



GCE

ICT

Unit **G061**: Information, Systems and Applications

Advanced Subsidiary GCE

Mark Scheme for June 2017

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This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

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Annotations

Stamp	Ref No.	Annotation Name	Description
	151	Highlight	Highlight (mandatory for all units)
	181	Off Page Comment	Off page comment (mandatory for all units)
	1681	BP	Blank page (mandatory for all units)
	261	^	Omission mark
	1741	ZERO	Zero (big)
	11	Tick	Tick
	201	TV	Too vague
	271	REP	Repeat
	211	P	Point being made (Removed for later additions)
	191	NBOD	Benefit of doubt not given
	501	NAQ	Not answered question
	41	FT	Follow through
	221	E	Expansion of a point (Removed for later additions)
	21	Cross	Cross
	351	C	Subordinate clause/Consequential error (Removed for later additions)
	31	BOD	Benefit of doubt
	701	/	Slash (Removed for later additions)
	331	L3	Level 3 (Added later)

	321	L2	Level 2 (Added later)
	311	L1	Level 1 (Added later)
	811	SEEN	Noted but no credit given (Added later)
	1381	V Wavy Line	Extendable vertical wavy line (Added later)
	1371	H Wavy Line	Extendable horizontal wavy line (Added later)

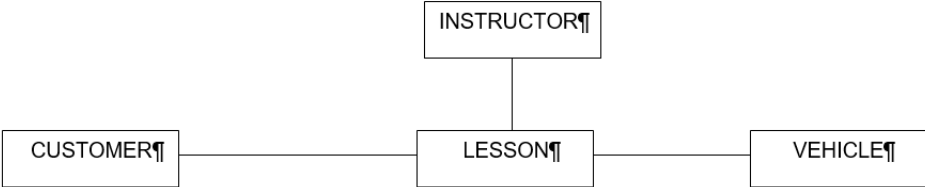
Question			Answer/Indicative content	Mark	Guidance								
1	a		<table><tr><td>4</td><td>Two complete comparisons.</td></tr><tr><td>3</td><td>One complete comparison and one individual point.</td></tr><tr><td>2</td><td>One complete comparison OR Two individual points about either side.</td></tr><tr><td>1</td><td>One individual point about either side.</td></tr></table> Answers may include: Text requires language skills to understand whereas videos show pictures and can display a message without words. Text requires a certain level of intelligence to be able to read and understand whereas videos can be watched without understanding the language Text is static and does not move, it is “boring” whereas video moves and attracts attention making the advert more exciting. Video requires more bandwidth to download than text which will use less of the users monthly allowance if using a mobile connection.	4	Two complete comparisons.	3	One complete comparison and one individual point.	2	One complete comparison OR Two individual points about either side.	1	One individual point about either side.	[4]	Both sides require a level of response beyond a simple ‘both can....’. Allow a table if more than single words.
4	Two complete comparisons.												
3	One complete comparison and one individual point.												
2	One complete comparison OR Two individual points about either side.												
1	One individual point about either side.												
	b		Two from, e.g Clipart can be used by many companies (1) making the advert similar to others/not unique (1) Clipart is often cartoon based images (1) not appropriate for a company advert (1) Cost of purchasing the license for the clipart (1) can increase the cost of producing the advert (1) Quality can be low/pixelate on enlargement (1) reduces reputation (1)	[4]									
	c		1 from each section: Static: data that does not/seldom/rarely change(s) (1) Example: e.g. Address of the company (1) Dynamic: data that frequently changes/updates (1) Example: e.g. current date (1)	[4]	Not moving v non moving data								
	d		2 from, 2 marks each: <u>Personnel/labour</u> (1) employing people to take photographs (1) <u>Hardware</u> (1) camera for taking pictures (1) <u>Consumables</u> (1) paper / ink for printing (1)	[4]	NOT Software Allow examples for second mark. Cannot award the description without the identification								
2	a			[6]	Band 5-6 answers will have a clear line								

Question			Answer/Indicative content			Mark	Guidance
			High	5-6	Candidate has explained reason(s) why a desktop publisher would be used for the task.		of reasoning that explains the impact of the point described Band 3-4 answers will be descriptive and will be in context Band 1-2 answers will identify points Allow negative answers for other packages
			Medium	3-4	Candidate has described advantage(s) of why a desktop publisher would be used for the task.		
			Low	1-2	Candidate has identified advantage(s) of why a desktop publisher would be used for the task.		
				0	Not worthy of credit		
			Answers may include e.g. Can move the frames around the page to look at different layouts and the best one can be selected. DTP allows text and images to be combined on a page which cannot be done easily in other packages such as a word processor which uses anchor points. Allows frames to be layered which creates depth to the flyer giving an element of professionalism which will attract customers.				
	bi		A reduced size/reduced quality / reduced resolution version (1) When clicked will open the original (1)			[2]	The second mark can only be given if there is an implicit connection between clicking the thumbnail and the original being opened
	bii		1 from, 2 marks each: Can see a range of images on the page at a time (1) which allows them to be compared (1) Images can be grouped into themes (1) so similar images can be seen (1) Quicker to load a large number of thumbnails as they are smaller files (1) which makes it quicker to narrow the search from a large number of photographs using thumbnails.(1)			[2]	
	ci		2 marks each: Section: divides the page into different areas of related information (1) controls formatting/can be formatted independently (1) Frame: self contained area of the page/moved around the page (1) can contain text or images (1)			[4]	Do not allow examples as these are credited in (ii)
	cii		1 mark per example e.g. Section: break page into columns for prices / a section about the instructors at the centre/change the page to Landscape for a table of prices (1) Frame: Hold picture of company logo (1)			[2]	Must be related to the flyer.

Question			Answer/Indicative content	Mark	Guidance
	d		2 from, 2 marks each, e.g. System automatically loads correct software (1) save time (1) Optimised for storing different data (1) file loads faster/more efficient (1) Can narrow search by type (1) allows you to find file faster (1)	[4]	
	e		3 from e.g. Change font type to a smaller one (1) Shrink/decrease picture (1) Decrease line spacing (1) Decrease margins/border (1)	[3]	Do not accept changing paper size, Not just change the change must be identified
3	a		1 mark for multiplying number by digit position and adding up (correct total: 106) (1) 1 mark for dividing total by 11 and whole number remainder (correct remainder: 7) (1) 1 mark for correct check digit: 4 (1)	[3]	Allow follow through Total is 106 Remainder is 9 r 7 ($9 \times 11 = 99$, $106 - 99 = 7$) $11 - 7 = 4$ Check digit = 4
	b		1 mark for explanation of why check digit is incorrect - mathematical working of check digit (1) 1 mark for identification of correct check digit: 1 (1)	[2]	Total is 142 Remainder is 12 r 10 ($12 \times 11 = 132$; $142 - 132 = 10$) $11 - 10 = 1$ Check digit = 1
4	a		1 from: Shortening the data (1) Putting a sequence of characters in a specialised format (1)	[1]	Not encryption
	b		1 from, 2 marks e.g. Precision of data coarsened (1) original data can lose detail (1) Difficult to store value judgements (1) different people have different ideas (1) Limited numbers of codes (1) limits entry/reuse codes (1) Have to know what the codes mean (1) lose the key cannot decode (1) Don't know original data (1) cannot tell if entered incorrectly (1)	[2]	

Question			Answer/Indicative content	Mark	Guidance
			Increased security (1) codes cannot be understood (1)		
	ci		1 from: Proof reading (1) Double entry (1) Lookup (1)	[1]	Allow computer and manual
	cii		2 from e.g. Proof reading: Name can be misspelt (1) proof read as correct (1) Double entry: Can be entered incorrectly twice (1) comparison will pass (1) Lookup: Data entered can exist and return value (1) value might be incorrect (1)	[2]	Must be related to surname. If not linked to (i) then 0 marks
5	a		2 from 2 marks each e.g. Background is set on master slide (1) applied to all slides (1) All slides use the master slide (1) font size from master applied to all (1) Items included on the master slide (1) will also appear on all slides Any additional slides created (1) contain the settings used in the master slide (1) Formatting applied to the master slide (1) is applied to all slides (1)	[4]	
	b		2 from, 2 marks each, e.g. Can stop presentation (1) to answer questions (1) Can skip slides (1) if running out of time (1) Slide order can change (1) depending on the needs of the audience (1)	[4]	
6	a		2 from, 2 marks each e.g: Allows variables to be changed (1) to see the answers to different questions (1) Variables cells can be unlocked and formula cell locked (1) users can only change certain parts and not break the spreadsheet (1) Allows different scenarios to be viewed/predictions to be made (1) and compared as rules remain the same (1) Model can be emailed (1) multiple people can use the same basic model getting more variations (1) Use of goal seek to automatically find an input/value (1) that arrives at a given outcome/cost (1). The data can be graphed (1) so people can visualise the data/people find pictures easier to understand than lists of numbers (1).	[4]	

Question			Answer/Indicative content	Mark	Guidance
	b		2 marks each: Functions: preset formula/ use of reserved words in formula (1) Example: lookup the cost from the car type (1) Variables: value which can change / cell reference used in a function (1) Example: Car type/Cost per year / number of years to purchase car over (1)	[4]	Max 2 if no examples used Examples must be from spreadsheet given Not just calculation Example of function NOT total cost
	c		2 from: Cell reference that moves when cell is copied (1) % of total cost to pay is a relative reference in the cost per year (1}	[2]	Max 1 if no example. Example must be from the spreadsheet model
	d		2 from e.g.: Cost per year has been used (1) to create the graph (1) Car type and cost per year (1) used in the lookup to return the cost of the car (1)	[2]	Example must be from the spreadsheet model Do not allow references to range validation
7			Four from: e.g.: Data transferred (1) could be corrupted (1) Staff may need retraining (1) on new software system (1) Booking data may not transfer (1) leaving customers waiting for driver (1) Need for data analysts/project to be employed to combine the systems (1) at great cost/take time (1) Data may need to be manually entered (1) likelihood of introducing errors (1)	[4]	Allow specific examples Allow mix and match with pairs.
8	a		2 from, 2 marks each, e.g.: Foot mouse (1) control cursor with foot (1) Eye typer (1) tracks eye on screen (1) Puff/suck switch (1) tube which records breath in and out to run controls (1) Microphone (1) uses speech/voice to control computer (1)	[4]	Must be for people without use of arms Make sure second mark is a description of the hardware
	b		2 from, 2 marks each, e.g.: Speech to text (1) converts the spoken word to text on the screen (1) Voice command software (1) for issuing commands to the computer (1) VOIP software (1) allowing phone calls to be made over the Internet via a headset equipped with a microphone (1)	[4]	Must be for people without use of arms Make sure second mark is a description of the software

Question			Answer/Indicative content	Mark	Guidance
9			2 from, 2 marks each, e.g.: Unstable surface (1) ensure level surface (1) Trailing wires (1) – wires tucked away (1) Overloaded plug sockets (1) use extension cables/install new sockets (1)	[4]	
10	a		3 marks for relationships: Customer – Lesson: 1:M Vehicle – Lesson: 1:M Instructor – Lesson: 1:M 1 mark for diagram:  <pre> graph TD INSTRUCTOR[INSTRUCTOR] --- LESSON[LESSON] LESSON --- CUSTOMER[CUSTOMER] LESSON --- VEHICLE[VEHICLE] </pre>	[4]	Relationships can be drawn on the diagram or they can be given separately. Marks for diagram are for links between tables. Allow addition of extra tables
	b		2 from, e.g. Name of the table (1) Primary key (1) Foreign key (1) Index (1) Security permissions (1) Relationships (1) Validation method(1) Field length (1)	[2]	Not field name or data type. Key (1) but NOT as well as primary/foreign
	c		2 from, 2 marks each: Reduces data duplication (1) data is only stored once reducing storage requirements (1) Improves integrity (1) only one set of data is stored which makes it trustworthy (1) Allows for future development (1) data is broken down and can be used for any purpose (1)	[4]	Allow example from scenario for second marking point, e.g.: Reducing data duplication (1) e.g. customer has their details recorded once even though they may have many

Question			Answer/Indicative content	Mark	Guidance
					lessons. (1)
	d		Mobile number: text/string/alphanumeric (1) Passed Theory Test?: Boolean / Yes/No / True/False(1)	[2]	
	e		2 from, 2 marks each e.g.: Text box (1) To allow customer name to be entered(1) Drop down box (1) to allow instructor to be selected (1) Combo box (1) list of car types that are available (1). Spinner (1) number of lessons initially required (1) Radio buttons/checkboxes (1) for selection – manual/automatic (1)	[4]	Not button Example must be related to scenario.
11	a		4 from, e.g.: To represent its members (1) and liaise with other professional bodies/government/industry/academics to initiate/inform debate on IT issues (1). Maintain relationship/affiliations (1) with a range of professional/government organisations.(1) To keep its members up to date (1) with IT information (1) To produce books / training courses (1) to inform its members (1) To promote the study/practice of ICT (1) and to advance knowledge/education (1) To award qualifications (1) and to maintain standards (1)	[4]	
	b		2 from, e.g. Disk compression (1) Anti virus (1) Uninstaller (1) Backup (1)	[2]	
12			2 from marks each, e.g.: Encryption (1) data cannot be accessed without a key (1) Passwords/biometric (1) only those with a password can access the data (1) Firewall (1) prevent access to computer system (1)	[4]	Do not accept physical security solutions
13			2 marks for description of development, 2 for explanation of advantage of use, eg: Driverless cars (1) all cars have systems which drive on all roads (1) removes human error from driving (1) which decreases accidents (1) Head up display (1) all information in front of the driver (1) driver does not have to look down or elsewhere to find information (1) less chance of not noticing something happening ahead (1)	[8]	Read the whole response, if two have not been awarded for the description then the second description mark may be in the advantage. Must be about the car and must be IN the car

Question			Answer/Indicative content	Mark	Guidance
			Day/night display (1) night driving gives daytime visual appearance (1) exactly the same as driving in the day (1) will not miss anything/less chance of accident (1) Everyday objects being internet-enabled (1) for anti-theft devices (1) GPS or insurance black boxes (1) to monitor driving habits (1) and reduce the cost of insurance / penalise those who make mistakes (1). Intelli-sense monitoring (1) –a computer programme monitors a number of sensors and makes predictions of future problems such as a driver with his eyes closed for too long may have fallen asleep – sound a loud alarm (1)		

OCR (Oxford Cambridge and RSA Examinations)
1 Hills Road
Cambridge
CB1 2EU

OCR Customer Contact Centre

Education and Learning

Telephone: 01223 553998

Facsimile: 01223 552627

Email: general.qualifications@ocr.org.uk

www.ocr.org.uk

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Head office
Telephone: 01223 552552
Facsimile: 01223 552553

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