |           |                     |                            |               |
|-----------|---------------------|----------------------------|---------------|
| <b>2.</b> | B (RAM)             | <b>Correct Answer Only</b> | <b>1 mark</b> |
| <b>3.</b> | A (OMR)             | <b>Correct Answer Only</b> | <b>1 mark</b> |
| <b>4.</b> | D (Replicate cells) | <b>Correct Answer Only</b> | <b>1 mark</b> |

**Total 3 marks**



- 6(a) Data – has no meaning in itself  
because it has no context/structure  
needs a context to turn it into information  
good example **Any 1 x 1 mark**
- (b) Information it has meaning/ can be understood  
because it has a context/structure  
good example **Any 1 x 1 mark**
- (c) (i) Data **Correct Answer Only 1 mark**  
(ii) Information **Correct Answer Only 1 mark**  
(iii) Data **Correct Answer Only 1 mark**  
(iv) Data **Correct Answer Only 1 mark**
- Total 6 marks**

**7. These versions will work 90% of the time. You must “trace through” others.**

**Version 1 – Going right (possible combination)**

**Step 1 – look at and mark the BIG square first (3)**

**Step 2 - look at and mark the LITTLE square next (1)**

**Step 3 – Check for PENUP and PENDOWN sequence with instruction between(1)**

**Step 4 – Check the transition instructions between squares(1)**

FORWARD 60 (could be FORWARD 10 FORWARD 50) **1 mark**

RIGHT 90  
FORWARD 50  
RIGHT 90 **1 mark**

FORWARD 50  
RIGHT 90  
FORWARD 50 **1 mark**

**3 Marks for drawing the large square**

**MARK FIRST**

\*\*\*\*\*

RIGHT 90  
FORWARD 10  
RIGHT 90  
**PENUP (could before either of the other 3 instructions)**  
FORWARD 10  
PENDOWN  
LEFT 90 (could come before PENDOWN)  
**NB – if no left turn – SMALL SQUARE as in version 2**

**TRY TO MARK LAST**

**1 Mark PENUP/DOWN with any instructions between**

**1 Mark for moving pen to a suitable point to start the small square THEY DREW.**

.....

FORWARD 30  
RIGHT 90  
FORWARD 30  
RIGHT 90  
FORWARD 30  
RIGHT 90  
FORWARD 30 **Total 6 marks**

**1 Mark for drawing the small square – MUST be ALL correct**

**TRY TO MARK SECOND**

**If starts with PENUP then lose 1 mark**

**If mm or degrees or if FD or RT etc. is used , lose the first mark ONLY**

**Version 2 – Going right (possible combination)**

**Step 1 – look at and mark the BIG square first (3)**

**Step 2 - look at and mark the LITTLE square next (1)**

**Step 3 – Check for PENUP and PENDOWN sequence with instruction between(1)**

**Step 4 – Check the transition instructions between squares(1)**

FORWARD 10 **1 mark**

RIGHT 90  
FORWARD 50  
LEFT 90 **1 mark**

FORWARD 50  
LEFT 90  
FORWARD 50  
LEFT 90  
FORWARD 50 **1 mark**

**3 Marks for drawing the large square**

**MARK FIRST**

\*\*\*\*\*

LEFT 90  
FORWARD 10  
LEFT 90  
**PENUP (could before either of the other 2 instructions)**  
FORWARD 10  
PENDOWN  
RIGHT 90 (could come before PENDOWN)  
**NB – if no right turn – SMALL SQUARE as in version 1**

**TRY TO MARK LAST**

**1 Mark PENUP/DOWN with any instructions between**

**1 Mark for moving pen to a suitable point to start the small square THEY DREW.**

\*\*\*\*\*

FORWARD 30  
LEFT 90  
FORWARD 30  
LEFT 90  
FORWARD 30  
LEFT 90  
FORWARD 30 **Total 6 marks**

**1 Mark for drawing the small square – MUST be ALL correct**

**TRY TO MARK SECOND**

**If starts with PENUP then lose 1 mark**

**If mm or degrees or if FD or RT etc. is used , lose the first mark ONLY**

**8**

**NB – looking for answers related to THIS application**

- (i) Graphics software uses/needs lots of memory  
Imported images may be large  
Editing images needs lots of memory  
May be handling lots of images  
**Any 1 x 1 mark**
- (ii) Makes it easier to see detail/draw  
Colour so that the drawing can be seen in colour  
Easier to compare/see in detail multiple images  
**Any 1 x 1 mark**
- (iii) Graphics/images/design files that need to be saved can be very large  
**Not program**  
**1 mark**
- (iv) Editing/handling/dealing with graphics (files/pictures/designs) requires a lot of processing. So a fast processor is needed to deal with these in an acceptable time.  
Could be dealing with lots of programs/tools/images together  
Rendering/tweening of images takes a lot of processing  
**1 mark**
- (v) For saving/backing up **LARGE FILES**  
**Allow large** files to be imported/exported  
Distribution to customers/clients/companies  
**NOT just for saving**

**1 mark**

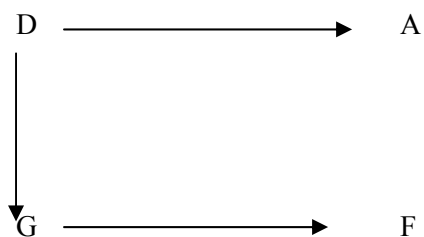
**Total 5 marks**



9(a)

Check decision boxes

Is the correct pair in the process box?

D must be linked with A  
(if D is wrong A cannot be given)G must be linked with F  
(if G is wrong F cannot be given)**2 x 1 mark for each pair**  
**Either order is OK**  
**Total 4 marks**(b) Heat sensor (temperature sensor) / thermistor/thermo-couple **1 mark**  
**(Not THERMOMETER or sensor)**(c) Any suitable answer that is greater than or equal to 1 minute  
less than or equal to 30 minutes**1 mark****Total 6 marks**

**10.a) Desk Top Publishing Package**

Allow word processing package. **NOT PowerPoint or Excel**

Allow named DTP and w/p software eg. Word, Publisher

**1 mark**

**b) Part b) mark independently - NOT JUST ABOUT PRESENTATION**

**Mark the feature then the reason. (If feature is wrong, the reason can't be right)**

**Check if the feature is clarified in the Reason part.**

**If no feature given for any part, go back and check for two features on one line.**

- Picture/clipart added/graphic
- Text/font size made bigger/smaller/changed
- (Text made) bold/underline/italic/font style
- (Text) centred
- Drawing tools/auto shape
- Using bullet points/numbering/lists
- Tables
- Text boxes
- Borders/Border Art
- Text font type changed/Word art used
- Columns/Tab
- Coloured( text )could be used
- Coloured (background/pattern/shade/watermark)
- Text right/(fully) justify
- Change the line spacing
- Import text
- Spellchecker/grammar checker
- Grouping together/moving.../drop and drag
- Copy and paste/cut and paste
- Drawing tools/auto shape

**One bullet point can only score one mark.**

**NOT just Wizard/template NOT just alignment**

**NOT “writing” for the first mark. Allow for additional named repeats.**

**NB – allow “change/different font” for one mark but if a second font change is given then assume it is the same as the first. i.e. if given a mark for “change font” then no additional mark would be given for the answer “change font style.**

**Any 4 for 1 mark each for feature named.**

- Can be easily read
- Looks more attractive
- Contains no spelling/grammar mistakes
- Produces professional layouts
- Produces interesting layouts
- Control layouts/formatting
- Makes text stand out
- Grabs peoples attention/eye-catching/noticeable
- Personalise / show what they sell
- Saves time entering/errors in retyping
- Consistent throughout
- All can be moved at once

**Straight repeats of reasons do NOT gain additional marks.**

**Any 4 for 1 mark each relating to above**

**Total 9 marks**

11(a) (i) C11 **Correct answer only - 1 mark**

(ii)

D11 **Correct answer only**

D13 **Correct answer only**

D17 **Correct answer only**

D19 **Correct answer only**

**Any 2 x 1 mark**

- (b) Number/Numeric/Integer  
Currency  
Text  
Formulae  
Centre  
Bold  
Merge cells  
Word wrap  
Column widths/row heights

**NOT just left/right justified**

**Any 3 x 1 mark**

- (c) Faster to edit  
Neater to edit/easier to edit/easier to change  
Changes are automatically recalculated in totals.  
Time saved using replication/or when the model is set up  
Presentation/DTP advantages for 1 mark  
Validation advantages  
More accurate/less likely to make errors (may be built in function)

**By hand is taken as a minimum of pen, pencil and brain.**

**Any 2 x 1 mark**

**Total 8 marks**

12

- Use data/Process data fairly/lawfully/use data lawfully
- Obtain data fairly/lawfully
- Destroy data when no longer needed/not kept longer than needed
- Keep data secure against /loss/damage/unlawful processing  
**(ALLOW CLEAR SECURITY METHOD for 1 mark)**
- Only use for registered purpose
- Allow customers to see **THEIR OWN** data on request/ process within the rights of the data subjects.
- Keep up-to-date/accurate
- Data must not be excessive for the purpose/relevant/adequate
- Data must not be transferred to countries outside EEC
- Must register (with DP Commissioner or Registrar)

**Any 5 x 1 mark**

**Total 5 marks**

13

a) Password Qszxfg7596 **Correct Answer Only** **1 mark**

**Allow transposition errors or capitals**

Reason Less likely to guess – not obviously linked to Sarah  
Longer – less likely to guess

**Any 1 x 1 mark**

b) Password Sarah **Correct Answer Only** **1 mark**

Reason Most likely to guess – obviously linked to Sarah  
Shortest – most likely to guess – less letters

**Any 1 x 1 mark**

c) (i) Software/is a program  
Replicates itself  
Cause problems/damage to other software or systems

**Any 2 x 1 mark**

(ii) From a floppy disk brought into school

From the Internet

From an e-mail

Written by a pupil

**Any 1 x 1 mark**

**Total 7 marks**

14 Advantages OF INTERNET (not just computer)

- Faster access to range of info
- Latest information is out their/access medication for animals
- Wider range of treatments available
- Access to worldwide databases/research rare animals
- E-mail can be used to ..... (one only)
- Access same information from home/anywhere
- Work from home sometimes
- Work from anywhere
- Chat lines could be an advantage
- Create web page
- Create an e-business/shop/sell on-line/order on-line/on-line banking/tracking

**(max 2 from list)**

- Creates some jobs
- Shorter hours become possible
- Diagnose over internet rather than visit
- Find out what other vets are doing so they can compete
- Route planning for vets (on-line)
- Storage areas on Internet
- Video conferencing

**Any 6 x 1 mark**

Disadvantages of Internet (not computers/databases)

- Not policed – dangerous stuff out there
- Information not always checked! Is it reliable?
- Staff can waste time just surfing the net
- Access/ISP can cost money/cost of the phone use on all day
- Chat lines can also waste money
- Virus issues
- Hacking issues
- May cause unemployment
- Ties up the phone or needs an extra line.
- Training issues for staff
- Junk mail

NOT CRASH/SLOW INTERNET PROBLEMS

**Any 3 x 1 mark**

**Total 9 marks**