

Unit: G061: Information, Systems and Application: Medium banded candidate style answer.

Introduction

OCR has produced these candidate style answers to support teachers in interpreting the assessment criteria for the new GCE specifications and to bridge the gap between new specification release and availability of exemplar candidate work.

This content has been produced by senior OCR examiners, with the input of Chairs of Examiners, to illustrate how the sample assessment questions might be answered and provide some commentary on what factors contribute to an overall grading. The candidate style answers are not written in a way that is intended to replicate student work but to demonstrate what a “good” or “excellent” response might include, supported by examiner commentary and conclusions.

As these responses have not been through full moderation and do not replicate student work, they have not been graded and are instead, banded “medium” or “high” to give an indication of the level of each response.

Please note that this resource is provided for advice and guidance only and does not in any way constitute an indication of grade boundaries or endorsed answers.

<p>1 An architect is setting up an office in her house.</p> <p>(a) Sonia Patel is aware of the health and safety implications of using computers. When she sets up her office she wants to avoid any health and safety risks.</p> <p>For each risk given below identify a different item that could reduce the problem.</p> <p style="text-align: right;">[3]</p>	
<i>Candidate style answer</i>	<i>Examiner’s commentary</i>
<p>Repetitive Strain Injury (RSI) <i>Comfortable chair</i></p> <p>Back ache <i>Foot rest</i></p> <p>Eyesight Defects <i>Flicker free monitor</i></p>	<p>Comfortable chair is not appropriate, especially for working in an office. The other two are appropriate. As this is ‘Identify’, single words are acceptable.</p>

<p>(b) Identify three different output devices Sonia will need in the office. In each case give an example of how she would use it.</p> <p style="text-align: right;">[6]</p>	
<i>Candidate style answer</i>	<i>Examiner’s commentary</i>
<p>Device 1 <i>Laser jet Printer</i></p> <p>Use <i>To print letters to customers</i></p> <p>Device 2 <i>Monitor</i></p> <p>Use <i>To view her designs on screen</i></p> <p>Device 3 <i>Sound</i></p>	<p>The second mark, the use, is based on the first marking point being awarded. In this instance, Laserjet is a brand name and will not be awarded marks. Sound is not a device and will not be given marks. Device 2 is correct and</p>

Use <i>To use messaging to talk to customers</i>	with an appropriate use, gets two marks.
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(c) Identify three tasks for which Sonia could use a spreadsheet.		[3]
<i>Candidate style answer</i>	<i>Examiner's commentary</i>	
Task 1 <i>To calculate costs of the building</i>	The three tasks must relate to Sonia and her use of a spreadsheet. The first two are appropriate, the third is not specific enough, how it is used in a mail merge needs to be given.	
Task 2 <i>To create graphs of income and expenditure for her accountant</i>		
Task 3 <i>for use in a mail merge</i>		

(d) Sonia needs to transfer data between two applications with no common format		
Describe how data can be transferred between these applications without using cut and paste.		[4]
<i>Candidate style answer</i>	<i>Examiner's commentary</i>	
<i>She needs to save the data from the first package into something that can be read by the other package. This can be opened by the second application..</i>	The order is important – there are four marks so there should be four steps. In the answer given there are three steps and the language used is not technical.	

2 An insurance company has commissioned a software house to write a program to calculate insurance premiums.		
(a) The program will have a tailored data-entry screen.		
Describe three design considerations that should be taken into account when designing a data-entry screen.		[6]
<i>Candidate style answer</i>	<i>Examiner's commentary</i>	
1 <i>Colour of the text</i> 2 <i>White space on the page</i> 3 <i>Error messages to tell you if you are right or wrong.</i>	The design considerations need to be identified and then expanded upon by giving more information. These have just been identified with no expansions.	

<p>(b) Some of the data needs to be coded before it can be used.</p> <p>Describe two problems the insurance company might have as a result of coding the data.</p> <p style="text-align: right;">[4]</p>	
<i>Candidate style answer</i>	<i>Examiner's commentary</i>
<p>1 <i>The precision of data is coarsened. If the person collecting the information has to fit the response into a pre ordained set of boxes they may lose precision, for example, they may ask for favourite colour carpet and be given the response of Light Blue. If there is only Blue on the form, then they will have to select this and lose precision of data as this was not what the person actually said.</i></p> <p>2 <i>The coding of value judgements is down to the person filling in the form and may differ between people. For example, if you asked how good a product was and the response was not bad - when coding this on a scale of 1-5, some might give it a 3 and some a 4.</i></p>	<p>This requires an identification and then an expansion of the identification. The two answers have been expanded with sufficient detail to understand the problems.</p>

<p>(c) The new program uses both real numbers and integers.</p> <p>(i) What is meant by a real number?</p> <p style="text-align: right;">[1]</p>	
<i>Candidate style answer</i>	<i>Examiner's commentary</i>
<i>Number with decimal places</i>	Definition answer.

<p>(ii) Give a suitable piece of information that should be stored as a real number by the insurance company.</p> <p style="text-align: right;">[1]</p>	
<i>Candidate style answer</i>	<i>Examiner's commentary</i>
<i>Price of premium</i>	This is a contextual based answer – there are many possible answers here, this is an example.

<p>(iii) What is meant by an integer number?</p> <p style="text-align: right;">[1]</p>	
<i>Candidate style answer</i>	<i>Examiner's commentary</i>
<i>Number without decimal places</i>	Definition answer. Contrast to 3(c)(i) – candidates will get them the wrong way round.

(iv) Give a suitable piece of information that should be stored as an integer number by the insurance company.	
[1]	
<i>Candidate style answer</i>	<i>Examiner's commentary</i>
<i>Telephone number</i>	A telephone number is stored as text and not a number. This is a common error.

(d) The data entered needs to be validated.	
(i) What is meant by validation?	
[1]	
<i>Candidate style answer</i>	<i>Examiner's commentary</i>
<i>Data entered is within the boundaries of pre set rules</i>	This answer is correct. However candidates will often give answers such as data entered is correct –this is wrong. Validation is also confused with verification.

(ii) Give two methods of validation that could be used with a text based data entry field.	
[2]	
<i>Candidate style answer</i>	<i>Examiner's commentary</i>
1. <i>Range</i> 2. <i>Type</i>	The question asks for 'Give' so single word/phrase only is required. Unfortunately Range and Type are not possible with a text field – the deliberate inclusion of text field in the question was to eliminate these answers.

(e) The insurance company needs good quality information in order to produce quotations.	
Identify three factors that affect the quality of information.	
[3]	
<i>Candidate style answer</i>	<i>Examiner's commentary</i>
1 <i>Volume</i> 2 <i>Amount</i> 3 <i>Age</i>	There are six factors identified in the specification, this is asking for regurgitation of facts only. Amount and Volume are the same answer.

3 A home computer enthusiast is performing monthly maintenance on her machine.	
Describe two different types of utilities she could use to assist her in this maintenance.	
[4]	
<i>Candidate style answer</i>	<i>Examiner's commentary</i>
1 <i>Defragmentation software takes a long time to run and needs to be done regularly.</i> 2 <i>Anti virus software checks for viruses on the hard drive.</i>	There is marks for identification and for the subsequent expansion. There are no marks for the use of proprietary names. The identification mark on both is given, however the description is not. Defragmentation does not go into detail about the software but its use and the anti-virus is claiming find on disk and

	not removal/prevention.
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4 A removal company uses a computer-based route finding system to assist in planning the route between two houses.

Identify six characteristics of computer-based route finding systems.

[6]

<i>Candidate style answer</i>	<i>Examiner's commentary</i>
1 <i>Routes printed</i> 2 <i>Input start and end point</i> 3 <i>Avoid roads</i> 4 <i>Show speed cameras</i> 5 <i>Give fastest/scenic route</i> 6 <i>Work out fuel consumption</i>	This is identification only of characteristics. These can be broken down into input, output and storage required by the system.

5 A holiday company uses a spreadsheet to create a financial model of its business.

(a) Describe how the following characteristics of modelling software could be used to create the financial model.

[4]

<i>Candidate style answer</i>	<i>Examiner's commentary</i>
Variables <i>This is a cell that you can use in a formula.</i> Formulae <i>This is when you put = and then sum.</i>	This requires an identification and expansion. The variables answer is bordering on a mark – bod, there is nothing for formula as this is a function.

(b) The model uses absolute and relative cell referencing.

Describe absolute cell referencing and give an example of how the holiday company might make use of it in its financial model.

[3]

<i>Candidate style answer</i>	<i>Examiner's commentary</i>
Description <i>Cell reference used in a formula/function does not change.</i> Example <i>=A1+B1</i>	There are two marks for the description and one for the example. Note that it is more than the cell value not changing, the replication is important. This has not made the distinction and the example is not valid.

(c) Describe what is meant by a workbook and give an example of how the holiday company might make use of it in its financial model.

[3]

<i>Candidate style answer</i>	<i>Examiner's commentary</i>
Description <i>A collection of worksheets.</i> Example <i>A worksheet could store all the data for one month.</i>	There are two marks of the description and a third mark for an example related to the scenario. The description only contains one feature and cannot achieve full marks. The example must be about workbooks and not worksheets and so in this case it does not get a mark.

<p>6 An airport uses different methods to convey information to its passengers.</p> <p>Identify where each of the following methods could be used in the airport and give an advantage of its use.</p> <p style="text-align: right;">[6]</p>	
<i>Candidate style answer</i>	<i>Examiner's commentary</i>
<p><i>Pictures For images of illegal items in baggage</i></p> <p><i>The picture is language independent and can be understood by all nationalities regardless of language spoken.</i></p> <p><i>Sound For calling late customers for flights</i></p> <p><i>If the passenger is in a toilet or not near a screen they can hear the name being called.</i></p> <p><i>Video For playing on an iPod</i></p> <p><i>It can keep the children happy.</i></p>	<p>The three uses must be contextualised and the advantage is of its use within the given environment. For Video, although a weak answer, it is a correct use but the advantage of the use is very weak and needed developing.</p>

<p>7 The university has several colleges. These colleges are in different buildings.</p> <p>Describe three advantages to the University of networking the computers in the colleges together.</p> <p style="text-align: right;">[6]</p>	
<i>Candidate style answer</i>	<i>Examiner's commentary</i>
<p><i>1 The users can use any computer, this means that if someone else is using their computer they just go and use another one and can access their work.</i></p> <p><i>2 The computers will be standardised, this means that when the employee sits at any computer it will look and have the same software on it that they are used to.</i></p> <p><i>3 The employees will not get viruses on their computers.</i></p>	<p>There are valid marks in this answer on the advantages of networking, but the focus of the question is on the University and not the employees as given by the candidate.</p>

<p>8 A company has an on-line store which sells camping equipment. It uses a relational database to store details of customers, suppliers and orders.</p> <p>(a) The relational database is normalised to third normal form (3NF).</p> <p>Describe two advantages to the company of having its database normalised.</p> <p style="text-align: right;">[4]</p>	
<i>Candidate style answer</i>	<i>Examiner's commentary</i>
<p><i>1 There will be a higher integrity of data – as the data is only stored in one place.</i></p>	<p>These are advantages to the company. The first part is an identification of the point, the second is the expansion. In this case, the</p>

2 <i>There is less duplication of data in normalised data and this means that overall there will be less data being stored.</i>	identification only has been achieved, the expansion is not in enough depth to warrant a second mark.
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(b) Identify one characteristic of data in first normal form (1NF).		[1]
<i>Candidate style answer</i>	<i>Examiner's commentary</i>	
<i>The data has no repeating groups.</i>	This is straight bookwork.	

(c) Identify two characteristics of data in third normal form (3NF).		[2]
<i>Candidate style answer</i>	<i>Examiner's commentary</i>	
1 <i>The data is in 2nd normal form</i> 2 <i>The data is in 1st normal form</i>	This is an identification and bookwork. The first and second answers are the same marking point.	

(d) A data dictionary contains information on the database.		
Identify three components found in the data dictionary.		[3]
<i>Candidate style answer</i>	<i>Examiner's commentary</i>	
1 <i>Table name</i> 2 <i>Field validation</i> 3 <i>Field length</i>	This is an identification.	

(e) The company wants its customers, who use the on-line store, to be able to search its products using both simple and complex queries.		
(i) Describe the difference between a simple and a complex query.		[2]
<i>Candidate style answer</i>	<i>Examiner's commentary</i>	
<i>A simple query only has one parameter whereas a complex query will use more than one parameter.</i>	There are two marks, essentially for the features of each that make them different. This is a learnt response.	

(ii) Give an example of a simple query and a complex query that the customer might use.		[2]
<i>Candidate style answer</i>	<i>Examiner's commentary</i>	
<i>Simple Search for tents</i> <i>Complex Search for tents within your price range</i>	They should be within SQL format and include field name and parameter. In the simple query, the field is not known, in the second, the price range is not known.	

9 A cinema holds information on its regular customers in a database and wants to send them information on new film releases.

Mailmerge can be used to complete this task.

(a) Describe the process of mailmerge. **[4]**

<i>Candidate style answer</i>	<i>Examiner's commentary</i>
<i>The data source is created. A letter is typed. You then click on the mailmerge wizard button and follow the instructions. When you have finished you can have a look at what you have done before printing or saving it.</i>	This is a stages question – does the candidate understand the stages required and put them into the correct order. The data source created is one mark, the output is a second mark. There is nothing between these two steps.

(b) Describe two advantages of using mailmerge to send information to the customers. **[4]**

<i>Candidate style answer</i>	<i>Examiner's commentary</i>
<ol style="list-style-type: none"> 1 <i>They only need to type one letter.</i> 2 <i>It is quicker to send lots of letters.</i> 	There should be an identification and then a subsequent expansion linked to the advantage. The candidate has given identification only and for the second one, a very generous mark.

10 An employment agency visits universities and gives presentations to students on the services it offers.

(a) The presentation could be delivered using printed acetate or a computer and projector.

Describe two features of a presentation that would only be available when using a computer and projector. **[4]**

<i>Candidate style answer</i>	<i>Examiner's commentary</i>
<ol style="list-style-type: none"> 1 <i>Animation, such as a cartoon.</i> 2 <i>Videos to play on the screen.</i> 	The key here is the difference between computer and acetate. There is an identification and then expansion – the expansion is of the feature. In this case there is no expansion.

(b) The presentation could use vector or bitmap graphics.

Identify four differences between vector and bitmap graphics. **[4]**

<i>Candidate style answer</i>	<i>Examiner's commentary</i>
<ol style="list-style-type: none"> 1 <i>Vector takes up a lot of memory</i> 2 <i>Bitmap does not take up a lot of memory</i> 3 <i>Bitmap will pixelate on</i> 	This is four features of one that are different to the other. The first two are the same feature, but the wrong way round, the second two are the same feature, so only one mark.

<p><i>enlargement</i></p> <p>4 <i>Vector will not pixelate on enlargement</i></p>	
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<p>(c) The employment agency could use clip art images in the presentation.</p> <p>Describe two advantages of using clip art images instead of personal photographs in the presentation. [4]</p>	
<i>Candidate style answer</i>	<i>Examiner's commentary</i>
<p>1 <i>There is a wide range of clipart available – they will have lots to look at to get the image they want.</i></p> <p>2 <i>They do not need to buy a digital camera, saving money.</i></p>	<p>Two identifications and two expansions. The answers given here can also be used as disadvantages – the identification is usually the same, it is the expansion that determines whether it is advantage or disadvantage</p>

<p>The quality of your written communication will be assessed in your answer to this question.</p> <p>11 Discuss the impact on society of using the Internet to shop. [9]</p>	
<i>Candidate style answer</i>	<i>Examiner's commentary</i>
<p><i>Individuals have a wider range of choice, they are not limited to the items that are physically for sale within the local area or an area reachable by car. If they can find something on the Internet then it is accessible to them and they can purchase it. This means that that whatever they want can be found for sale and shipped to them. They are no longer restricted. This can also be the same for price – a local shop may sell the item that they want but it might be more expensive. Sites such as pricerunner can compare prices for them and make sure that they are getting a good deal. If this means that they can get it cheaper other than at their local shop then they can save money to spend on more items.</i></p> <p><i>The Internet is convenient, it delivers to the door. You look, you pick, you pay and it arrives. There is no need to spend the afternoon visiting lots of shops or looking at lots of items. You can make better use of your time by using the Internet and cutting out the travel and walking around. The item is delivered and you can try it on in the privacy of your own home, make a</i></p>	<p>This is a positive impact and consequence.</p>

<p><i>decision and if you do not like it, send it back. This means that the Internet has had the impact of increasing our free time – we can use that to learn a new skills, read more and become erudite members of society or watch more television, the important point is that it is our choice.</i></p>	<p>This is a positive impact and consequence.</p> <p>Overall, the essay meets the criteria for the middle band. It has got to grips with some of the issues, but from one side only.</p>
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The quality of your written communication will be assessed in your answer to this question.

12 Discuss developments in ICT that may have an impact on how lessons could be taught in the future in schools.

[9]

<i>Candidate style answer</i>	<i>Examiner's commentary</i>
<p><i>There is social isolation through the use of ICT, having personalised learning environments does not allow group discussion or interaction, sharing of views and opinions and giving the individual student the opportunity to grow and develop their verbal skills. This leads to a part of society that can only communicate electronically and have little social skills, this will eventually lead to a breakdown in society and have repercussions for future generations as they will see this as the normal way of communicating and learning and this will be perpetuated until we only communicate through txt and msn. School at the moment is one location where physical interaction is required and this should not be removed.</i></p> <p><i>The use of computer technology to mark scripts removes the human element of chance but does not allow for benefit of doubt. A human can give specific feedback and assistance on improving the work whilst a computer will give a mark and an algorithmic response on improvements. A computer has a limited range of responses that it can mark – free responses are notoriously difficult. If the response is limited in scope then it can be marked by a computer but these types of responses do not allow the student to demonstrate their ability in the subject. If computer marking en mass is introduced then the</i></p>	<p>This is a negative impact and consequence</p>

<i>ability of the students will be lowered as the level of response is reduced and this will have a knock on effect on the level of intelligence and ability of future generations. We will be used to giving short limited responses and not have the ability to engage in long discussions which will reduce our vocabulary.</i>	<p>This is a negative impact and consequence</p> <p>There is no conclusion to the essay – there does not have to be. There are two negative impacts and consequences only. This is a typical middle band response.</p>
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Overall banding: Medium

This is a medium candidate. There are some mistakes in knowledge and understanding, the application is weak. There is a lack of expansion in the description. If the candidate had written more in the expansions, they might have obtained the marks.