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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. Multi-copy invoices are printed on self-carbonised paper. The most appropriate type of printer to use is:

- A laser
- B dot matrix
- C inkjet
- D bubble jet

(Total 1 mark)

Q1

2. Which one of these is **not** a validation check?

- A typical check
- B range check
- C type check
- D length check

(Total 1 mark)

Q2

3. Which one of these is **not** a true statement when using a bar coding system?

- A data input is accurate
- B data input is fast
- C the bar code is a unique number
- D the bar code must include the price

(Total 1 mark)

Q3



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| <p>4. When an e-mail is received it can be sent on to other e-mail addresses. This is:</p> <p><input type="checkbox"/> A forwarding</p> <p><input type="checkbox"/> B replying</p> <p><input type="checkbox"/> C mailing</p> <p><input type="checkbox"/> D attaching</p> <p style="text-align: right;">(Total 1 mark)</p> | <p>Leave blank</p> <p>Q4</p> <input type="text"/> |
| <p>5. Which of these is not a principle of the Data Protection Act?</p> <p><input type="checkbox"/> A data must be kept secure</p> <p><input type="checkbox"/> B data must be relevant and not excessive</p> <p><input type="checkbox"/> C data cannot be copied without permission</p> <p><input type="checkbox"/> D data must be accurate and up to date</p> <p style="text-align: right;">(Total 1 mark)</p> | <p>Q5</p> <input type="text"/> |
| <p>6. Two formats for graphics files are:</p> <p><input type="checkbox"/> A bitmap and clipart</p> <p><input type="checkbox"/> B vector and bitmap</p> <p><input type="checkbox"/> C vector and clipart</p> <p><input type="checkbox"/> D bitmap and CAD</p> <p style="text-align: right;">(Total 1 mark)</p> | <p>Q6</p> <input type="text"/> |
| <p>7. Which of these is a true statement about ROM?</p> <p><input type="checkbox"/> A data is lost when the computer is switched off</p> <p><input type="checkbox"/> B data can be changed</p> <p><input type="checkbox"/> C it is non-volatile</p> <p><input type="checkbox"/> D it is volatile</p> <p style="text-align: right;">(Total 1 mark)</p> | <p>Q7</p> <input type="text"/> |
| <p>8. Which of these is not a function of the operating system?</p> <p><input type="checkbox"/> A communicating with the system's hardware</p> <p><input type="checkbox"/> B managing the system's resources</p> <p><input type="checkbox"/> C performing arithmetic calculations</p> <p><input type="checkbox"/> D monitoring the performance of the system</p> <p style="text-align: right;">(Total 1 mark)</p> | <p>Q8</p> <input type="text"/> |





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| <p>9. In terms of data storage and input, the most economical coding for a date field is:</p> <ul style="list-style-type: none"><input type="checkbox"/> A 11/06/2007<input type="checkbox"/> B 11 June 2007<input type="checkbox"/> C 11062007<input type="checkbox"/> D 11/jun/2007 <p style="text-align: right;">(Total 1 mark)</p> | Leave blank Q9 <input type="text"/> |
| <p>10. A series of commands written to solve a problem is:</p> <ul style="list-style-type: none"><input type="checkbox"/> A an algorithm<input type="checkbox"/> B a flow chart<input type="checkbox"/> C an acronym<input type="checkbox"/> D a formula <p style="text-align: right;">(Total 1 mark)</p> | Q10 <input type="text"/> |
| <p>11. The sharpness of an image on a VDU depends on its resolution. The resolution is measured in:</p> <ul style="list-style-type: none"><input type="checkbox"/> A pixels<input type="checkbox"/> B inches<input type="checkbox"/> C MHz<input type="checkbox"/> D kilobytes <p style="text-align: right;">(Total 1 mark)</p> | Q11 <input type="text"/> |
| <p>12. When using a web browser 'temporary' pages are stored in:</p> <ul style="list-style-type: none"><input type="checkbox"/> A history<input type="checkbox"/> B favourites<input type="checkbox"/> C temp<input type="checkbox"/> D cache <p style="text-align: right;">(Total 1 mark)</p> | Q12 <input type="text"/> |
| <p>13. Which type of software is used to set up a flight simulation to help train pilots?</p> <ul style="list-style-type: none"><input type="checkbox"/> A database<input type="checkbox"/> B spreadsheet<input type="checkbox"/> C CAD<input type="checkbox"/> D graphics <p style="text-align: right;">(Total 1 mark)</p> | Q13 <input type="text"/> |



| <p>14. Which of these is not a true statement about flight simulators?</p> <p><input type="checkbox"/> A flight simulators are much safer than the real thing</p> <p><input type="checkbox"/> B the simulation works in real time</p> <p><input type="checkbox"/> C the simulators make use of feedback loops</p> <p><input type="checkbox"/> D all real life situations can be simulated</p> <p style="text-align: right;">(Total 1 mark)</p> | <p>Leave blank</p> <p>Q14</p> <input type="text"/> | | | | | | | | | | | | | | | |
|---|--|---------------------|-------------|----------------------------|--------------------------|---------------------|----------------------------|--------------------------|---------------------|----------------------------|--------------------------|---------------------|----------------------------|--------------------------|---------------------|---------------------------------|
| <p>15. What does http stand for?</p> <p><input type="checkbox"/> A hypertext transfer program</p> <p><input type="checkbox"/> B hypertext 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>Q15</p> <input type="text"/> | | | | | | | | | | | | | | | |
| <p>16. Which row of the table correctly compares the two types of monitor?</p> <table border="1"> <thead> <tr> <th></th> <th>LCD MONITOR</th> <th>CRT MONITOR</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> A</td> <td>Takes up less desk space</td> <td>Generates less heat</td> </tr> <tr> <td><input type="checkbox"/> B</td> <td>Takes up more desk space</td> <td>Generates less heat</td> </tr> <tr> <td><input type="checkbox"/> C</td> <td>Takes up less desk space</td> <td>Generates more heat</td> </tr> <tr> <td><input type="checkbox"/> D</td> <td>Takes up more desk space</td> <td>Generates more heat</td> </tr> </tbody> </table> <p style="text-align: right;">(Total 1 mark)</p> | | LCD MONITOR | CRT MONITOR | <input type="checkbox"/> A | Takes up less desk space | Generates less heat | <input type="checkbox"/> B | Takes up more desk space | Generates less heat | <input type="checkbox"/> C | Takes up less desk space | Generates more heat | <input type="checkbox"/> D | Takes up more desk space | Generates more heat | <p>Q16</p> <input type="text"/> |
| | LCD MONITOR | CRT MONITOR | | | | | | | | | | | | | | |
| <input type="checkbox"/> A | Takes up less desk space | Generates less heat | | | | | | | | | | | | | | |
| <input type="checkbox"/> B | Takes up more desk space | Generates less heat | | | | | | | | | | | | | | |
| <input type="checkbox"/> C | Takes up less desk space | Generates more heat | | | | | | | | | | | | | | |
| <input type="checkbox"/> D | Takes up more desk space | Generates more heat | | | | | | | | | | | | | | |
| <p>17. Which of these is not dealt with by the 1990 Computer Misuse Act?</p> <p><input type="checkbox"/> A computer fraud</p> <p><input type="checkbox"/> B copying software</p> <p><input type="checkbox"/> C hacking into someone's computer</p> <p><input type="checkbox"/> D distributing viruses</p> <p style="text-align: right;">(Total 1 mark)</p> | <p>Q17</p> <input type="text"/> | | | | | | | | | | | | | | | |
| <p>18. Which of these is not a true statement about check digits?</p> <p><input type="checkbox"/> A check digits make sure that numbers fall in a particular range</p> <p><input type="checkbox"/> B check digits are worked out using a mathematical calculation</p> <p><input type="checkbox"/> C ISBN numbers on books use check digits</p> <p><input type="checkbox"/> D check digits are a type of validation</p> <p style="text-align: right;">(Total 1 mark)</p> | <p>Q18</p> <input type="text"/> | | | | | | | | | | | | | | | |



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19. Magnetic tape is often used as a backup storage medium.

Which of these is **not** true about magnetic tape?

- A direct access is used to find data
- B data is read by magnetic heads
- C serial access is used to find data
- D access to data is relatively slow

Q19

(Total 1 mark)

20. A computer is advertised with 'A 3GHz Pentium 4 processor'.

What is the processor speed in pulses per second?

- A 4 000 000 000 000
- B 4 000 000 000
- C 3 000 000 000 000
- D 3 000 000 000

Q20

(Total 1 mark)

TOTAL FOR SECTION A: 20 MARKS



SECTION B

1. 'Zest for Life' collects personal data from members when they join a studio. This data is entered into the MEMBERS file.

Here is part of the file.

| MEMBER-ID | SURNAME | FORENAME | DATE OF BIRTH | GENDER | MEMBER TYPE | LAST VISIT |
|-----------|---------|----------|---------------|--------|-------------|------------|
| 1036 | Briggs | Reece | 07/07/93 | M | J | 06/11/07 |
| 0046 | McShane | Leanne | 09/12/75 | F | F | 13/05/08 |
| 1075 | Nannar | Kulbir | 25/02/79 | M | F | 24/02/08 |
| 1062 | Jones | Carl | 16/11/94 | M | J | 31/12/07 |
| 1145 | Skirrow | Edmond | 15/09/80 | M | O | 17/04/08 |
| 0076 | Logan | Justine | 16/05/84 | F | O | 21/10/07 |
| 0672 | Singh | Amandeep | 29/03/89 | M | F | 14/04/08 |
| 1032 | Armson | George | 12/11/78 | M | O | 13/03/08 |

- (a) After their data is entered into the database the member is issued with a membership card. The card is swiped each time the member visits a studio.

- (i) State what data **must** be stored on the card.

..... (1)

- (ii) State where the data is stored on the card.

..... (1)

- (iii) State which data will be recorded on the database when the card is swiped.

.....
 (1)



Leave
blank

(b) 'Zest for Life' would like a list of the junior male members.

This search is entered
MEMBER TYPE equals J OR GENDER equals M

The search produces a list of all the junior male and female members.

Write the correct search.

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(2)

(c) Validation rules have been set on **MEMBER-ID**.

(i) Explain what is meant by validation.

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.....
(2)

(ii) Give an example of a validation rule that could be used on **MEMBER-ID**.

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(2)



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(d) It is important that the database is tested to make sure that it works correctly.

Describe suitable test data for the **MEMBER-ID** field.

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(6)

(e) Databases can be flat file or relational.

(i) Describe the differences between a flat file and a relational database.

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(3)

(ii) Explain the role of the key field in a relational database.

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(2)

(Total 20 marks)

QB1

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2. The Head Office has three networked computers which deal with day-to-day administration tasks and advertising.

(a) At the beginning of every month a personalised letter is sent out to all members who have not attended a studio for more than one month.

Explain how the personalised letters would be produced.

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(6)
(Quality of Written Communication: 3 marks)

(b) 'Zest for Life' produces a monthly newsletter.

(i) Desktop publishing software is used to create the newsletter.

Give **three** reasons why desktop publishing is chosen for this task rather than word processing software.

1

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2

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3

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(3)



(ii) Give **two** benefits to 'Zest for Life' of making the newsletter available via their website.

1

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2

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(2)

(Total 14 marks)

Leave
blank

QB2

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M 3 0 2 6 9 A 0 1 1 2 0

3. In order to monitor members' progress training mentors record personal statistics in a spreadsheet.

Here is part of the spreadsheet.

| | A | B | C | D | E |
|---|------------------|------------|-----------|------|----------|
| 1 | NAME | WEIGHT(kg) | HEIGHT(m) | BMI | CATEGORY |
| 2 | Huckle: Robyn | 62.73 | 1.85 | 18.3 | U |
| 3 | McShane: Leanne | 63.64 | 1.64 | 23.7 | A |
| 4 | Nannar: Kulbir | 60.84 | 1.77 | 19.4 | A |
| 5 | Lackland: Daniel | 80.84 | 1.79 | 25.2 | O |
| 6 | Skirrow: Edmond | 70.00 | 1.69 | 24.5 | A |
| 7 | Logan: Justine | 44.01 | 1.56 | 18.1 | U |
| 8 | Singh: Amandeep | 73.18 | 1.87 | 20.9 | A |

(a) One statistic that is used is Body Mass Index (BMI). This is calculated for adults by dividing weight (kg) by height squared (m²).

(i) Write down the formula that has been entered in cell D5.

.....

(2)

(ii) Identify **two** functions of the software that could have been used to automatically determine a member's category.

1

2

(2)



Leave
blank

(b) A macro has been used to alert training mentors when a category is calculated as U.

(i) Explain how a macro is created.

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(3)

(ii) Give **two** ways in which a macro can be run.

1
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2
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(2)

QB3

(Total 9 marks)

TOTAL FOR SECTION B: 43 MARKS



SECTION C

1. PJM Bank has a Head Office based in Fulltown and a large number of branches nationwide.

The Head Office and branches communicate using a Wide Area Network (WAN).

(a) Give **two** features of a WAN.

1

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2

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(2)

(b) The Head Office uses video conferencing to communicate with the branch managers.

(i) Identify the additional hardware that is needed by each branch.

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(1)

(ii) Describe **three** benefits to the bank of using video conferencing.

1

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2

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3

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(3)

(iii) Describe **three** problems that may occur when using video conferencing.

1

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2

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3

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(3)



Leave blank

(c) Give **two** ways, other than video conferencing, in which branches are able to communicate using a WAN.

Give **one** advantage for each.

1

Advantage

.....

2

Advantage

.....

(4)

(d) There has been a large increase in the number of customers who use the Internet banking facilities offered by PJM Bank.

(i) Give **two** reasons why customers choose to use Internet banking.

1

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2

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(2)

(ii) The bank has decided to close all branches.

Explain why some staff and customers may be unhappy with this decision.

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(4)

(Total 19 marks)

QC1

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2. Many scientists are concerned about the effects of global warming. A weather station has been set up in the mountains of Scotland to monitor conditions such as temperature and rainfall. Data logging equipment is used in the weather station.

(a) Explain what is meant by data logging.

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(3)

(b) Give **three** advantages of using data logging equipment to monitor weather conditions.

1

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2

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3

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(3)

(c) Give **one** disadvantage of using data logging equipment to monitor weather conditions.

.....
.....

(1)

(d) The data logging software must be set up to collect the data.

Give **two** decisions which must be made when setting up the data logging software.

1

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2

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(2)



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(e) Describe how the collected data can be analysed and the results presented.

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(6)

(f) Data is measured by sensors and sent to the computer via an interface device.

(i) Name this device.

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(1)

(ii) Explain how this device works.

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(2)

(Total 18 marks)

QC2

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3. Blackwood Community Centre has recently been extended. A new computer area has been added. There are 50 networked computers with access to the Internet.

(a) Niraj has been appointed as Network Manager. One of his responsibilities is to backup the network.

(i) Describe a suitable backup strategy.

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(6)

(ii) Give **three** more responsibilities that Niraj will have.

1

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2

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3

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(3)



(b) Julia is a member of the centre. She uses a computer to send e-mails to her sister in America.

(i) Julia has a photograph stored on her computer that she wants to send to her sister.

Describe the process of sending an e-mail with a photograph.

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(6)
(Quality of Written Communication: 3 marks)

(ii) Explain how the e-mail gets from Julia's computer to her sister's computer.

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(4)



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(c) Julia is researching her family history on the Internet. She uses a search engine to help her.

(i) The computer sometimes takes a long time to respond when Julia enters a question into the search engine.

Give **two** reasons why this might happen.

1

.....

2

(2)

(ii) The search engine gives Julia a large number of links when she enters her surname.

Give **two** things Julia can do to reduce the number of links.

1

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2

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(2)

QC3

(Total 26 marks)

TOTAL FOR SECTION C: 63 MARKS

TOTAL FOR PAPER: 126 MARKS

END

