

Mark scheme January 2004

GCE

Computing

Unit CPT5

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Computing: Unit CPT5

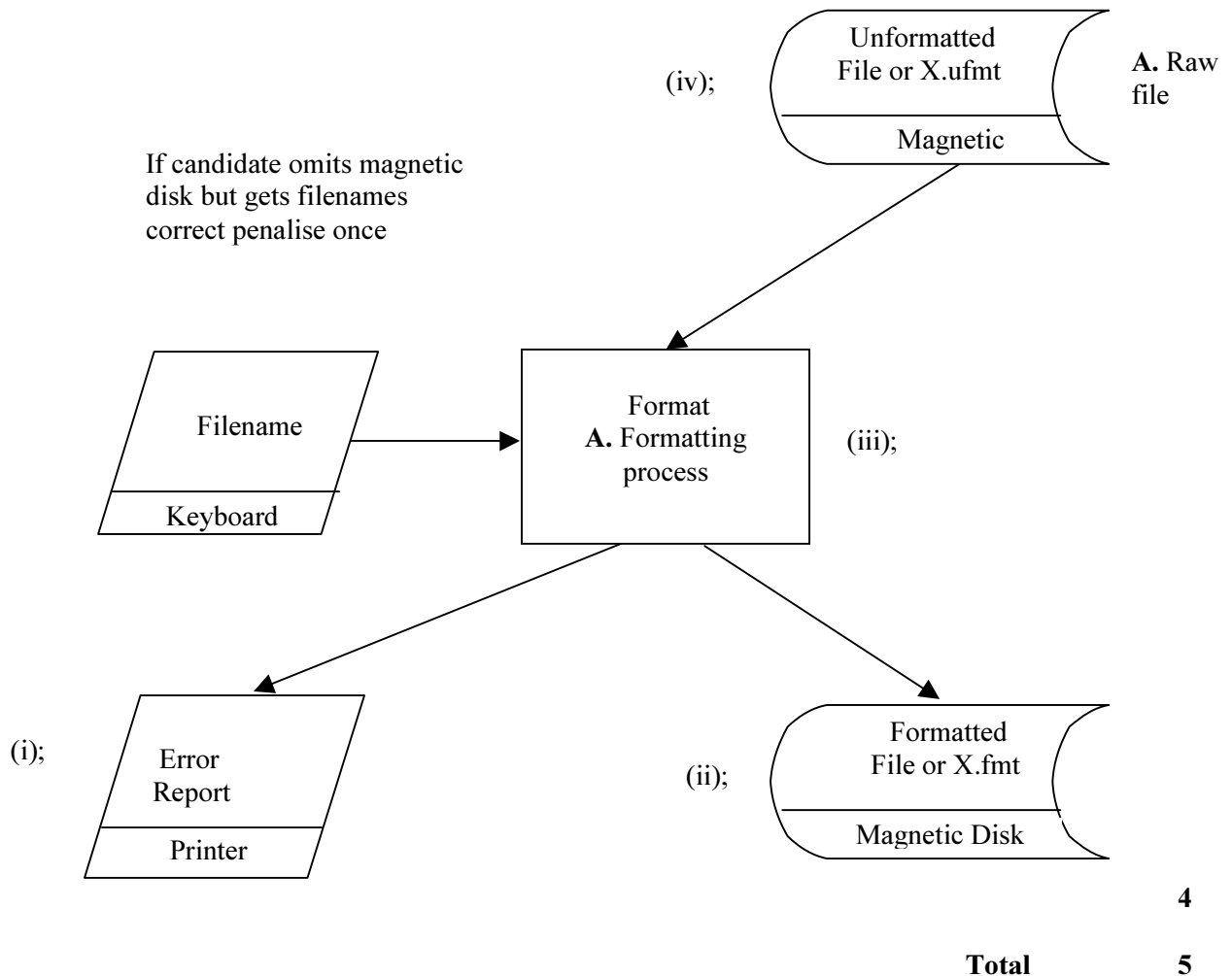
The following notation is used in the mark scheme

- ; - means a single mark;
- / - means alternative response;
- A – means acceptable creditworthy answer;
- R – means reject answer as not creditworthy;
- I – means ignore.

1.	Display text in large font; A. Make text larger Text is spoken//Use speech synthesis; A. Convert to sound Text is printed so that it can be read by touch//Braille form printed; A. Braille on its own. R. Change text colour on its own. R. Embolden text. A. Change contrast between background and foreground colours or its equivalent	max 2
Total		2

2 (a) System flowchart; **A.** System flow diagram. **R.** System diagram/chart. **1**
R. Flow diagram

(b) One mark each of (i) to (iv)



3. (a) (i) To scan barcodes/unique ID attached to each book(must reference book); **1**
- (ii) To identify a borrower/user/staff; **A.** To load up borrower details **1**
- (iii) To produce barcode labels to stick on books // to produce a label to stick in book for some specified purpose, e.g. recording date to be returned; **R.** To print a label. **A.** To produce reference labels **1**
- (iv) To produce overdue reminder letters // any other purpose relevant to library, e.g. flyers; **1**
- (v) For library users to look up book information; **A.** To search for ... **1**
A. Any other appropriate library use

		(b)	Marks awarded for (i) The technique (ii) Position detection (iii) Action Region immediately in front of screen monitored//Beams of infra-red light projected across screen//other methods, e.g. capacitive membrane; Position of e.g. finger determined(detected)//beam broken at a certain position; Position matched to an action performed by computer;	
			A. A screen which allows users to make choices by touching areas of screen; to max	2
			Total	7
4.	(a)		External/User (schema); Internal/Storage (schema); R. Conceptual/Logical	2
	(b)		Any two @ one mark each Create Table; Create View; Create Index Create Unique Index; Create Domain; Create Database; Create Trigger; to max	2
	(c)		So that programmer can choose from a range of programming languages; A. So that programmer can choose from a range of different programs/applications Because a standard interface available to access the database; R. Anything to do with converting from one database to another. to max	1
			Total	5
5.			Any three @ one mark each Set macro to record Perform changes on one slide; } ; Stop recording + start recording in correct order; Run macro on each slide/other slides/rest of presentation;	3
			Total	3

6. (a) **I.** Case in heading.
 NB Heading must be larger font than "Your address" and "Send address"
 Title doesn't have to be in a rectangle, just needs to be at top.
 The two sizeable gaps do not have to be the same size.
A. text inside text box if text is the label "text box"
R. Box which is a TextArea or Memo box in size.
R. Any box which has scroll bars

Title; →

Heading; →

Sizeable Gap →

; text + box; →

Sizeable →

Labelled Button; →

5

Total 5

7. (a) Contains a repeating group;
or
 One or more of RouteId, RouteName, RouteArea, RouteDescription contain multiple values;

1

- (b) Attribute names must not be redefined

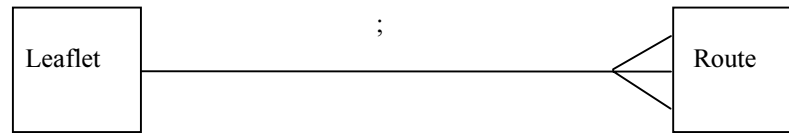
(i) $\frac{1}{\text{Leaflet}(\underline{\text{LeafletId}}, \text{LeafletName}, \text{LeafletCost}, \text{QuantityInStock})}$

2

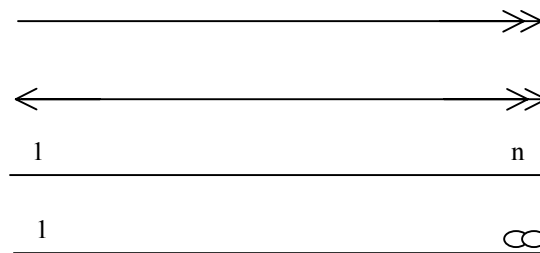
(ii) $\frac{1}{\text{Route}(\underline{\text{RouteId}}, \text{RouteName}, \text{RouteArea}, \text{RouteDescription}, \text{LeafletId})}$

3

(c)



A.



1

(d)

I. Inner join, Join

Asc is optional but if present it must be at end of **Order By** line (A. Ascending)

1 1
Select Surname, EMailAddress, RouteId Penalise **And** once in this line

1
From Person, Problem

R. If And used

1
Where DateReported < 1/1/2004

I. Quotes/ashes/Absence of separators

1
And Person.PersonId = Problem.PersonId

1
Order By RouteId Asc

or

1 1
Select RouteId , Surname, EmailAddress

1
From Problem, Person 1

1
Where Person.PersonId = Problem.PersonId

1
And DateReported < 1/1/2004

1
Order By RouteId Asc

Candidate may use
relation name in front
of attributes, e.g. Select
Person.Surname

Asc is optional
to max

6

(e)		R. Brand names	
	(i)	word processor//word processor with e-mail support;	1
	(ii)	desktop publishing; A. <u>publishing</u> package or anything with publishing	1
	(iii)	spreadsheet; R. Database & spreadsheet R. Finance package. R. Accounting package	1
Total			16
8.	(a)	(i) Strategy: White Box testing; Justification: Need to follow a path through the code (to discover the error);	2
		(ii) While $r \geq y$ 1 mark for identifying(in some way) While statement, 1 mark for correct condition $r \geq y$ R. $q := 0$ changed to $q := 1$	2
	(b)	r never changes or an alternative that describes/implies the same thing; A. gets stuck in an infinite loop	1
	(c)	If $y > 0$ Then $x = y * (\text{result } q) + (\text{remainder } r)$; R. y cannot equal zero A. y must always be greater than zero.	1
	(d)	Acceptance is specified/performed by “customer” ; against original specifications;	1
Total			7

9. (a) To exchange/transmit business documents electronically(Accept invoices / (purchase) orders/catalogues);
R. To exchange data. R. Stock control 1
- (b) Wide area network is a set of links that connect together geographically remote computers;
R. Definition that doesn't reference "connects computers....." 1
- (c) (i) R. Quicker to set up.... (Time is not an issue).
Accept disadvantage that can be mapped to an advantage.
No expertise required to manage the wide area network;
Lower costs applied to something reasonable, e.g. setting up, managing, maintaining; R. Lower costs on its own
Availability of a help desk;
Conversion between standards possible;
Common standard enforced by VAN;
Software provided by VAN for document conversion;
to max 1
- (ii) More secure;
More difficult to tamper with a transmission;
Reliable authentication;
to max 1
- (d) One mark for central hub and one mark for computers connected to hub as shown
NB If hub incorrect answer scores zero
If hub correct but computers incorrect answer scores one mark
Router can be replaced by a computer labelled with router's IP address
- ```

graph TD
 Hub[Hub]
 Router[Router]
 Computer1[Computer]
 Computer2[Computer]
 Computer3[Computer]
 Server[Server]

 Hub -.- Router
 Hub --- Computer1
 Hub --- Computer2
 Hub --- Computer3
 Hub --- Server

```
- Don't have to label computers with their IP addresses.  
A. IP addresses in place of computers + router
- (e) So that these are reachable from anywhere on the Internet//so that can be seen/reached from the world outside;  
R. So can be reached by another branch of supermarket 1



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|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                |           |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| (f)                | Document split into smaller chunks; A. segments/packets/frames<br>Destination IP address doesn't match this segment's IP address;<br>Document chunks sent to nearest router;<br>Using its network card address/MAC address;<br>Router sends chunks to router connected to print server segment;<br>Using its routing tables and;<br>This router's network card address;<br>This router sends chunks to print server;<br>to max | 5         |
| (g)                | To block access to/from the internal private network from/to the Internet;<br>To stop certain kinds of access to the Web server, e.g. telnet;<br>To close ports to prevent users from connecting to them;<br>To block connections on unwanted ports;<br>To prevent unauthorised access to the private computers;<br>A. Filtering<br>to max                                                                                     | 1         |
| (h)                | A network in which resource security/user authentication/<br>administration/resource allocation;<br>managed/controlled by/carried out by servers;                                                                                                                                                                                                                                                                              | 2         |
| <b>Total</b>       |                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>15</b> |
| <b>Grand Total</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>65</b> |