
APPLIED INFORMATION AND COMMUNICATION TECHNOLOGY

9713/12

Paper 1 Written A

October/November 2017

MARK SCHEME

Maximum Mark: 80

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 2017 series for most Cambridge IGCSE[®], Cambridge International A and AS Level components and some Cambridge O Level components.

© IGCSE is a registered trademark.

This document consists of **7** printed pages.

Question	Answer	Marks
1	Dot matrix printers are best suited to high quality output.	
	Laser printers are best suited where continuous stationery is used.	
	Inkjet printers are used when bulk printing is required.	
	Laser printers produce high quality output quickly.	✓
	Inkjet printers are used to print out photographs.	✓
	Inkjet printers require less frequent ink cartridge changes than dot matrix printers.	
	Graph plotters can be used for larger paper sizes than typical laser printers.	✓
	Dot matrix printers are best suited to using multipart stationery.	✓
	Graph plotter printouts are lower quality than dot matrix printouts.	
	Dot matrix printers produce output the quickest of all printers.	
		4

Question	Answer	Marks
2	They have more varied teaching aids as they can use multimedia in lessons.	✓
	They will have much smaller sized classes.	
	The lack of neatness of students' word processed assignments makes it harder for the teacher to mark.	
	They can use computer-based tests to assess students' performance.	✓
	They will need to use desktop publishing packages to calculate the average mark.	
	Multiple choice answer sheets can be computer-marked using OMR.	✓
	They can use OCR to mark the student answer papers to written tests.	
	They can use MICR to read the bar codes from student answer sheets.	
	They can use spreadsheets to produce graphs showing student progress.	✓
	They do not have to prepare their lessons any more.	
		4

Question	Answer	Marks
3(a)	Highlight B3:B12 Select conditional formatting (Manage rule/create rule) select less than, enter 40 new style/format background colour red (Add rule) select between, enter 40 and 50 new style/format background colour orange (Add rule) select greater than, enter 50 format background colour green.	5
3(b)	Four from: Testing each module such as each colour code Using live data which has already been recorded for each student Using normal data/data which is acceptable/valid and a suitable example of a range of marks e.g. testing the orange range with a mark between 40 and 50 Using abnormal data such as data outside a range/wrong type and a suitable example Using extreme data such as data either end of a range and a suitable example.	4

Question	Answer	Marks
4	Five from: ICT make lessons more interesting/entertaining ICT make lessons more varied Internet allows students to investigate ideas Internet allows students to carry out research ICT provides more interactive learning environment ICT resources can help students with special needs Computers can provide feedback on tests Computer assisted learning to help students learn at their own speed Assignments sent and received by email, meaning students less likely to forget Video clips to illustrate and enhance lessons.	5

Question	Answer	Marks
5	<p>Eight from:</p> <p>SSDs are more expensive than hard disk drives in terms of cost per unit memory</p> <p>SSDs tend to have less storage capacity than HDDs</p> <p>An SSD-equipped PC will boot in less than a minute, and often in seconds whereas a hard disk drive requires time to speed up to operating speed</p> <p>SSD has quicker data transfer rate than HDD</p> <p>SSD has quicker data access speeds than HDD</p> <p>HDDs are prone to disc fragmentation unlike SSDs</p> <p>SSD has no moving parts, so tends to be more robust than HDDs</p> <p>SSDs are noiseless unlike HDDs</p> <p>SSDs tend to have lower longevity compared to HDDs</p> <p>Magnetic tape has slightly greater storage capacity than HDDs and SSDs</p> <p>Magnetic tape is cheaper than HDDs and SSDs in terms of cost per unit memory</p> <p>Magnetic tape has slower data transfer rate than HDDs and SSDs</p> <p>Magnetic tape has slower data access speeds than HDDs and SSDs</p> <p>Magnetic tape is less prone to mechanical failure than HDD.</p> <p><i>One mark is available for a reasoned conclusion.</i></p> <p><i>All three types of drive have to be mentioned before full marks can be awarded.</i></p>	8

Question	Answer	Marks
6(a)	<p>Three from:</p> <p>have good communication skills</p> <p>have good self-discipline/does not require supervision</p> <p>have good time management skills/can meet deadlines</p> <p>be well organised.</p>	3
6(b)	<p>Four from:</p> <p>Time is not wasted travelling/more free time because of less travelling</p> <p>Can spend more time with his family/can arrange his work schedule to suit himself</p> <p>Does not have to live close to the company so can live in area of his choice</p> <p>Does not have to spend money on fuel/transport travelling to work</p> <p>Does not have the stress of travelling to work in rush hour/adverse weather conditions.</p>	4
6(c)	<p>Four from:</p> <p>Does not have to spend so much on utilities</p> <p><u>Increased productivity</u> due to more content workforce/improved motivation</p> <p><u>More likely to retain staff</u> so do not have to spend money on retraining</p> <p>Lower costs due to flexible staffing</p> <p>Lower costs as can rent <u>smaller/fewer</u> offices.</p>	4

Question	Answer	Marks
7(a)	<p>Six from:</p> <p>Choose a search engine Type his search into the search box Use Boolean operands such as AND/Insert key words in speech marks Such as Sports + cars + 1950s/"Sports cars 1950s" Select images option Check for copyright Right click on image Select 'save picture as'/'save image as' Save it with an appropriate file name.</p>	6
7(b)	<p>Eight from:</p> <p><i>Advantages</i> Initial purchase of software to create your own may be expensive You may not have the skills to produce good quality images You may need specialist hardware to create your own images It could be quicker to find images on the internet, rather than making his own images</p> <p><i>Disadvantages</i> There could be copyright issues May have to pay a royalty/fee to purchase the image Images can be of low resolution May not be able to edit the images/read only Images may not be specific to your needs Can take a lot of time to search for a particular image Searches need to be precise to avoid seeing millions of matches If a modern image is required, internet images can be out of date If you want a unique/innovative image you have to create your own.</p> <p><i>Max six for all advantages or all disadvantages.</i></p>	8

Question	Answer	Marks
8	<p>Six from:</p> <p>Type in user ID or username Select 'use secure key/card reader' or 'without secure key/using memorable data' Asked for security data Type in/select from drop down menu three characters of password Type in memorable data Select transfer/manage money Click on account from list of the customer's accounts and account numbers Click on transfer money Click on account/type in account number to transfer money to Type in amount Select date of transfer Click confirm.</p>	6

Question	Answer	Marks
9(a)	=COUNTIF(\$B\$3:\$B\$12,B16) COUNTIF() 1 mark B3:B12, 1 mark B16 1 mark Absolute referencing for B3:B12 1 mark Correct order in COUNTIF 1 mark	5
9(b)	<p>Four from:</p> <p>Absolute referencing fixes a cell reference so that when the formula is copied this cell reference never changes. To set an absolute reference a \$ sign is placed before the part of the cell reference that is to be fixed For example in the formula =COUNTIF(\$B\$3:\$B\$12,B16), the reference to the cells B3 and B12 are fixed so that when the formula is replicated, these references will always remain the same Relative referencing allows the cell reference of a cell to be changed during the replication process For example in the formula =COUNTIF(\$B\$3:\$B\$12,B16), the reference to the cell B16 is a relative reference so that if this is replicated down the next formula is =COUNTIF(\$B\$3:\$B\$12,B17).</p> <p><i>Accept any other reasonable example.</i></p>	4
9(c)	=D3–E3+F3 D3–E3 1 mark +F3 1 mark <p><i>Any use of absolute referencing loses the mark for that part of the formula. Use of brackets around E3+F3 loses mark for +F3.</i></p>	2

Question	Answer	Marks
9(d)	<p><i>Eight from:</i></p> <p>Format check on date would trap errors of months more/less than 3 letters</p> <p>Format check on date would trap errors of days greater than/less than 2 digits</p> <p>Format check on date would trap errors of not including/including wrong separator</p> <p>Format check on date would not trap errors of days greater than 31</p> <p>Format check on date would not trap errors of misspelt months</p> <p>Length check on date would trap errors of greater than/less than 6 characters</p> <p>Length check on date would not trap errors of months more/less than 3 letters</p> <p>Length check on date would not trap errors of days greater than/less than 2 digits</p> <p>Length check on date would not trap errors of not including/including wrong separator</p> <p>Length check on transaction code would trap codes of less than 2 or greater than 3 characters</p> <p>Length check on transaction code would not trap codes which were misspelt/not an acceptable code</p> <p>Lookup check on transaction code would prevent incorrect codes being typed in/would only allow codes from the list</p> <p>Lookup check on transaction code would sometimes not work if codes could be overtyped</p> <p>Range check on transfer amount would trap errors of amounts greater than \$5000 or less than \$100</p> <p>Range check on transfer amount would not trap errors of amounts with figures transposed</p> <p>Range check on transfer amount would not trap errors of amounts with an extra 0 by accident i.e. \$2000 instead of \$200.</p>	8