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SECTION A

Answer ALL questions.

For each question, choose an answer, A, B, C or D and put a cross in the box. Mark only one answer for each question. If you change your mind, put a line through the box and then mark your new answer with a cross.

eg: Mark the box like this:

<input type="checkbox"/> A
<input type="checkbox"/> B
<input checked="" type="checkbox"/> C <i>This shows your answer</i>
<input type="checkbox"/> D

If you change your mind, mark the boxes like this:

<input checked="" type="checkbox"/> A <i>This shows your final answer</i>
<input type="checkbox"/> B
<input checked="" type="checkbox"/> C <i>First answer</i>
<input type="checkbox"/> D

1. Which **one** of these uses magnetic storage?

- A CD ROM
- B DVD
- C Hard disk
- D CD RW

(Total 1 mark)

Q1

2. RAM memory is volatile.

Data in RAM is:

- A stored permanently
- B saved when the computer is switched off
- C stored externally
- D lost when the computer is switched off

(Total 1 mark)

Q2

3. Which **one** of these is a principle of the Data Protection Act?

- A data cannot be kept for more than one year
- B data should be kept secure
- C data should not be shown to anyone
- D data may be given out for marketing purposes

(Total 1 mark)

Q3

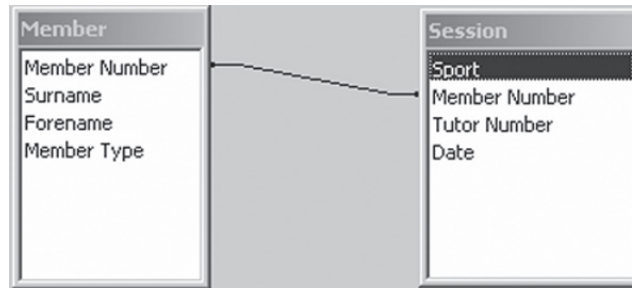


<p>4. A series of commands developed to solve a problem is:</p> <ul style="list-style-type: none"> <input type="checkbox"/> A an algorithm <input type="checkbox"/> B a decision <input type="checkbox"/> C a process <input type="checkbox"/> D a formula <p style="text-align: right;">(Total 1 mark)</p>	<p>Leave blank</p> <p style="text-align: center;">Q4</p> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto;"></div>
<p>5. Automatic backup is a type of:</p> <ul style="list-style-type: none"> <input type="checkbox"/> A security software <input type="checkbox"/> B application package <input type="checkbox"/> C communication software <input type="checkbox"/> D operating system utility <p style="text-align: right;">(Total 1 mark)</p>	<p style="text-align: center;">Q5</p> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto;"></div>
<p>6. In a database 'Newcastle' is encoded as 'NCL'.</p> <p>One reason for encoding the data is that it:</p> <ul style="list-style-type: none"> <input type="checkbox"/> A cannot be read by hackers <input type="checkbox"/> B will be more difficult to understand <input type="checkbox"/> C is impossible to verify <input type="checkbox"/> D is easier to validate <p style="text-align: right;">(Total 1 mark)</p>	<p style="text-align: center;">Q6</p> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto;"></div>
<p>7. Some Internet sites contain information unsuitable for children.</p> <p>Parents can restrict the sites that their children access by using a:</p> <ul style="list-style-type: none"> <input type="checkbox"/> A filter <input type="checkbox"/> B firewall <input type="checkbox"/> C browser <input type="checkbox"/> D virus checker <p style="text-align: right;">(Total 1 mark)</p>	<p style="text-align: center;">Q7</p> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 0 auto;"></div>



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8. The diagram shows two tables that have been linked in a relational database.
The Member Number is the primary key in the Member table.
What is the term used to describe Member Number in the Session table?



- A foreign key
- B secondary key
- C master key
- D subsidiary key

(Total 1 mark)

Q8

9. Which **one** of these statements about on-line banking compared to traditional banking is correct?

- A customers' personal data is more secure
- B charges to customers are always reduced
- C the bank has access to a wider customer base
- D less personal data needs to be stored

(Total 1 mark)

Q9

10. Pupils in a secondary school are aged 11 to 18. The school's database includes an age field.

Which **one** of these values could be used as extreme test data for the age field?

- A 19
- B 11
- C 10
- D 12

(Total 1 mark)

Q10



<p>11. An example of sensible and economical coding for a date field is:</p> <p><input type="checkbox"/> A 11-06-2007</p> <p><input type="checkbox"/> B 11 June 07</p> <p><input type="checkbox"/> C 110607</p> <p><input type="checkbox"/> D 11/jun/2007</p> <p style="text-align: right;">(Total 1 mark)</p>	<p>Leave blank</p> <p>Q11</p> <input type="text"/>
<p>12. What does http stand for?</p> <p><input type="checkbox"/> A hyper text transfer program</p> <p><input type="checkbox"/> B hyper text transfer protocol</p> <p><input type="checkbox"/> C higher text transfer program</p> <p><input type="checkbox"/> D higher text transfer protocol</p> <p style="text-align: right;">(Total 1 mark)</p>	<p>Q12</p> <input type="text"/>
<p>13. The speed at which a computer processor carries out instructions is measured in:</p> <p><input type="checkbox"/> A gigabytes (Gb)</p> <p><input type="checkbox"/> B dots per inch (dpi)</p> <p><input type="checkbox"/> C megabytes (Mb)</p> <p><input type="checkbox"/> D megahertz (MHz)</p> <p style="text-align: right;">(Total 1 mark)</p>	<p>Q13</p> <input type="text"/>
<p>14. When solving an ICT systems problem, the correct sequence is:</p> <p><input type="checkbox"/> A analysis, design, implementation, evaluation</p> <p><input type="checkbox"/> B design, analysis, implementation, evaluation</p> <p><input type="checkbox"/> C design, evaluation, analysis, implementation</p> <p><input type="checkbox"/> D analysis, evaluation, design, implementation</p> <p style="text-align: right;">(Total 1 mark)</p>	<p>Q14</p> <input type="text"/>





<p>15. A garage uses a spreadsheet to calculate the total VAT that should be added to customers' bills. One cell is used to hold the % VAT to be added.</p> <p>The use of one cell in this way is called:</p> <ul style="list-style-type: none"><input type="checkbox"/> A automatic calculation<input type="checkbox"/> B relative cell referencing<input type="checkbox"/> C replication<input type="checkbox"/> D absolute cell referencing <p style="text-align: right;">(Total 1 mark)</p>	Leave blank Q15 <input type="text"/>
<p>16. Replacing the text on screen with other text entered from the keyboard is referred to as:</p> <ul style="list-style-type: none"><input type="checkbox"/> A deleting<input type="checkbox"/> B inserting<input type="checkbox"/> C wrapping<input type="checkbox"/> D overtyping <p style="text-align: right;">(Total 1 mark)</p>	Q16 <input type="text"/>
<p>17. Which type of printer can be described as an impact printer?</p> <ul style="list-style-type: none"><input type="checkbox"/> A ink jet<input type="checkbox"/> B colour laser<input type="checkbox"/> C dot matrix<input type="checkbox"/> D laser <p style="text-align: right;">(Total 1 mark)</p>	Q17 <input type="text"/>
<p>18. Which one of these processes uses check digits?</p> <ul style="list-style-type: none"><input type="checkbox"/> A validation<input type="checkbox"/> B verification<input type="checkbox"/> C replication<input type="checkbox"/> D compression <p style="text-align: right;">(Total 1 mark)</p>	Q18 <input type="text"/>



<p>19. The Internet has potential benefits and drawbacks for both individuals and society.</p> <p>Which one of these statements is correct?</p> <p><input type="checkbox"/> A Everyone has equal opportunity to access the Internet.</p> <p><input type="checkbox"/> B The Internet has narrowed the gap between rich and poor countries.</p> <p><input type="checkbox"/> C The Internet has had a positive effect on many housebound individuals.</p> <p><input type="checkbox"/> D All learning materials found on the Internet are accurate.</p> <p style="text-align: right;">(Total 1 mark)</p>	<p>Leave blank</p> <p>Q19</p> <input type="text"/>
<p>20. Computer-Aided Manufacturing (CAM) is widely used in industry.</p> <p>Which one of these statements is correct?</p> <p><input type="checkbox"/> A CAM can be used to carry out repetitive tasks.</p> <p><input type="checkbox"/> B CAM always prevents delays occurring.</p> <p><input type="checkbox"/> C CAM equipment is cheap and easy to install.</p> <p><input type="checkbox"/> D CAM reduces industrial pollution.</p> <p style="text-align: right;">(Total 1 mark)</p>	<p>Q20</p> <input type="text"/>
<p>TOTAL FOR SECTION A: 20 MARKS</p>	



N 3 3 4 5 2 A 0 7 2 8



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SECTION B

1. Information relating to sales and stocks of books is recorded in the **BOOK_SALES** spreadsheet file.

Part of the **BOOK_SALES** file is shown.

	A	B	C	D	E	F
1	Ref. No	Purchase Price	Selling Price	Opening Stock	Closing Stock	Reorder Level
2	JTH7262	£6.00	£6.60	35	13	8
3	FAU1524	£8.00	£8.80	100	41	8
4	FCO1053	£12.50	£13.75	65	30	5
5	GCO3162	£6.00	£6.60	105	75	8
6	JSC0423	£12.00	£13.20	90	45	5
7	GAU0042	£15.50	£17.05	75	45	5
8	JTH1932	£8.50	£9.35	120	37	8
9	FSC0076	£20.00	£22.00	80	42	5
10	JTH1965	£6.00	£6.60	105	65	8

(a) The **Selling Price** is calculated by adding 10% to the **Purchase Price**.

(i) Write down the formula that has been entered in cell C2 to calculate the **Selling Price** for JTH7262.

.....
.....

(2)

(ii) Name the process that can be used to copy the formula in cell C2 for use in cells C3 to C10.

.....
.....

(1)



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(b) '*Bobbies Bookstore*' does not want too many of the more expensive books in stock.

Books with a **Purchase Price** of £10.00 or more have a **Reorder Level** of 5; cheaper books have a **Reorder Level** of 8.

Write down the formula that is used in F5 to automatically calculate **Reorder Level** for GCO3162.

.....

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.....

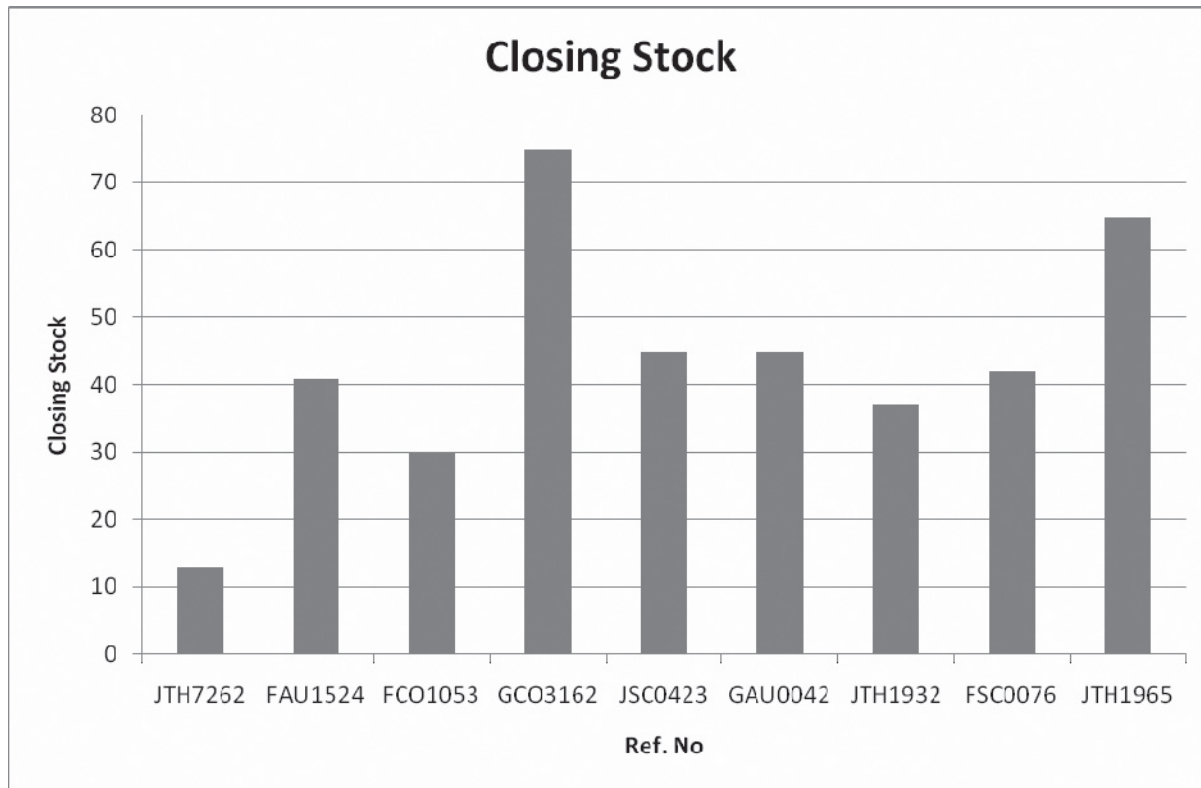
(3)



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(c) A bar chart has been produced for 'Bobbies Bookstore' to show the **Closing Stock** for each book. The chart is saved as CS_CHART for later use.

Here is the chart.



(i) The manager would like to insert the chart into a word processed sales report.

Explain how the manager would do this.

.....

.....

.....

.....

.....

.....

(4)

(Quality of Written Communication: 3 marks)

(ii) Identify **one** way of **automatically** inserting the spreadsheet into the word processed sales report.

.....

QB1

(1)

(Total 14 marks)



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2. Sales at '*Bobbies Bookstore*' are processed through the EPOS system.

(a) Explain how the EPOS system works.

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.....
.....
.....
.....
.....
.....
.....

(4)

(b) The EPOS system has advantages for both '*Bobbies Bookstore*' and its customers.

(i) Identify **two** advantages for '*Bobbies Bookstore*'.

Advantage 1
.....
Advantage 2
.....

(2)

(ii) Identify **two** advantages for customers.

Advantage 1
.....
Advantage 2
.....

(2)

QB2

(Total 8 marks)



3. 'Bobbies Bookstore' has decided to introduce an on-line ordering facility on its website.

(a) Give **two** advantages for customers of using an on-line ordering facility.

Advantage 1

.....

Advantage 2

.....

(2)

(b) Give **three** advantages for 'Bobbies Bookstore' of customers ordering on-line.

Advantage 1

.....

Advantage 2

.....

Advantage 3

.....

(3)

(c) 'Bobbies Bookstore' sends an automatic confirmation e-mail to a customer when an order is received.

Explain how the email gets from the computer at 'Bobbies Bookstore' to the customer's computer.

.....

.....

.....

.....

.....

.....

(4)



(d) 'Bobbies Bookstore' employs an ICT specialist to manage the computer network. One of their responsibilities is to keep the website updated.

Identify **three** other responsibilities the ICT specialist will have.

1

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2

.....

3

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(3)

QB3

(Total 12 marks)

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4. The ICT specialist at 'Bobbies Bookstore' has set up a template for use on all website pages.

(a) One of the reasons a template is used is to show where text and graphics should be placed.

Identify **three** other reasons for using templates and for each give an example of how it can be used in the website.

Reason

Example

.....

Reason

Example

.....

Reason

Example

.....

(6)

(b) Some graphics used on the website are bitmap images.

Bitmap image files can be very large.

A disadvantage of large files is that they take up a large amount of computer storage.

(i) Give **one** other disadvantage of having large files **on the website**.

.....

(1)

(ii) Name the process that is used to reduce the storage size of large files.

.....

(1)

(iii) Name the legislation that controls the copying of graphic images.

.....

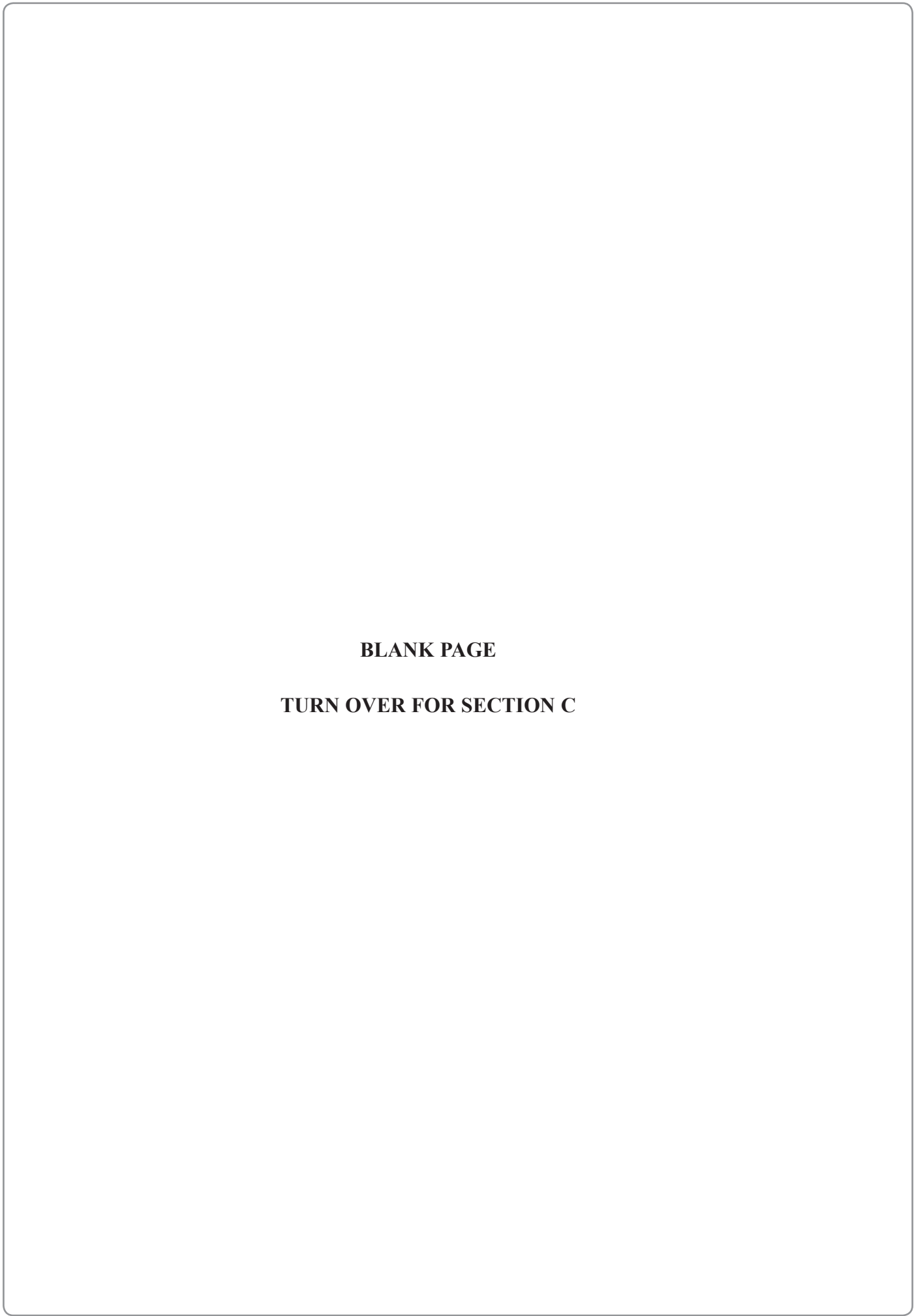
(1)

QB4

(Total 9 marks)

TOTAL FOR SECTION B: 43 MARKS





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TURN OVER FOR SECTION C



N 3 3 4 5 2 A 0 1 5 2 8



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SECTION C

1. *'FasterFlights'* is an airline company. Its website allows customers to book flights on-line.

(a) Customers complete a screen form when making their booking.

The screen form on the opposite page has been partly designed.

Finish the design of the screen form.

Make sure your screen form is easy for customers to complete and includes all important information.





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FasterFlights

Surname																			
Forename																			

House Number																			
Street																			
Town																			

(8)



N 3 3 4 5 2 A 0 1 7 2 8



(b) The information collected from the flight bookings is stored on a computer database.

Part of the CUSTOMER_FILE is shown.

Forename	Surname	Date Booked	New Customer	Customer ID
Amien	Nannar	07/03/10	Y	F1010
Fred	Armstrong	17/05/10	N	M1031
Kulbir	Sangha	18/12/09	Y	M0098
Jack	Channell	02/05/10	Y	M0132
Miranda	Skimpton	19/03/10	N	F0305
Francis	Gardener	29/11/09	Y	M0941
James	O'Brien	16/04/10	Y	M0987

The **New Customer** field is a logical data type.

Explain what is meant by 'logical data type'.

.....
.....
..... (2)

(c) The CUSTOMER_FILE has a key field.

(i) Name the key field.

..... (1)

(ii) Explain why this field **must** be the key field.

.....
..... (2)



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(d) It is important that data entry errors are minimised.

(i) Describe **one** way that database software can be used to reduce data entry errors.

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.....
.....

(2)

(ii) Describe **one** manual method that can be used to check that data is accurate.

.....
.....
.....

(2)

(e) Changes to the CUSTOMER_FILE are processed in batches at the end of each day.

(i) Name **two** types of file that are used in the updating process.

1

2

(2)

(ii) Serial access and direct access are two ways of accessing stored data.

For each type of access state the storage medium it can use.

Serial access

Direct access

(2)

QC1

(Total 21 marks)

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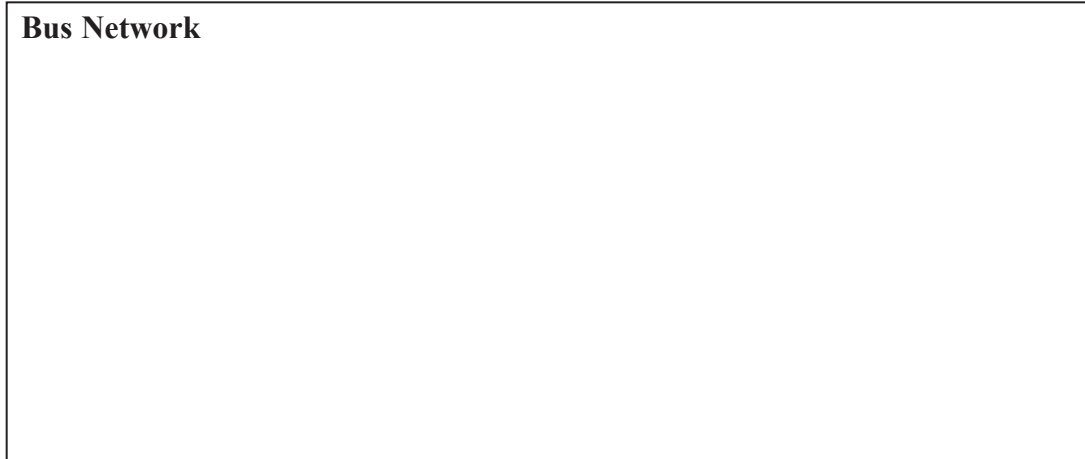


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2. Deanside Community Centre has decided to install a Local Area Network (LAN). A LAN can be connected by cables and can have different topologies.

(a) Draw and label the topology for each type of network.

Bus Network



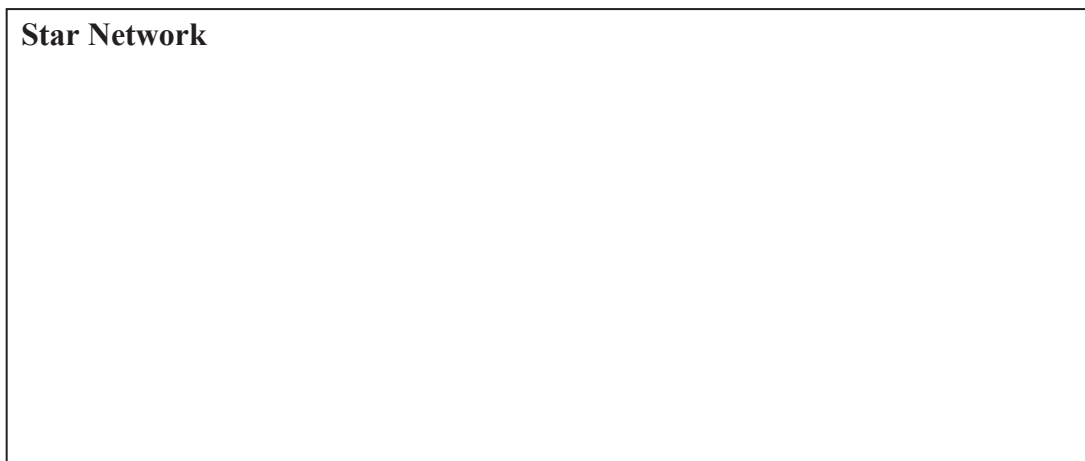
(2)

Ring Network



(2)

Star Network



(2)



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blank

- (b) When selecting which network topology to install, Deanside Community Centre must consider the advantages and disadvantages of each type.

Complete this table by identifying **one** advantage and **one** disadvantage of a Star Network and a Bus Network.

	Advantage	Disadvantage
Star Network		
Bus Network		

(4)

- (c) Name the hardware device that must be in each workstation to allow access to the network.

.....
(1)

- (d) Give **two** advantages of using a LAN rather than stand-alone computers.

Advantage 1

.....

Advantage 2

.....
(2)



Leave blank

(e) Give **one** disadvantage of using a LAN rather than stand-alone computers.

.....

.....

(1)

(f) A network file server is used to store user files. The files must be backed up to ensure data is not lost.

Describe the factors that should be considered when designing a back-up strategy.

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(6)

QC2

(Total 20 marks)



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3. Flight simulators are used to train pilots.

(a) Give **four** benefits of using flight simulators to train pilots.

Benefit 1

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Benefit 2

.....

Benefit 3

.....

Benefit 4

.....

(4)

(Quality of Written Communication: 3 marks)

(b) Give **two** limitations of using flight simulators to train pilots.

Limitation 1

.....

Limitation 2

.....

(2)



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(c) Flight simulators use real-time processing and feedback loops.

(i) Define 'real-time processing'.

.....
.....

(1)

(ii) Explain how the flight simulator makes use of feedback loops.

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(3)

QC3

(Total 13 marks)



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4. The Central Processing Unit (CPU) is often described as the brains of the computer.

Three components of the CPU are the Arithmetic and Logic Unit, Immediate Access Store and the Control Unit.

Identify **three** functions of each of these components.

Arithmetic and Logic Unit

Function 1

.....

Function 2

.....

Function 3

.....

(3)

Immediate Access Store

Function 1

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Function 2

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Function 3

.....

(3)



Control Unit

Function 1

.....

Function 2

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Function 3

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Leave
blank

(3)

QC4

(Total 9 marks)

TOTAL FOR SECTION C: 63 MARKS
TOTAL FOR PAPER: 126 MARKS

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