INFORMATION AND COMMUNICATION TECHNOLOGY   **0417/13**

Paper 1 Written   **May/June 2017**

MARK SCHEME

Maximum Mark: 100

Question	Answer	Marks
1(a)	graph plotter	**1**
1(b)	speaker	**1**
1(c)	3D printer	**1**
1(d)	monitor	**1**

Question	Answer	Marks
2	<table><tr><td></td><td>true (✓)</td><td>false (✓)</td></tr><tr><td>An actuator is an item of software.</td><td></td><td>✓</td></tr><tr><td>Hardware is the physical components of a computer system.</td><td>✓</td><td></td></tr><tr><td>Software controls the operation of the computer.</td><td>✓</td><td></td></tr><tr><td>Spreadsheet is an example of systems software.</td><td></td><td>✓</td></tr></table> 2 marks for 4 correct ticks 1 mark for 3 or 2 correct ticks 0 marks for 1 or 0 correct ticks	**2**

Question	Answer	Marks
3	<table><tr><th>Icon</th><th>Meaning</th></tr><tr><td>🏠</td><td>Home</td></tr><tr><td>▶</td><td>Next Slide</td></tr><tr><td>▶⎮</td><td>Final Slide</td></tr><tr><td>🖨</td><td>Print</td></tr></table>	**4**

Question	Answer	Mark
4(a)	point	**1**
4(b)	page orientation	**1**
4(c)	gutter	**1**
4(d)	orphan	**1**

Question	Answer	Marks
5(a)	Any **six** from: – User telephones the bank telephone centre – System asks for the long number on the credit / debit card / sort code and account number / customer ID number – The user taps out on the phone keypad / speaks the number – System asks for certain characters in a password – The user taps out the characters asked for – System rejects the password – The user re-enters the characters – After three attempts the telephone connection drops – System asks other security answers – The user taps it in / speaks the answer – System asks which service you require / options given – Users tap in the number (transfer from one account to another) – System asks number of account transfer from – User taps in account number – System connects with the bank account – System asks for number of account transfer money to – User taps in account number – System asks amount to transfer – User taps in the amount – System asks when the transfer should happen – The user taps in the date – System ask you to confirm it/sends a text message / send email	6
5(b)	Any **four** from: – Sort code – PIN – Debit card number – Bank account number – Valid from – Expires end	4

Question	Answer	Marks
6(a)	Any **two** from: − Magnetic stripe − RF / RFID − Chip − Bar code	**2**
6(b)	Any **two** from: − Fingerprint / Thumbprint − Retina scan − Voice − Hand print − Iris scan − Face scan / recognition	**2**
6(c)	Any **two** matched pairs: − Book file… − …This consists of all data on the books in the library − Borrowers file… − …This contains all the details of the students − Loans file… − …This acts as a link between the book and borrowers file. It contains the details of the date borrowed and return date	**4**
6(d)	[date_borrowed]+14 1 mark for [date_borrowed] 1 mark for +14	**2**

Question	Answer	Marks
7(a)	=IF(D2>=C2,"well done","needs improvement") 1 mark for IF(D2>=C2, 1 mark for "well done", 1 mark for "needs improvement")	3
7(b)	Any **four** from: – Faster than editing each individual letter – Fewer errors than retyping the data – The data can be used for other applications – The report template can be easily adapted for other mail merges – Consistency in the reports – Error checking only needs to be carried out once (on the data and the template) – Reduces the time taken to write out all the reports separately	4
7(c)	Any **three** from: – Spell check the master document – Grammar check the master document – Check consistency of the text – Check merge fields are in the correct places – Check the template and merge fields matches the house style – Proof reading the data in the data source/check the data is correct – Check the data source exists – Validate the data in the data source	3

Question	Answer	Marks
8(a)	<table><tr><th>Field name</th><th>Data type</th></tr><tr><td>*Membership_number*</td><td>*Number*</td></tr><tr><td>*Member_name*</td><td>Text</td></tr><tr><td>*Membership_fee_paid*</td><td>*Boolean*</td></tr><tr><td>*Telephone_number*</td><td>Text</td></tr><tr><td>*Expiry_date_of_membership*</td><td>Date</td></tr><tr><td>*Membership_fee_amount*</td><td>Currency</td></tr></table>	**4**
8(b)	Membership_number > 200 OR Expiry_date_of_membership < 01/01/2017 1 mark for Membership_number 1 mark for > 200 1 mark for OR 1 mark for Expiry_date_of_membership 1 mark for < 01/01/2017	**5**
8(c)	**Benefits** Max **five** from: − Membership details can be searched / sorted very quickly − …useful if there are hundreds of members − Membership details can be <u>easily</u> edited… − …by searching for a record then changing / adding / deleting − The data in the database can be backed up easily… − …therefore preserving the records − …creating an archive of past members − Far more secure than other methods… − …can be password protected − Can be used as a source for mail merging… − …saves re-writing the database − Re-writing the data each time it is used would cause errors − Re-writing the data each time it is used could take a lot of time **Drawbacks** Max **five** from: − Need IT skills − Need to have to correct software − Can take up a lot of storage space / memory in the computer − The software could be expensive to buy − Training on how to use the software… − …could be expensive for the club One mark available for a reasoned conclusion	**6**

Question	Answer	Marks
9	Any **four** from: – ROM can only be read from whereas RAM can be read and written to – ROM is non-volatile whereas RAM is volatile – ROM stores the start-up instructions / boot file whereas RAM stores the current instruction – ROM is needed on boot up, whereas RAM is needed during processing / storing data	**4**

Question	Answer	Mark
10(a)	Max 3 marks for the problems Max 3 marks for the strategies of solving the associated problems for example: using the computer for a long period of time can affect my eyes/cause headaches... ...take regular breaks to help with eye strain/headaches hunching over the computer for a long period of time gives back ache/neck ache... ...Using an ergonomic chair could stop this Typing for a long period of time or by resting wrists on the table gives RSI... ...therefore a wrist rest/ergonomic keyboard is needed to reduce this. Eye strain can be caused by looking at the screen too long… …this is solved by placing a screen filter/using TFT technology	**6**
10(b)	Any **three** matched pairs, for example: – Tripping over loose wires… – …tie them to the walls or under carpet / use cable runs / use wireless – Heavy equipment falling… – …sturdy tables needed / heavy equipment placed in centre of table – Electrocution caused by spilt drinks / food… – …do not take drinks to computer – Fire from overloaded sockets… – …use CO_2 fire extinguisher – …don't use 4 way adapters – …keep the computer room well ventilated	**6**

Question	Answer	Marks
11	1 mark for method, 1 mark for appropriate advantage. Parallel running... ...has a backup of the data Pilot running... ...only affects one branch if system goes wrong/other branches can learn from the branch's mistakes Phased implementation... ...if system fails still have most of old system to fall back on …staff can be trained gradually	**6**

Question	Answer	Mark
12(a)	Any **two** from: − Protection of software from being downloaded, copied, or borrowed... − ...without the owner's consent − Protects the author of the software	**2**
12(b)	Any **four** from: − When the software is bought it comes with a unique activation code... − ...this can only be used once and has to be typed in − ..on a limited number of machines − Use of holograms... − ...this shows that the software is a real copy − ...holograms cannot be photocopied − Use of licence agreements − The purchaser fills in a licence agreement − ...and agrees to abide by the rules − Execution of the encryption code requires a key to run − Use of a dongle − Guards hardware / software modules that have not been tampered with in any way − Digital signature on the CD	**4**

Question	Answer	Marks
13(a)	Any **two** from: − A key-logger records the key strokes of a person using the computer − Transfers / transmits the data back to the supervisor / manager − The supervisor can then monitor what the employee has been doing / how hard they have been working	**2**
13(b)	Any **three** from: − Monitoring phone call usage − Monitoring emails − Monitoring the time spent on and websites visited − Monitoring the use of printers / number of copies − Monitoring where employees log in / log out − Monitoring when employees log in / log out − Monitoring failed log ins − Monitor the amount of storage space used − Monitoring where they send data to print	**3**

Question	Answer	Marks
14	To be marked as a level of response: **Level 3 (7–8 marks):** Candidates will give reasoned advantages and disadvantages. There will be a reasoned conclusion. They will relate the answer to both advantages and disadvantages. The information will be relevant, clear, organised and presented in a structured and coherent format. **Level 2 (4–6 marks):** Candidates will expand on advantages/disadvantages relating the answer to both advantages and disadvantages. Some of the points may be one sided. There may be a conclusion. For the most part the information will be relevant and presented in a structured and coherent format. **Level 1 (1–3 marks):** Candidates only list an advantage/disadvantage. Candidates only refer to either advantages or disadvantages. Answers may be simplistic with little or no relevance. **Level 0 (0 marks)** Response with no valid content *Answers may make reference to, for example:* **Advantages** Simple to use as all have to do is hold the phone by the reader No swiping of a card so less damage to the card Faster method <u>than swiping the card</u> No PIN No signature Stops shoulder surfing As the credit card does not have to be physically present it cannot be stolen The credit card number is not used in transactions …stores do not gain access to names and numbers No tracking of the data as there is no card Several cards can be stored and selected Everyone carries a phone nowadays Doesn't matter if you forget credit/debit card **Disadvantages** Need a compatible phone Not available online Stores need the reader May be issues with connectivity as a phone is used Hackers accessing the phone signal Phones can run out of battery There is a limit on how much can be paid Older people may not have phones More difficult for older people to use	8