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**COMPUTER SCIENCE****9608/11**

Paper 1 Written Paper

**May/June 2017**

MARK SCHEME

Maximum Mark: 75

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**Published**

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Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

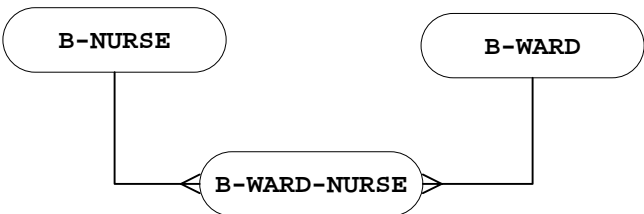
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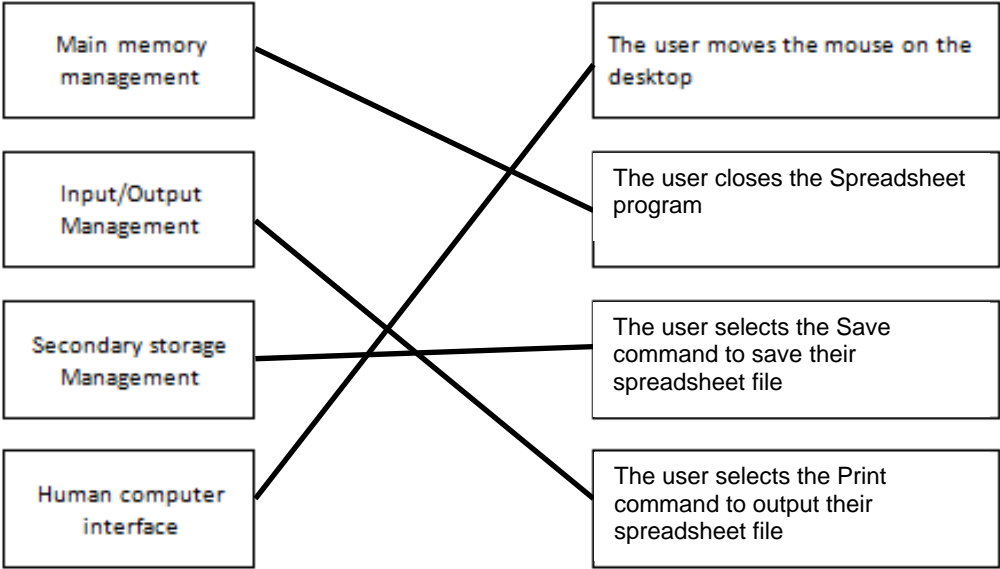
| Question  | Answer   | Marks       |
|-----------|--|-------------|
| 1(a)      | Many-to-one  | 1           |
| 1(b)(i)   | A-NURSE( <u>NurseID</u> , FirstName, FamilyName, <b>WardName</b> )   | 1           |
| 1(b)(ii)  | <ul style="list-style-type: none"> <li>The primary key <u>WardName</u> in the A-WARD table ...</li> <li>... links to the foreign key <u>WardName</u> in the A-NURSE table.</li> </ul>                      | 1<br>1      |
| 1(c)(i)   | Many-to-many relationship  | 1           |
| 1(c)(ii)  | B-WARD-NURSE( <u>WardName</u> , <u>NurseID</u> )<br><br>Both attributes (with no additions)<br>Joint primary key correctly underlined  | 1<br>1      |
| 1(c)(iii) |  <p>Correct relationship between B-NURSE and B-WARD-NURSE</p> <p>Correct relationship between B-WARD and B-WARD-NURSE</p> | 1<br>1      |
| 1(d)(i)   | SELECT NurseID, FamilyName<br>FROM B-NURSE<br>WHERE Specialism = 'THEATRE';  | 1<br>1<br>1 |
| 1(d)(ii)  | UPDATE B-NURSE<br>SET <b>FamilyName</b> = 'Chi'<br>WHERE <b>NurseID</b> = '076';   | 1<br>1<br>1 |

| Question | Answer  | Marks    |  |   |  |   |                                      |   |   |   |   |   |   |   |   |          |
|----------|---|----------|--|---|--|---|--------------------------------------|---|---|---|---|---|---|---|---|----------|
| 2(a)(i)  | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%; text-align: center;">1</td> <td>A laser beam and a rotating mirror are used to draw an image of the page on the photosensitive drum.</td> </tr> <tr> <td style="text-align: center;">2</td> <td><b>C // The image is converted on the drum into an electrostatic charge.</b></td> </tr> <tr> <td style="text-align: center;">3</td> <td>Electrostatic charge attracts toner.</td> </tr> <tr> <td style="text-align: center;">4</td> <td>The charged paper is rolled against the drum.</td> </tr> <tr> <td style="text-align: center;">5</td> <td><b>D // The oppositely-charged paper picks up the toner particles from the drum. After picking up the toner, the paper is discharged to stop it clinging to the drum.</b></td> </tr> <tr> <td style="text-align: center;">6</td> <td><b>A // The paper passes through a fuser, which heats up the paper. The toner melts and forms a permanent image on the paper.</b></td> </tr> <tr> <td style="text-align: center;">7</td> <td><b>B // The electrical charge is removed from the drum and the excess toner is collected.</b></td> </tr> </table> <p style="margin-left: 20px;">C in the correct place <span style="float: right;">1</span><br/>DA, <span style="float: right;">1</span><br/>AB <span style="float: right;">1</span></p> | 1        | A laser beam and a rotating mirror are used to draw an image of the page on the photosensitive drum. | 2 | <b>C // The image is converted on the drum into an electrostatic charge.</b> | 3 | Electrostatic charge attracts toner. | 4 | The charged paper is rolled against the drum. | 5 | <b>D // The oppositely-charged paper picks up the toner particles from the drum. After picking up the toner, the paper is discharged to stop it clinging to the drum.</b> | 6 | <b>A // The paper passes through a fuser, which heats up the paper. The toner melts and forms a permanent image on the paper.</b> | 7 | <b>B // The electrical charge is removed from the drum and the excess toner is collected.</b> | <b>3</b> |
| 1        | A laser beam and a rotating mirror are used to draw an image of the page on the photosensitive drum.  |          |  |   |  |   |                                      |   |   |   |   |   |   |   |   |          |
| 2        | <b>C // The image is converted on the drum into an electrostatic charge.</b>  |          |  |   |  |   |                                      |   |   |   |   |   |   |   |   |          |
| 3        | Electrostatic charge attracts toner.  |          |  |   |  |   |                                      |   |   |   |   |   |   |   |   |          |
| 4        | The charged paper is rolled against the drum.   |          |  |   |  |   |                                      |   |   |   |   |   |   |   |   |          |
| 5        | <b>D // The oppositely-charged paper picks up the toner particles from the drum. After picking up the toner, the paper is discharged to stop it clinging to the drum.</b>   |          |  |   |  |   |                                      |   |   |   |   |   |   |   |   |          |
| 6        | <b>A // The paper passes through a fuser, which heats up the paper. The toner melts and forms a permanent image on the paper.</b>   |          |  |   |  |   |                                      |   |   |   |   |   |   |   |   |          |
| 7        | <b>B // The electrical charge is removed from the drum and the excess toner is collected.</b>   |          |  |   |  |   |                                      |   |   |   |   |   |   |   |   |          |
| 2(a)(ii) | Inkjet printer  | <b>1</b> |  |   |  |   |                                      |   |   |   |   |   |   |   |   |          |
| 2(b)     | <p>Hard disk drive // HDD <span style="float: right;">1</span><br/> Solid state drive //SSD // flash memory <span style="float: right;">1</span><br/> <b>One</b> from:<br/> <i>Hard disk</i><br/> Inexpensive per unit of storage <span style="float: right;">1</span><br/> Larger storage capacity than flash drive <span style="float: right;">1</span></p> <p><i>Solid state storage</i><br/> No moving parts / noise <span style="float: right;">1</span><br/> Robust <span style="float: right;">1</span><br/> Low latency // Fast read/write time <span style="float: right;">1</span></p>  | <b>3</b> |  |   |  |   |                                      |   |   |   |   |   |   |   |   |          |

| Question  | Answer  | Marks  |
|-----------|---|--|
| 3(a)      | <p><i>Sampling rate</i><br/>The <u>number of samples</u> taken <u>per unit time</u> // the number of times the amplitude is measured <u>per unit time</u></p> <p>Increasing the sampling rate will increase the accuracy / precision of the digitised sound // Increasing the sampling rate will result in smaller quantisation errors.</p>         | <p><b>2</b></p> <p>1</p> <p>1</p>                            |
| 3(b)(i)   | <p><i>Pixel</i><br/>Smallest picture element which can be drawn</p> <p><i>Screen resolution</i><br/>The number of pixels which can be viewed horizontally and vertically on the screen // or by example - A typical screen resolution is 1680 pixels × 1080 pixels.</p>   | <p><b>2</b></p> <p>1</p> <p>1</p>                            |
| 3(b)(ii)  | 8   | <b>1</b>   |
| 3(b)(iii) | <p><i>Working: <b>Max two</b> from:</i></p> <ul style="list-style-type: none"> <li>• Number of pixels is <math>2048 \times 512</math></li> <li>• One pixel will be stored as one byte</li> <li>• Number of kilobytes = <math>(2048 \times 512) / 1024</math></li> </ul> <p><i>Answer: <b>One</b> mark:</i></p> <p>Number of kilobytes = 1024 KB</p> | <p><b>3</b></p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>          |
| 3(b)(iv)  | <p><b>One</b> from:</p> <ul style="list-style-type: none"> <li>• Confirmation that the file is a BMP</li> <li>• File size</li> <li>• Location/offset of image data within the file</li> <li>• Dimensions of the image in pixels // image resolution</li> <li>• Colour depth (bits per pixel)</li> <li>• Type of compression used, if any</li> </ul> | <p><b>1</b></p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> |

| Question  | Answer   | Marks                  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |          |
|-----------|--|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------|
| 4(a)(i)   | 500  | <b>1</b>               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |          |
| 4(a)(ii)  | 496  | <b>1</b>               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |          |
| 4(a)(iii) | 502  | <b>1</b>               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |          |
| 4(a)(iv)  | 86   | <b>1</b>               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |          |
| 4(b)      | <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 25%;">0</td><td style="width: 25%;">0</td><td style="width: 25%;">0</td><td style="width: 25%;">0</td><td style="width: 25%;">0</td><td style="width: 25%;">0</td><td style="width: 25%;">0</td><td style="width: 25%;">0</td><td style="width: 25%;">1</td> <td style="width: 25%;">0</td><td style="width: 25%;">0</td><td style="width: 25%;">0</td><td style="width: 25%;">1</td><td style="width: 25%;">0</td><td style="width: 25%;">0</td><td style="width: 25%;">0</td><td style="width: 25%;">0</td><td style="width: 25%;">1</td> </tr> <tr> <td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td> <td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td> </tr> </table> <p style="margin-left: 20px;">Both correct op codes <span style="float: right;">1</span><br/> Operand 0001 0001 <span style="float: right;">1</span><br/> Operand 0110 0001 <span style="float: right;">1</span></p> | 0                      | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | <b>3</b> |
| 0         | 0  | 0                      | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |          |
| 0         | 0  | 0                      | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |          |
| 4(c)      | 256  | <b>1</b>               |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |          |
| 4(d)(i)   | 07 C2<br><br>07<br>C2  | <b>2</b><br><br>1<br>1 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |          |
| 4(d)(ii)  | LDI 63<br><br>LDI<br>63  | <b>2</b><br><br>1<br>1 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |          |

| Question     | Answer   | Marks        |   |   |   |   |   |  |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |
|--------------|--|--------------|---|---|---|---|---|--|--|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|--|--|--|--|--|--|--|---|---|---|---|---|---|---|---|---|
| 5(a)(i)      | <ul style="list-style-type: none"> <li>Count the number of one bits in the <u>first seven</u> bit positions 1</li> <li>Add a 0 or 1 to bit position 0, to make the count of one bits an <u>odd</u> number 1</li> </ul>   | 2            |   |   |   |   |   |  |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |
| 5(a)(ii)     | A = 1<br>B = 1   | 1            |   |   |   |   |   |  |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |
| 5(a)(iii)    | <p><b>Two</b> from:</p> <ul style="list-style-type: none"> <li>A parity bit is worked out for each <u>column</u> 1</li> <li>The computer checks the parity of each bit position in parity byte // the computer generates copy of the parity byte and <u>compares</u> 1</li> <li>If incorrect parity then there is an error in the data received // No parity error means no error in the data received 1</li> <li>The position of the incorrect bit can be determined 1</li> </ul>   | 2            |   |   |   |   |   |  |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |
| 5(b)(i)      | <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="8">Bit position</th> </tr> <tr> <th>7</th> <th>6</th> <th>5</th> <th>4</th> <th>3</th> <th>2</th> <th>1</th> <th>0</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> </tr> <tr> <td>0</td> <td>0</td> <td>1</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>0</td> <td>0</td> <td style="border: 1px solid blue;">1</td> <td>1</td> <td style="border: 1px solid blue;">0</td> <td>1</td> <td>0</td> <td>1</td> </tr> <tr> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>0</td> </tr> <tr> <td>0</td> <td>0</td> <td style="border: 1px solid blue;">1</td> <td>0</td> <td style="border: 1px solid blue;">0</td> <td>1</td> <td>0</td> <td>0</td> </tr> <tr> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td colspan="8" style="text-align: center;"> </td> </tr> <tr> <td style="border: 1px solid black;">0</td> <td style="border: 1px solid black;">1</td> <td style="border: 1px solid black;">0</td> <td style="border: 1px solid black;">1</td> <td style="border: 1px solid black;">1</td> <td style="border: 1px solid black;">0</td> <td style="border: 1px solid black;">0</td> <td style="border: 1px solid black;">0</td> </tr> </tbody> </table> | Bit position |   |   |   |   |   |  |  | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |  |  |  |  |  |  |  |  | 0 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 2 |
| Bit position |  |              |   |   |   |   |   |  |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |
| 7            | 6  | 5            | 4 | 3 | 2 | 1 | 0 |  |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |
| 1            | 0  | 0            | 0 | 1 | 1 | 0 | 0 |  |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |
| 0            | 0  | 1            | 0 | 0 | 0 | 0 | 0 |  |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |
| 0            | 0  | 1            | 1 | 0 | 1 | 0 | 1 |  |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |
| 1            | 1  | 1            | 1 | 0 | 0 | 0 | 1 |  |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |
| 1            | 1  | 0            | 0 | 0 | 0 | 1 | 0 |  |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |
| 0            | 0  | 1            | 0 | 0 | 1 | 0 | 0 |  |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |
| 0            | 0  | 0            | 0 | 0 | 0 | 0 | 1 |  |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |
|              |  |              |   |   |   |   |   |  |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |
| 0            | 1  | 0            | 1 | 1 | 0 | 0 | 0 |  |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |
| 5(b)(ii)     | <p><b>Three</b> from:</p> <ul style="list-style-type: none"> <li>Consider each row in sequence 1</li> <li>Identify any row with incorrect parity 1</li> <li>Repeat the process for each column in sequence 1</li> <li>Identify where a row and column with incorrect parity intersect 1</li> </ul>   | 3            |   |   |   |   |   |  |  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |

| Question  | Answer  | Marks    |
|-----------|---|----------|
| 6(a)      |  <p><b>One</b> mark for each correct line from each left hand box <b>to max <u>three</u></b> marks.</p> | <b>3</b> |
| 6(b)(i)   | File compression software   | <b>1</b> |
| 6(b)(ii)  | Backup software   | <b>1</b> |
| 6(b)(iii) | Disk repair software  | <b>1</b> |
| 6(b)(iv)  | Anti-virus software   | <b>1</b> |

| Question  | Answer   | Marks        |
|-----------|--|--------------|
| 7(a)      | <p><b>Two</b> from:</p> <ul style="list-style-type: none"> <li>• The user's web browser is the client software 1</li> <li>• The requested web page has program code / script embedded <u>within it</u> 1</li> <li>• This code is interpreted by the web browser 1</li> </ul>   | <b>2</b>     |
| 7(b)      | <p><b>Four</b> from:</p> <ul style="list-style-type: none"> <li>• The browser parses the URL to obtain the Domain Name 1</li> <li>• The browser software passes the Domain Name to the nearest Domain Name Server (DNS) 1</li> <li>• The DNS stores a list of Domain Names and matching IP addresses 1</li> <li>• The DNS Name Resolver looks for the Domain Name in its database 1</li> <li>• If found the corresponding IP address is returned to the originator 1</li> <li>• If not found the request is forwarded to another higher level DNS 1</li> <li>• The original DNS adds the returned IP address to its cache 1</li> <li>• The original DNS returns the IP address to the originator 1</li> <li>• The browser uses the IP address to request the required web page from the <u>web server</u> 1</li> <li>• The web server retrieves the page and delivers it to the originator 1</li> <li>• The browser software interprets <u>the script</u> and displays the web page 1</li> </ul> | <b>Max 4</b> |
| 7(c)(i)   | <p>Message1, Message2<br/>x</p>  | <b>2</b>     |
| 7(c)(ii)  | 6 – 19   | <b>1</b>     |
| 7(c)(iii) | 11   | <b>1</b>     |
| 7(c)(iv)  | Checks that the product code has not be left blank // presence check on product code   | <b>1</b>     |
| 7(c)(v)   | <p><b>Two</b> checks from:<br/><b>One</b> mark for check and <b>one</b> mark for description</p> <ul style="list-style-type: none"> <li>• Range check 1<br/>Check the number entered is (say) between 1 and 100 1</li> <li>• Format check 1<br/>Checks the product code is a particular format // Checks the number has digit characters only // by example 1</li> <li>• Length check 1<br/>The number of items has exactly five characters 1</li> <li>• Existence check 1<br/>To ensure the product code has been assigned 1</li> </ul>   | <b>Max 4</b> |