



INFORMATION AND COMMUNICATION TECHNOLOGY

0417/11

Paper 1 Written

October/November 2018

MARK SCHEME

Maximum Mark: 100

Published

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

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

Cambridge International will not enter into discussions about these mark schemes.

Cambridge International is publishing the mark schemes for the October/November 2018 series for most Cambridge IGCSE™, Cambridge International A and AS Level components and some Cambridge O Level components.

This syllabus is approved for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.

This document consists of **10** printed pages.

Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

the specific content of the mark scheme or the generic level descriptors for the question
the specific skills defined in the mark scheme or in the generic level descriptors for the question
the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
marks are awarded when candidates clearly demonstrate what they know and can do
marks are not deducted for errors
marks are not deducted for omissions
answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

GENERIC MARKING PRINCIPLE 5:

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

| Question | Answer | Marks |
|----------|-----------------|-------|
| 1(a) | Microphone | 1 |
| 1(b) | Numeric keypad | 1 |
| 1(c) | Touch pad | 1 |
| 1(d) | Graphics tablet | 1 |

| Question | Answer | Marks | | | | | | | | | | | | | | | | | | | | |
|---|--|-----------------------|--------------|-----------------------|-------------|---------------------------------|--|--|---|---|---|--|--|-----------------------------|--|---|--|-----------------------------------|--|--|---|---|
| 2 | 1 mark for each correct row. <table border="1" data-bbox="328 669 1302 1133"> <thead> <tr> <th></th> <th>email (✓)</th> <th>electronic fax (✓)</th> <th>both (✓)</th> </tr> </thead> <tbody> <tr> <td>Can be used as a legal document</td> <td></td> <td></td> <td>✓</td> </tr> <tr> <td>Allows video attachments to be added to the message</td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>Requires a telephone number</td> <td></td> <td>✓</td> <td></td> </tr> <tr> <td>Message can be sent to a computer</td> <td></td> <td></td> <td>✓</td> </tr> </tbody> </table> | | email (✓) | electronic fax (✓) | both (✓) | Can be used as a legal document | | | ✓ | Allows video attachments to be added to the message | ✓ | | | Requires a telephone number | | ✓ | | Message can be sent to a computer | | | ✓ | 4 |
| | email (✓) | electronic fax (✓) | both (✓) | | | | | | | | | | | | | | | | | | | |
| Can be used as a legal document | | | ✓ | | | | | | | | | | | | | | | | | | | |
| Allows video attachments to be added to the message | ✓ | | | | | | | | | | | | | | | | | | | | | |
| Requires a telephone number | | ✓ | | | | | | | | | | | | | | | | | | | | |
| Message can be sent to a computer | | | ✓ | | | | | | | | | | | | | | | | | | | |

| Question | Answer | Marks | | | | | | | | | | | | | | | | | | | | |
|---|--|---------------------|----------------------|---------------------|----------------------|-----------------------------|--|--|---|---------------------|---|--|--|----------------------|--|---|--|---|--|---|--|---|
| 3 | 1 mark for each correct row. <table border="1" data-bbox="328 1330 1302 1794"> <thead> <tr> <th></th> <th>validation (✓)</th> <th>verification (✓)</th> <th>proof-reading (✓)</th> </tr> </thead> <tbody> <tr> <td>Identifying spelling errors</td> <td></td> <td></td> <td>✓</td> </tr> <tr> <td>Using a range check</td> <td>✓</td> <td></td> <td></td> </tr> <tr> <td>Typing in data twice</td> <td></td> <td>✓</td> <td></td> </tr> <tr> <td>Visually comparing data on screen with the original source document</td> <td></td> <td>✓</td> <td></td> </tr> </tbody> </table> | | validation (✓) | verification (✓) | proof-reading (✓) | Identifying spelling errors | | | ✓ | Using a range check | ✓ | | | Typing in data twice | | ✓ | | Visually comparing data on screen with the original source document | | ✓ | | 4 |
| | validation (✓) | verification (✓) | proof-reading (✓) | | | | | | | | | | | | | | | | | | | |
| Identifying spelling errors | | | ✓ | | | | | | | | | | | | | | | | | | | |
| Using a range check | ✓ | | | | | | | | | | | | | | | | | | | | | |
| Typing in data twice | | ✓ | | | | | | | | | | | | | | | | | | | | |
| Visually comparing data on screen with the original source document | | ✓ | | | | | | | | | | | | | | | | | | | | |

| Question | Answer | Marks |
|----------|--------------------------|-------|
| 4(a) | Hanging indent paragraph | 1 |
| 4(b) | Indented paragraph | 1 |
| 4(c) | fully justified | 1 |
| 4(d) | right aligned | 1 |

| Question | Answer | Marks |
|----------|--|-------|
| 5(a) | Four from: The cloud has greater storage capacity than other methods The data could be sent directly to the cloud from any device on the festival ground Access the data from any device Easier to add storage capacity Lower capital outlay The organisers would only pay for the storage they used Data can be analysed more quickly | 4 |
| 5(b) | Three from: More security issues as personal data is used The owner of the data loses control over it The cost of storing in the cloud may be restrictive in the long term The devices must be connected to the cloud at all times for ticket sales | 3 |

| Question | Answer | Marks |
|----------|---|-------|
| 6(a) | Four from: The position/location of the player is calculated using GPS software Data is transmitted/sent to the pitch side computer every few seconds Algorithm calculates the speed/distance player has moved The data is stored/saved in the computer The coordinates of the player are shown onto the map of the pitch | 4 |
| 6(b) | Two from: Temperature Heart rate/pulse rate Breathing rate | 2 |
| 6(c) | 1 mark for name of <u>suitable</u> printer 1 mark for appropriate reason | 2 |

| Question | Answer | Marks |
|----------|---|----------|
| 7(a) | Four from: Highlight/select A4 to B15 Press and hold Ctrl Highlight/Select D4 to D15 Select insert Select chart type/line graph | 4 |
| 7(b) | Three from: Add a chart title – for example: ‘UV level comparison for 2016 for Brazil and France’ Add y/value axis title – UV level Add x/category axis title – months Change/Add legend – to show the two countries (Brazil and France) Place the legend below the chart to give max coverage of the graph Add data labels on the line to provide/give exact values | 3 |
| 7(c) | AVERAGE(B4:B15) 1 mark for AVERAGE () 1 mark for (B4:B15) | 2 |
| 7(d) | VLOOKUP(B4,A\$19:B\$23,2) 1 Mark VLOOKUP () 1 mark (B4, 1 mark for the A19:B23, 1 mark for 2) 1 mark for the correct use of absolute referencing The position of the elements must be correct to gain the mark | 5 |
| 7(e) | Three from: Click on the cell/C4 Move to the bottom right hand side of the cell Select drag handle / cross / black box / double click on drag handle Drag handle / cross to C15 | 3 |

| Question | Answer | Marks |
|----------|---|-------|
| 8 | <p>To be marked as a level of response:</p> <p>Level 3 (7–8 marks): Complete level 2 To gain 7/8 marks there needs to be a justification of points made To gain 7/8 marks there must be a reasoned conclusion</p> <p>Level 2 (4–6 marks): Complete level 1 Award a mark for benefits and drawbacks or expansions of each. To achieve 4 marks there must be at least one benefit <u>and</u> drawback.</p> <p>Level 1 (1–3 marks): Award a mark for benefits <u>or</u> drawbacks to a maximum of 3 marks</p> <p>Level 0 (0 marks) Response with no valid content</p> <p>Example answers Social networking messages can be available to/seen by all Security settings can restrict who reads/makes the comments Communication can take place in a (private) chatroom Comments can be liked/disliked/shared Don't need to learn email address Live video/audio calls can be made/streamed Emails tend to be one to one Can share <u>live</u> videos You know who's online Larger upload size than email</p> <p>Emails are private between the sender and recipient // more secure Messages can be alerted as high priority Attachments can be used Emails tend to be more formal Auto reply / forward / reply can be used In social networking makes a person more prone to cyber predators/trolls</p> | 8 |

| Question | Answer | Marks |
|----------|---|-------|
| 9(a) | <p>Max five from:</p> <p>Advantages Direct changeover the benefits are seen immediately There is less cost to the Health Authority with direct changeover as only one system is in operation Takes minimal time to changeover using direct changeover therefore the bookings are not disrupted With pilot it is a safer method as it is trialled in one department/centre/branch Only one department/centre/branch affected if system fails If pilot is used it gives staff time to train with new system Fewer errors as it is fully tested</p> <p>Max five from:</p> <p>Disadvantages Training using direct changeover could be difficult as users cannot be trained on the new system Training with pilot changeover could take place gradually/in direct changeover everyone has to be trained at the same time With pilot there would be two systems in operation therefore there could be confusion No backup of the system using direct changeover For the department/centre/branch using the pilot there is no backup</p> <p>1 mark is available for the choice of method and a reason: Pilot Changeover as there is less disruption to the system if it does wrong. or Direct changeover this is a cheaper method/immediate results</p> | 7 |
| 9(b) | <p>Max two from:</p> <p><i>Efficiency</i> Does it operate quicker than the previous system? Does it operate by reducing staff time in making bookings? // Does it reduce the time to make a booking? Does it operate by reducing staff costs? // is it more cost effective than the old system?</p> <p>Max two from:</p> <p><i>Ease of use</i> Are all the users able to use the system and make bookings easily/effectively? Are all the users able to change and cancel bookings easily/effectively? Can all staff understand how to use the system with minimal training?</p> <p>Max two from:</p> <p><i>Appropriateness</i> Is the system suitable for each of the medical departments? Does it meet the needs of the patients? Does it meet the needs of the medical staff? Does the solution match the original requirements?</p> | 6 |

| Question | Answer | Marks |
|----------|--|----------|
| 9(c) | <p>Four from:</p> <p>The traffic signals have a radio-frequency reader/scanner The reader sends out radio signals to the chip The RFID reader extracts data from the RFID chip The scanning device/reader provides energy/activates so that the chips can broadcast the information in them to the reader The scanning antenna sends out radio-frequency signals in a relatively short range It provides a means of communicating with the RFID chip (in the ambulance) The reader sends data to the computer/microprocessor/actuator The data is compared with data stored in the database</p> | 4 |
| 9(d) | <p>Max three from:</p> <p>Advantages of RFID Not affected by the weather – must be qualified All ambulances need to register their number plates so if one arrives from out of the area it could cause problems Does not need a live connection to a database of number plate numbers RFID more accurate – less likely to be misread // not all number plates can be read by recognition systems Line of sight not required</p> <p>Max three from:</p> <p>Disadvantages of RFID Signals may affect other electronic equipment in the ambulance Cost of fitting/maintaining to all ambulances Difficult to use temporary ambulances // The chip needs to be present in the ambulance for it to work</p> | 4 |

| Question | Answer | Marks |
|----------|--|----------|
| 10(a) | <p>Two from:</p> <p>Communication <u>protocol</u> Security <u>technology</u> Encrypted link between the server and the client</p> | 2 |
| 10(b) | <p>Two from:</p> <p>The URL will start with HTTPS A padlock appears as an icon on the web page SSL security certificate warning The background colour of the URL is set to green</p> | 2 |

| Question | Answer | Marks | | | | | | | | | | | | | | | | |
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| This is a public system | | ✓ | | | | | | | | | | | | | | | | |

| Question | Answer | Marks |
|----------|---|-------|
| 12 | <p>Six from:</p> <p>Increased unemployment of manual workers/vehicle production line workers May be opportunities to retrain/employment as maintenance workers of robots More pleasant atmosphere to work in/less noise Workers are in a safer environment Workers become deskilled Job opportunities for job sharing/part time</p> | 6 |

| Question | Answer | Marks |
|----------|---|-------|
| 13 | <p>Four from:</p> <p>Each item is scanned/bar code is read at the POS terminal Bar code is searched in the database The quantity of products is reduced The stock database is updated When the minimum stock number/level/reorder level is reached Reads re-order quantity Goods flagged as ordered The automated stock system sends a signal to the warehouse computer to order new items The warehouse sends the items to the supermarket Re-order quantity is found in the database Flags removed The stock control system updates the stock levels in the stock control database with the new stock</p> | 4 |

| Question | Answer | Marks |
|----------|---|----------|
| 14 | Four from: Compress the images to a smaller size // reduce image resolution Compress/zip the document to a smaller size Change the file type/format of each image Save as PDF Replace the images with place holders | 4 |

| Question | Answer | Marks |
|----------|---------------------|----------|
| 15 | Content/Structure | 1 |
| | Behaviour/Scripting | 1 |