OCR
Oxford Cambridge and RSA

GCSE

Business and Communication Systems

Unit **A265**: Businesses and their Communication Systems

General Certificate of Secondary Education

Mark Scheme for June 2017

Annotations

Annotation	Meaning	Guidance
L1	Level 1 mark point	Level of response questions – 1 stamp usually indicates bottom of mark range, 2 stamps = top of mark range.
L2	Level 2 mark point	Level of response questions – 1 stamp usually indicates bottom of mark range, 2 stamps = top of mark range eg 1st stamp for valid analysis, 2nd stamp for valid use of context
L3	Level 3 mark point	Level of response questions – 1 stamp usually indicates bottom of mark range, 2 stamps = top of mark range.
BOD	Benefit of Doubt	Where you have just awarded a mark, eg for slightly vague/poorly worded responses.
^	Missing required information necessary to award mark	eg on the agenda where part of required detail is missing, eg "a proposal for a new consultant of the month award". A ^ at the beginning of the phrase will indicate that "discussion of" is missing and so the mark point has not been met in full.
REP	Repeats earlier point where mark was awarded	
Highlight tool	Highlights any area of the mark screen	eg to highlight a phrase in the question the candidate failed to address, eg explain two benefits to **customers** when the answer discusses employees.
✔	Correct point, eg identifying	
✘	Incorrect point/reason	
BP	Blank Page	Use to indicate no attempt of a question or unused additional answer pages
NAQ	Not Answered Question	Use to indicate context of question not followed eg question asks for drawbacks and candidate discusses benefit.

Subject-specific Marking Instructions

Awarding marks for explanations:

The explanation must relate to what is being asked.
Do not accept as explanations statements which have not been substantiated, eg 'quicker, cheaper, easier' etc

eg "Explain one benefit of sending information to a remote worker by email" 2 marks
A benefit of sending message by email is that it is quick = 0 marks **on its own.**
A benefit of sending message by email is that it is quick so if the remote worker needs to be told something today they will be able to receive the message today = 2 marks
A benefit of sending message by email is that if the remote worker needs to be told something today they will be able to receive the message on time (1); this could mean that the worker does not waste time visiting a customer who has cancelled their appointment (1) = 2 marks.

MARK SCHEME :

Question			Answer/Indicative content	Mark	Guidance
1	a		The five additional errors are underlined: The Academy is pleased to (anounce) a new initiative to promote the use of tablet computers in classrooms. From (Septembre) the Academy will have thirty new tablets to use thoughout the school. We are also able to (ofer) you the chance to purchase a (Subsedised) tablet for your child. If you are interested please contact the school office and we will supply you with a discount v(o)wcher.	5	1 mark for each correct identification up to a maximum of five identifications – as shown underlined on the left. If a candidate has marked more than five errors, mark the first five unambiguous circles. Stop marking after their fifth circle. NB Do not award a mark for "thoughout" as this error is circled in the question
1	b		• The letter will need to be corrected…costing time and money • Pupils may turn up on the wrong date…so nobody is there to teach them/look after them • Pupils may miss lessons…increasing the absenteeism rate • Pupils may miss lessons…resulting in worse exam performance	2	1 mark for each of two linked points. Problems must relate to the Academy and not to parents – e.g. DNA 'causes anger for parents' DNA 'looks unprofessional/poor reputation etc
1	c	i	• The filing cabinet can be locked (increased security) • Letters can be stored in one place…known to all staff (letters are easier to find) • Letters can be stored in a logical order (eg date received, alphabetical) • Letters are less likely to be lost • Can offer protection against fire/flood etc	2	1 mark for each of two valid benefits to the Academy. Answers must relate to the benefits of a filing cabinet, not of paper-based storage. So DNA 'prevents hacking' etc

1	c	ii	- Filing cabinet costs money to purchase - Filing cabinet takes up space in the office - Letters could be misfiled - If the cabinet is overfilled…letters could be damaged/hard to locate - Filing cabinet not secure unless locked - If locked: can't be opened if keys are lost Example response: Filing cabinets take up space in the office (1) and this could result in a health and safety hazard (1).	4	1 mark for each of two valid drawbacks to the Academy plus a further mark for each explanation (2+2) Answers must relate to the drawbacks of a filing cabinet, not of paper-based storage. So DNA 'letters can be lost, damaged' etc unless related to the consequences of storage in a filing cabinet. DNA 'can be destroyed by fire' etc.
1	d		- Each letter could be read by a digital scanner (1) and the letter converted to a digital image (1) - The letters could be scanned by an Optical Character Reader (OCR) (1) and the text converted into a digital text file (1) - A digital camera (1) could be used to take a photograph of each letter (1)	2	1 mark for a valid device plus 1 mark for a description of how it could be used to make a digital copy of a letter. DNA photocopying or microfilm or any other method that creates a second physical copy.
2	a	i	- A not for profit organisation (1) as it doesn't have shareholders (1) any surplus is reinvested (1) is exempt from most types of tax (1) - Is run by trustees (1) who are responsible for ensuring that the charity meets its charitable objectives (1) - Has specific charitable objectives (1) e.g. education, welfare of animals (1) that benefit the public and not specific individuals or groups (1) - Relies on donations or other income (1) rather than trading income as its main source of income (1) - May have volunteers (1) working alongside employees (1)	4	1 mark for each of two valid features of a charity plus a further mark for each explanation (2+2)
2	a	ii	<table><tr><th>Statement</th><th>Tick</th></tr><tr><td>Have unlimited liability</td><td></td></tr><tr><td>Owned or funded by the government</td><td>✓</td></tr><tr><td>Their main aim is to make maximum profit</td><td></td></tr></table>	1	1 mark for a correct answer. There should be only **one** tick in column two. If there is **more** than one tick then mark only the first tick in column two reading from top to bottom.

2	b	i	Gives the owner/creator (1) of an original piece of work (1) example e.g video, book (1) legal (1) protection/rights of ownership (1) e.g. the right to control who copies or uses their work (1)	3	1 mark for each of three valid points. DNA consequences e.g. potential users of copyright work must seek permission etc
2	b	ii	• Could take legal action/sue/prosecute/take the academy to court (1) for damages/redress/breach of copyright restrictions (1) • Could demand (1) that the Academy/teacher stops using the copyrighted material (1) • Could demand/ask (1) for a fee (1) • Could sue (1) for damages (1) • Could demand (1) that the academy/teacher credits/references the original work/creator	2	1 mark for each of two linked points.
2	c		Examples of protection: • Contract of employment • Health and Safety • Paid leave/holiday/maternity/paternity/sick pay • Pensions • Minimum wages • Unfair dismissal • Redundancy • Discrimination Example response: Employment law entitles workers to a minimum period of holiday leave (1) that must be paid for by the employer (1).	2	1 mark for stating a protection covered by employment law plus 1 mark for explaining how this protects the rights of employees.

2	d		The Act covers the following four areas: • Unauthorised access to computer material • Unauthorised access with intent to commit or facilitate a crime • Unauthorised modification of computer material. • Making, supplying or obtaining anything which can be used in computer misuse offences. Example response: Users must not access material they are not authorised to see (1). This means that they cannot hack (1) into the admin network (1). Users must not modify data without permission (1) so for example they cannot edit the marks awarded for coursework (1) unless the teacher has asked them to do so (1). If response states that users are prevented from action (e.g. "The Act stops users from…") then penalise first mark but credit development. E.g. Stops unauthorised users logging on (X) with intent to harm (1)".	3	1 mark for identifying a restriction covered by the Act plus up to 2 marks for development.
3	a	i	• (Digital) camera • Webcam	1	1 mark for a valid device Mark first item only
3	a	ii	• Keyboard/keypad • Touchscreen • Mouse • Microphone • Sip and puff device	2	1 mark for each of two valid devices Mark first two items only
3	a	iii	• Name (1 mark for name OR 1 mark for each name component e.g. first name, last name) • Address (1 mark for address OR 1 mark for each address component e.g. postcode) • Email address (1 mark for email address OR 1 mark for each type e.g. work email, personal email) • Phone number (1 mark for phone number OR 1 mark for each type of telephone e.g. mobile, home, work, emergency contact number) • Times when not available Example: Postcode (1), Mobile phone (1), Address (REP) Example: Work phone (1), Mobile phone (1) telephone (REP)	3	1 mark for each of three valid items Mark first three items only

3	b		Devices: • Microphone • Sip and Puff Credit other valid assistive input devices that would not require the use of hands. Example responses Speaks into a microphone (1) using Voice-to-text software/speech is convert into text (1) Sip and Puff device (1) controls mouse movements (1) by varying air pressure on the device (1)	2	1 mark for each of two linked points. First mark must be for a specific named device. If no device named then second mark cannot be awarded.
3	c		• (Data) projector	1	1 mark for a valid device Mark first item only

| 3 | d | | Quality of written communication is assessed in this part of the question. Use the levels of response descriptor to make a judgement as to the correct level in which to place the candidate, then award a mark at the bottom of the level to a candidate who just meets the descriptor and a mark at the top of the level to a candidate who comfortably meets the descriptor.

Example response (Level 1):
Tablets can be cheap to buy (L1) but are easily damaged eg the screen can be scratched (L1).
Example response (Level 2)
The range of apps may be limited so the educational value of the tablet may be less than a laptop that could have full versions of office software installed (L2).
Exemplar response (Level 3):
The range of apps may be limited so the educational value of the tablet may be less than a laptop that could have full versions of office software installed. However tablets tend to have a long battery life so they can be used for extended periods in non-computer-rooms – this means that pupils can carry out internet-based research without having to go to a computer room or the library. | 6* | **Content**

Benefits:
• Tablets can cheaper than laptops
• Tablets are small and portable
• Can be used in any classroom
• Extended battery life
• No peripherals needed (eg mice)

Drawbacks:
• Not as powerful as desktops/laptops
• Can be damaged if dropped
• Battery needs recharging/may run out of charge
• Touchscreens can become scratched or dirty
• Pupils could become distracted by access to the internet
• At greater risk of theft due to size
Reward other valid benefits/drawbacks. | **Levels of response**

Level 3 (5-6 marks): Detailed two-sided analysis making good use of the context, with good written communication

Level 2 (3-4 marks): Limited and one-sided analysis with limited reference to context, with adequate written communication. For 3/6 there may be no use of the context in the analysis. For 4/6 there must be some use of context in the analysis.

Level 1 (1-2 marks): Relevant knowledge is applied with limited written communication.

0 marks – no response worthy of credit.

Answers must relate to the impact on the organisation and **not**, for example, on its pupils or parents.

Annotation required: L1 and L2, L3 to indicate where mark bands have been achieved/rewarded.

Use L1 once to indicate 1 mark and twice to indicate 2 marks.

Use L2 twice to indicate where context has been used. |

Question			Answer/Indicative content	Mark	Guidance
4	a	i	• Numbers • <u>Upper case</u> letters • <u>Lower case</u> letters • <u>Special</u> characters/symbols • Minimum length (e.g. 6 or more characters)	3	1 mark for each of three valid items Do not reward descriptions of a strong password eg random letters/a non-recognised word etc
4	a	ii	• Enables the user to be identified (1) to enable access rights to be assigned (1) according to the type of user (1) to enable appropriate software/documents to be made available (1) • To enable the password to be matched to the user (1) increasing security on the network (1)	2	1 mark for a valid reason plus 1 mark for development. DNA 'to prevent hacking' etc

4	b		Data must be:
			  • used fairly and lawfully
			  • used for limited, specifically stated purposes
			  • used in a way that is adequate, relevant and not excessive
			  • accurate
			  • kept for no longer than is absolutely necessary
			  • handled according to people's data protection rights
			  • kept safe and secure
			  • not transferred outside the European Economic Area without adequate protection
			Example response:
			The Academy must use the data for specified purposes (1) for example they cannot sell the data to another business unless the teacher has given permission (1)
				2	For each of two ways:
					
					1 mark for identifying a valid restriction plus 1 mark for development (e.g. by giving a valid example).

4	c		Quality of written communication is assessed in this part of the question. Use the levels of response descriptor to make a judgement as to the correct level in which to place the candidate, then award a mark at the bottom of the level to a candidate who just meets the descriptor and a mark at the top of the level to a candidate who comfortably meets the descriptor.	6*	**Content**	**Levels of response**
					Security software types:	Level 3 (5-6 marks): Detailed analysis of two methods in context.
					• firewalls	
					• anti-virus	Level 2 (3-4 marks): Limited analysis of one method (e.g. an explanation of how the software works) with limited reference to context, with adequate written communication. For 3/6 there may be no use of the context in the analysis. For 4/6 there must be some use of context in the analysis.
					• anti-spam	
					• anti-spyware	
					• encryption	
			Example response (Level 1): They could use a firewall to block unwanted access by hackers (L1) Example response (Level 2): They could use a firewall so any incoming data not authorised by the computer system will be blocked (L2 3 marks). Exemplar response (Level 3):		DNA named software suites e.g. 'Brandname Internet Security' unless this name includes clear reference to at least one specific type of security software e.g. those listed above.	
						Level 1 (1-2 marks): Relevant knowledge is applied with limited written communication.
					Reward valid analysis of how these software types could protect Kelvinwood Academy's computer network.	0 marks – no response worthy of credit.
						Read the whole answer and mark to the candidate's credit.
						Answers must relate to the impact on the organisation and **not**, for example, on its pupils or parents.
						Annotation required: L1 and L2, L3 to indicate where mark bands have been achieved/rewarded.
						Use L1 once to indicate 1 mark and twice to indicate 2 marks.
						Use L2 twice to indicate where context has been used.

Question			Answer/Indicative content	Mark	Guidance
5	a	i	• Stored separately from the primary computer system • Permanent storage • Can be easily moved to a secure location (DNA portable on its own – Too Vague) • (Relatively) cheap • Can be reused (rewritten to if DVD-RW)	1	1 mark for a valid benefit Question is about **using DVDs** to back-up data. Mark first response only
5	a	ii	• Relatively small capacity to store 20gb (1) so many disks will be needed (1) • A human operator will be needed (1) to load each new blank disk (1) • Relatively slow read-write time (1) so backing up large amounts of data will be time-consuming (1) • Small/portable (1) so easy to lose (1) • Easily scratched (1) so data may be unreadable (1)	2	1 mark for a valid drawback plus 1 mark for development.
5	a	iii	• The Academy is not open (1) so very little data is being created (1) so all data on the network should get backed up (1) • If the network fails on a Monday morning (1) then they will lose very little data (1) as they have it all backed up (1) 1 mark for recognising that data will not be lost/can be restored from the back-up data set.	3	1 mark for each of three linked points. Question is about backing-up data **on a Sunday**.
5	a	iv	• The network manager needs to be in the building (1) so the Academy must be opened (1) increasing security concerns (1 mark) • The network manager must be in attendance (1 mark) so they will need to be paid (1) increasing the Academy's costs (1) • Once a week is not enough (1) if the network failed during the week (1) then some data would be lost (1)	3	1 mark for each of three linked points.

5	b			6	**Content**	**Levels of response**

| 5 | b | Exemplar responses

Level 1
Magnetic tape is cheap (L1) but can be easily damaged (L1). Cloud is stored away from the Academy (L1) but data can be hacked during transfer (L1).

Level 2
Cloud storage has the benefit of being stored away from the Academy site (L1) so if there was a fire affecting the computer network then the back-up date would not be affected (L2) so the Academy could restore the data and so pupil data would not be lost (L2).

Level 3
Cloud storage has the benefit of being stored away from the Academy site (L1) so if there was a fire affecting the computer network then the back-up date would not be affected (L2) so the Academy could restore the data and so pupil data would not be lost (L2). Magnetic tape is bulky (L1) and so would have to be stored on site (L2) making it at the same risk of damage as the primary data on the network (L2) so overall it would be more secure to store the data offsite and this will be easier to achieve with a cloud-based solution (L3).

Do not choose a level on the basis of the candidate choosing an option. Award a level by considering the level descriptors in full. | 6 | Cloud-based storage:
Benefits:
• Remote so not at same risk as primary data
• Service provider will be responsible for data security etc
• No need to store back-up media
Drawbacks:
• The amount of storage capacity depends upon the fee paid
• Data at risk during transfer/uses the internet so not fully secure
• Slow upload times
• Reliance on service provider
• Costs of using a third party service

Magnetic tape:
Benefits:
• High capacity
• Relatively low cost
Drawbacks:
• Need magnetic tape read/write device
• Tapes can be large
• Tape is vulnerable to damage

Reward other valid benefits/drawbacks. | Level 3 (5-6 marks): Comes to a reasoned judgement, based on valid analysis of both options, which justifies the choice or indicates what the choice would depend on or implications of the choice. There is good use of context

Level 2 (3-4 marks): The candidate analyses advantages and disadvantages about either or both options without any comparison. Allow a one-sided response. For 3/6 there may be no use of the context in the analysis. For 4/6 there must be some use of context in the analysis.

Level 1 (1-2 marks): Relevant knowledge is applied. Little or no reference to the context.

0 marks – no response worthy of credit.

Answers must relate to the impact on the Academy and not, for example, on its pupils or parents.

Annotation required: L1 and L2, L3 to indicate where mark bands have been achieved.

Use L1 once to indicate 1 mark and twice to indicate 2 marks.

Use L2 twice to indicate where context has been used.

Do not accept reverse arguments |
| | | | **14** | | | |

Question			Answer/Indicative content	Mark	Guidance
6	a		• Modem/router	1	1 mark for a valid device. Mark first item only
6	b	i	• Monitor/screen/VDU	1	1 mark for a valid device. Mark first item only
6	b	ii	• (Loud)speaker • Head/ear phones	1	1 mark for a valid device. Mark first item only
6	c		• To gain access to the internet (1) • To view/interact with (1) webpages/websites (accept named examples) (1) • To display (1) HTML content (1) •	2	1 mark for each of two linked points. DNA 'to search for items on the internet' etc
6	d		• To gain access to a website/web-page (1) • To convert a webpage domain (eg ocr.org.uk) (1) into an IP address (eg 123.456.1.12) (1) that is unique (1) • To make it easier to locate a webpage (1) by typing in an specific address (1) without having to use a search engine (1)	2	1 mark for each of two linked points.
6	e		• Data is encrypted (1) so there is less risk of having sensitive data hacked (1) their <u>information</u> is safe (1) the <u>website</u> is secure (1) Example response: Data is encrypted (1) so their information is safe (1) Data is encrypted (1) so they are safe and secure (Too vague – who or what is 'they'?) Their information is safe (1) because the website is secure (1). Their information is safe (1) and secure (REP).	2	1 mark for each of two linked points. For full marks there must be an explanation of a benefit to the Academy.

| 6 | f | | Exemplar response (Level 1):
The business may not be reliable if it doesn't have any shops (L1). Prices may be low as it doesn't have any shops (L1).

Exemplar response (Level 2/3):
An online only business will not have any shops so its costs of production may be lower resulting in the Academy paying lower prices (L2). On the other hand there is a risk of orders not being fulfilled as the business chosen may not be reliable as it is easy to start a new business and create a professional looking website without having the business systems to manage orders and deliver supplies (L2). As a result it may be too much of a risk for Kelvinwood Academy to use an internet only supplier unless it has built a reputation for reliability over many years (L3). Instead they might be safer using a local business that they can visit and so trust to fulfil their orders (L3) | 6 | **Content**

Benefits:
• Prices may be lower reflecting lower business costs
• Suppliers more likely to have good systems for managing orders and delivering supplies
Drawbacks:
• Business may not be reliable (eg may be a small business without adequate systems for managing orders,delivering supplies and keeping personal data secure)
• Data may be at risk when making online purchases as it relies on the vendor's security systems

•

Reward other valid benefits/drawbacks.

DNA cloud is free as the Academy would be charged to use a cloud-based service. | **Levels of response**
Level 3 (5-6 marks): Valid judgements made about Kelvinwood Academy that are based on two-sided analysis.

Level 2 (3-4 marks): At the top of Level 2 there must be good use of context to analyse at least one impact. Allow a one-sided response . For 3/6 there may be no use of the context in the analysis. For 4/6 there must be some use of context in the analysis.

Level 1 (1-2 marks): Relevant knowledge is applied. Little or no reference to the context.

0 marks – no response worthy of credit.

Answers must relate to the impact on the Academy and not, for example, on its pupils or parents.

Annotation required: L1 and L2, L3 to indicate where mark bands have been achieved.

Use L1 once to indicate 1 mark and twice to indicate 2 marks.

Use L2 twice to indicate where context has been used.

Do not accept reverse arguments |

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