Examiners' Report
Principal Examiner Feedback

Summer 2023

Pearson Edexcel International Advanced Level In Information Technology (WIT13) Paper 01

Introduction

This is the first full live series for this unit of the IAL IT. The first examination was in 2019, where this unit was not available, and the intervening years were disrupted due to Covid19.

Interpreting words used in the questions

The command taxonomy, available in the specification appendix 6, details the requirements for responses to both the command word **explain** and the command word **describe**. These command words are most often seen in questions worth two marks. One mark is for a statement. The second mark is for a development of that statement (describe) or a justification of that statement (explain). The statement and the expansion must be linked and make sense together.

Responses were often seen for these questions that could only be awarded a single mark, as the development or justification was missing. The mark scheme for Q01c and Q02a demonstrates patterns for responses to an explain question that achieve both marks.

In some questions, the command word **describe** is used where the response is a description of a process. These questions may be worth more than two marks. Each mark is a step in the process.

The words used in the questions should help students identify what is required in the response. There is a difference between characteristics (what something is), functionality (what it does), affordability (what it allows you to do), and its benefits or drawbacks (why you would/would not use it). Q01c asks for an explanation of one advantage of using containerisation in the cloud, rather than what containerisation is.

Subject-specific terminology

Across all the questions, there was a tendency to omit the use of subject-specific terms or to confuse some words with others. Confusion with the terms shown in the table were seen in many responses.

Term	Observation
Deployment/installation	The subject-specific term used to describe putting an IT system into production. Sometimes, marketing terms (launch, release) were used

	instead.
Integration	This term should mean the bringing together of components/modules. To test this bringing together is called integration testing. The term integration, alone, is not enough to mean testing.
Data integrity	This term is about the reliability or trustworthiness of data, not about accuracy or correctness.
Referential integrity	This is a Microsoft Access term which means that when one field is changed in a table, all other tables, where that field is used as a foreign key are also changed.
Data consistency	Does not mean removing inaccurate data, but that the DBMS ensures all related data is changed together. This is aligned with referential integrity.
Sender, receiver, user, owner	Normally sender and receiver are used in the context of transmission, but these terms were used in the context of the certificates in Q03. It's not possible to know if the sender is the issuer of the certificate, the sender of the certificate, or the sender of the encrypted message. Being as specific as possible will allow examiners to award marks.
Plaintext, ciphertext	These terms are used to refer to unencrypted and encrypted data. Their meaning is very clear. Using terms such as data, message, or an example (Hello, "*££!) lead to unclear responses, where marks were difficult to award.
Key	The term key could appear in a database, as in primary or foreign. A key is also used in encryption, where it benefits from using a modifier (public, private, shared). Where students used passcode, secret code, or password, marks were difficult to award.
Public, private, shared	These terms may be used as modifiers for a key. They are not used in pairs. Marks could not be awarded when they were used together, such as public shared key.

Subject-specific notation

Across all the questions, there was a tendency to confuse the type of notation required for a particular type of task.

Symbols	Observation
Flowchart symbols	Available in the specification appendix 7. All students should be able to interpret and produce flowcharts using these symbols. They should also know when flowchart symbols are appropriate to use.
Dataflow symbols	Available in the specification appendix 7. All students should be able to interpret and produce dataflow diagrams using these symbols. They should also know when dataflow symbols are appropriate to use.
Entity relationship symbols	Available in the specification appendix 7. All students should be able to interpret and produce entity relationship diagrams using these symbols. They should also know when entity relationship symbols are appropriate to use.
Information flow diagrams	Available in the specification appendix 7. These are more flexible than the other types of notation and can be used in many different places, particularly where one of the more specific types of symbols is not appropriate.

Q01ai

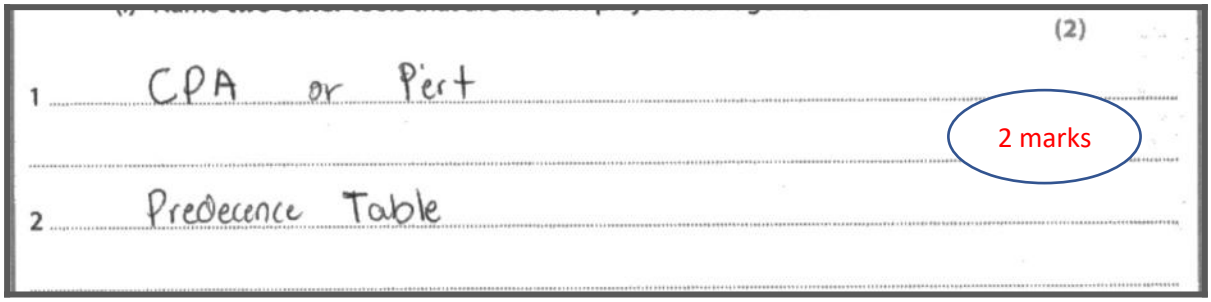
This question was well answered.

This question requires students to name two tools used in project management.

The most common error was responding Agile or Waterfall, which are not tools. Examiners also saw MIS or CRM often, perhaps because they're somewhere else in the paper.

SWOT analysis, was seen, but is a tool for decision making and should be done before commencing a project.

General office tools or equipment, e.g. Internet, spreadsheets, graphs/charts, or a computer were not awarded.

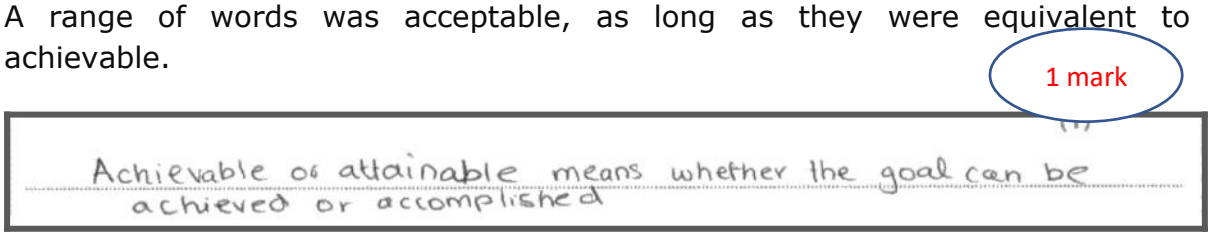


Q01aii

This was a very well answered question. The majority of responses were awarded the mark.

This question requires students to define the meaning of the A in SMART targets.

A range of words was acceptable, as long as they were equivalent to achievable.



Q01aiii

This question was poorly answered. Few responses were awarded the mark.

This question requires students to give one reason for using SMART targets.

It was often answered using one of the other letters in SMART. Responses about finishing the project on time were not awarded.

Some responses indicated that the objectives would be stated in clear terms when using SMART targets, but failed to tie this to an increased probability of the project being successfully completed.

(iii) Give **one** reason for using SMART targets to define project outcomes.

In order to have successful project.

0 mark

(iii) Give **one** reason for using SMART targets to define project outcomes.

It ~~is~~ makes it ~~easier~~ to analyse and understand ~~the project~~.

1 mark

(iii) Give **one** reason for using SMART targets to define project outcomes.

To provide a clear understanding of the target to promote the likelihood of the ~~proje~~ success of the project.

1 mark

Using SMART targets gives an objective to achie so it will let us know whether the project's outcome was successful or not

1 mark

(iii) Give **one** reason for using SMART targets to define project outcomes.

Using SMART Targets ~~to be~~ ~~to do~~ the Project outcomes can be defined more accurately.

0 mark

(iii) Give **one** reason for using SMART targets to define project outcomes.

Because it ~~gives~~ Sets Clear and Cwell defined Objectives

0 mark

0 mark

(1)

So there is a realistic goal and a certain plan to make the outcome/goal realistic

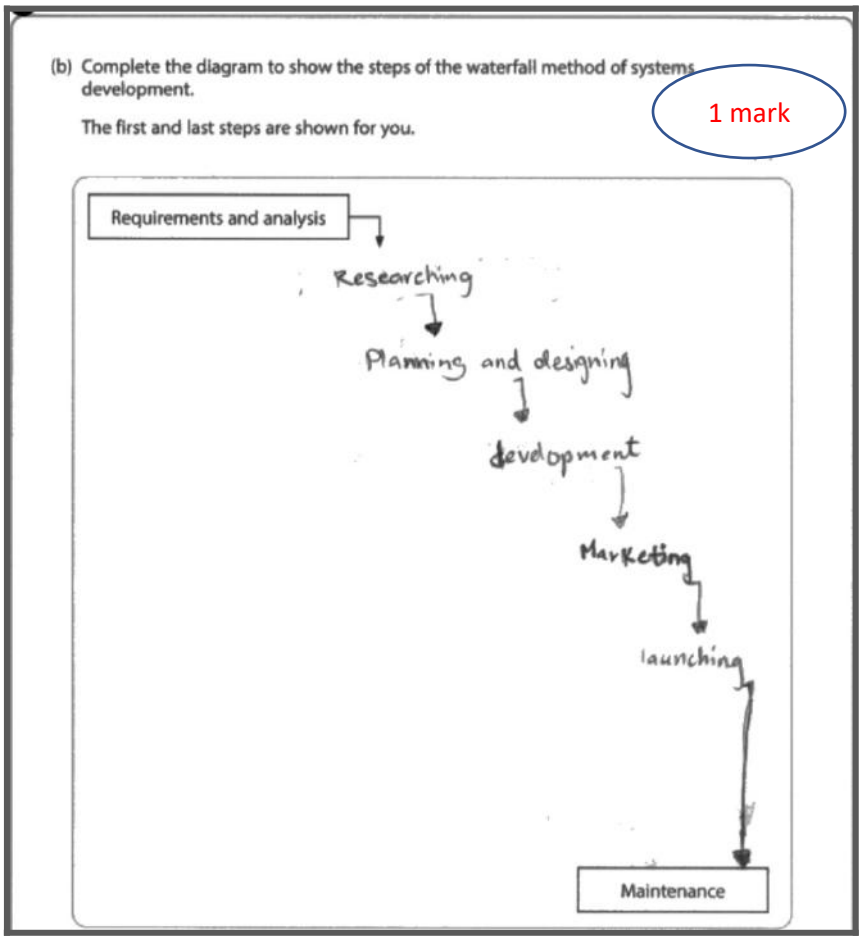
Q01b

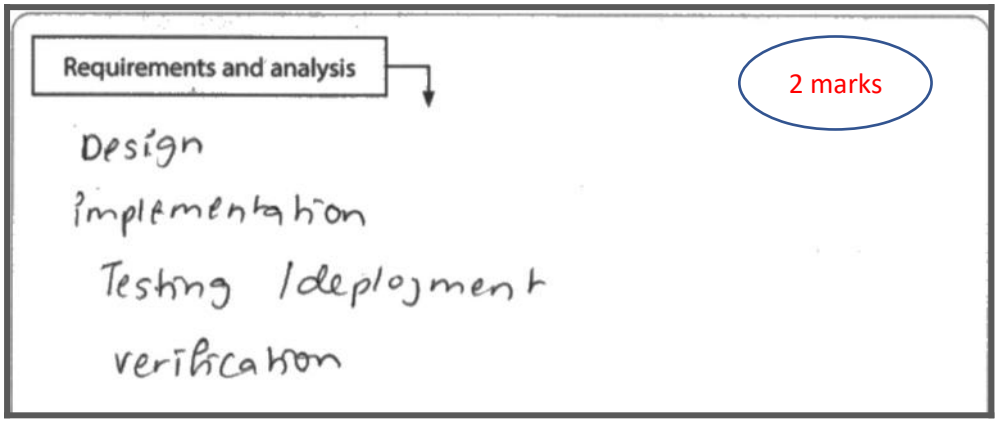
This question was answered well.

This question requires students to complete the diagram of the waterfall method of systems development.

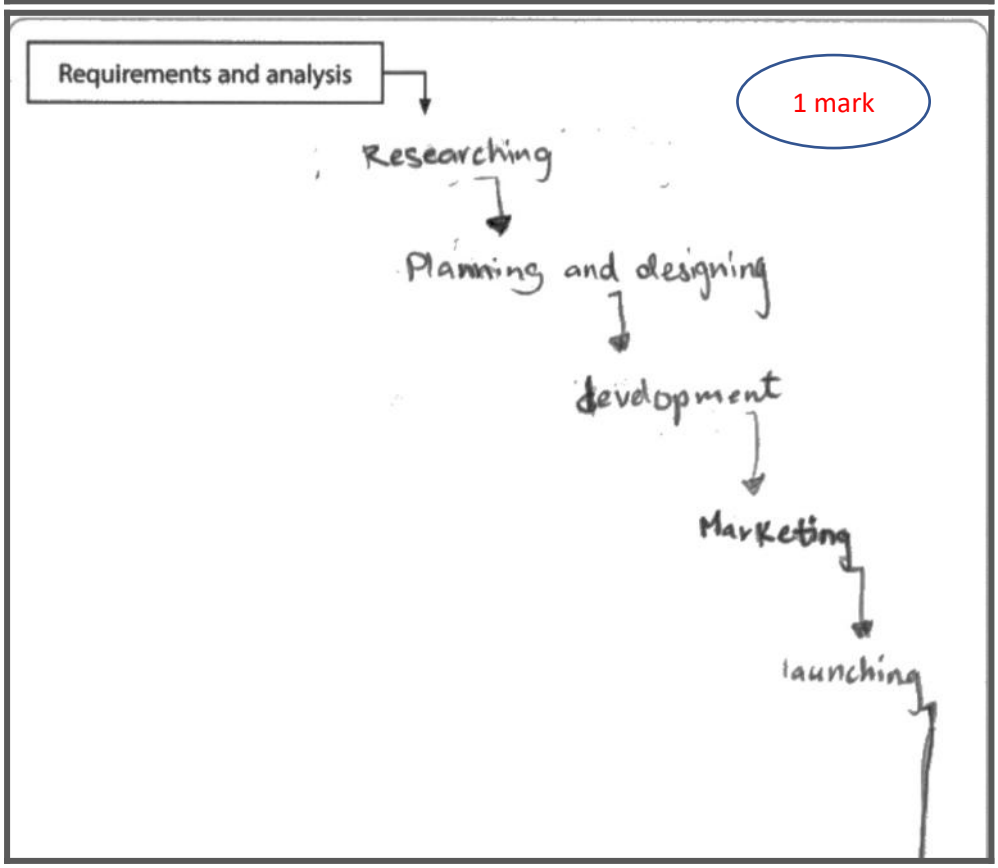
Some responses could have earned more marks by using subject-specific terminology. Marketing terms, such as launch and release, appeared often instead of installation or deployment.

Integration was sometimes seen with testing, but when alone, it could mean the act of bringing modules/devices together rather than the actual testing of a system.

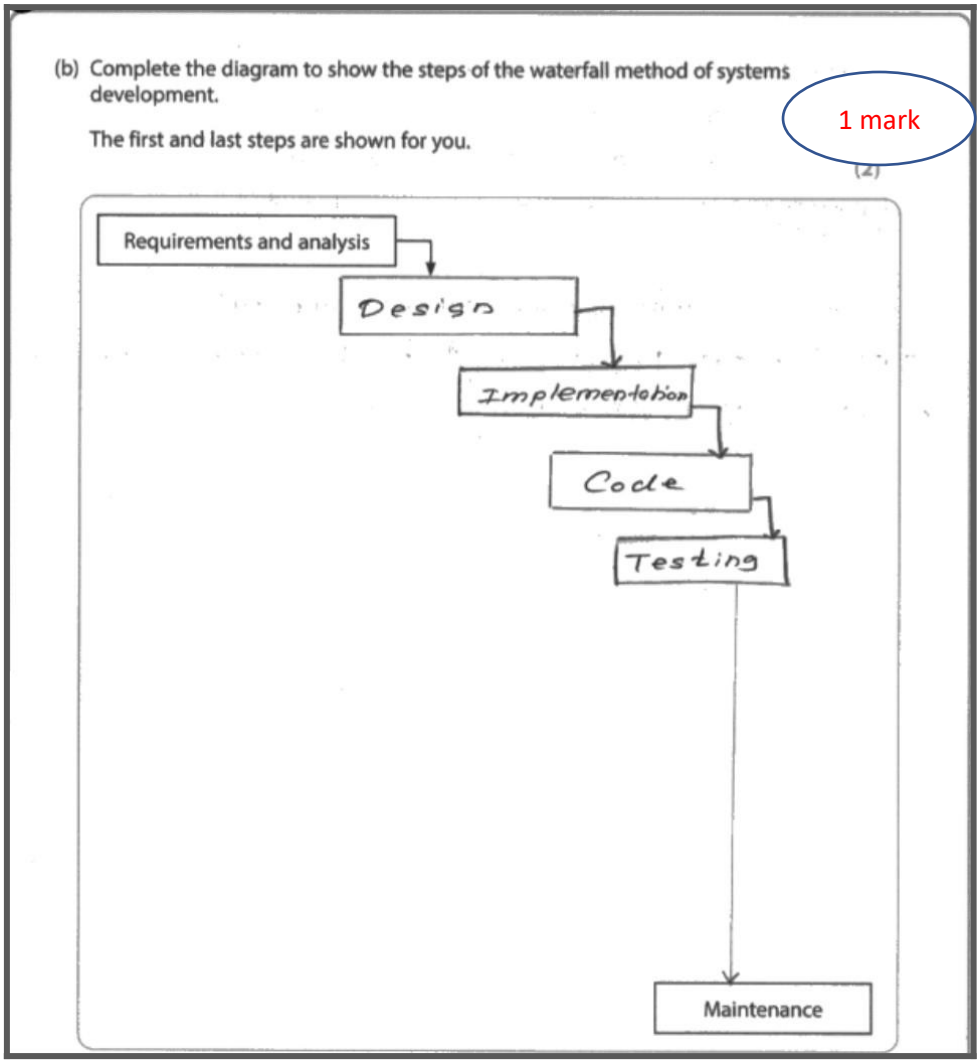




2 marks



1 mark



Q01c

Overall, this question was poorly answered, with few responses earning either one or both of the available marks.

This question requires students to explain one advantage of using containerisation. It is not asking for a comparison to virtualisation. However, many responses were seen that did this comparison.

This is a two-mark explain question. The mark scheme shows a pattern for answering this type of question.

portability - containerisation provides a high level of portability for deploying application to the cloud. Containers encapsulates the application and it dependencies into a single, self contained unit. This allows the application to run consistantly across different environments regardless of infrastructure or OS.

2 marks

(2)

Containerisation allows the software to run in a specific enviroument, despite the machine that may be physically storing the software. This way, it will run the same no matter where it is stored physically.

2 marks

Containerisation allows for the product to run on ~~any~~ operating system because all files and code essential for the program will be isolated in ~~[redacted]~~ a container. ~~This allows for the program~~ This means greater portability for the products

2 marks

The software is able to run within it's own system environment. It does not depend on external factors.

1 mark

(2)

To make it easier to observe the softwares performance and wether it needs to be patched before it is allowed to be distributed.

1 mark

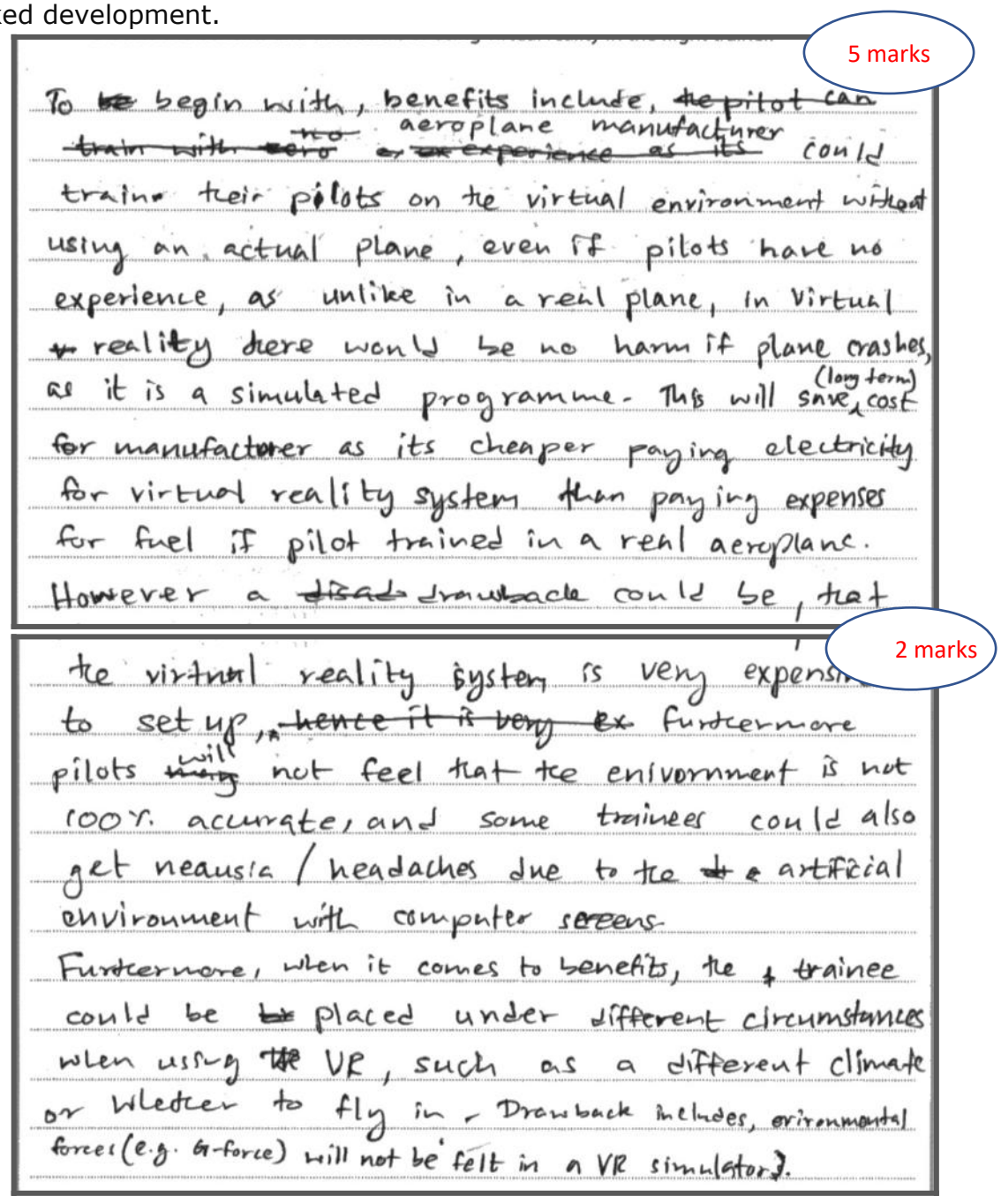
Q01d

This question was well answered, with very few responses being awarded no marks.

This is the first essay question in this paper.

This question requires students to discuss the benefits and drawbacks of using virtual reality in a flight trainer.

There were many good responses for this question. Most responses earned marks in the middle band because they consisted of accurate statements, but lacked development.



(6)

Virtual reality allows ~~in~~ creation of a simulated reality by developing VR flight simulators it allows pilots to train in a much more immersive environment which allows pilots to experience ~~react~~ much real situation resulting in ~~better~~ better training ...
VR simulators ~~allow~~ ~~can~~ simulate many different kind of environmental conditions
VR overall allows an increase in quality and intensity of training.
Drawbacks of such are that some pilots will get nausea due to continuous long hours of

VR training. People with epilepsy ~~or~~ cannot use it and ~~with~~ a small chance of ~~induce~~ damaging eye sight due to prolonged hours in headset. Since VR is in its early days the cost of developing a VR game is very hard and ~~to have start~~ it might have graphics issues with low quality and to provide entire academy with VR headsets is very costly and maintenance of headsets are needed.

Q02a

This question was poorly answered, with the majority of responses awarded no marks.

This is a two-mark explain question, asking for an explanation of a benefit of normalising a relational database. The question paper gives a model answer for the students to follow. It is based on reducing data redundancy.

Again, examiners saw many responses consisting of a single statement for one mark, but the expansion was often missing.

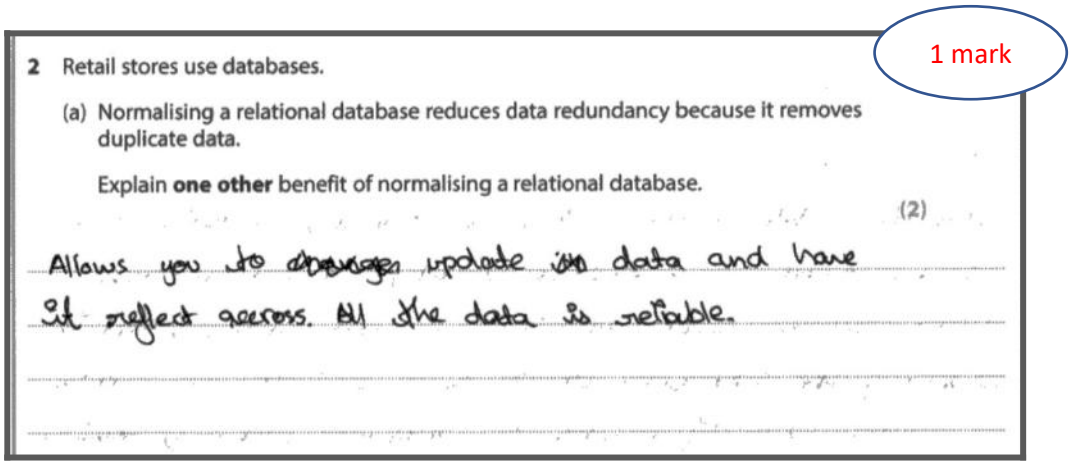
A common error was giving a benefit of storing data in a database, such as organisation and queries. Other responses described how a database is constructed, using tables, primary keys, and foreign keys.

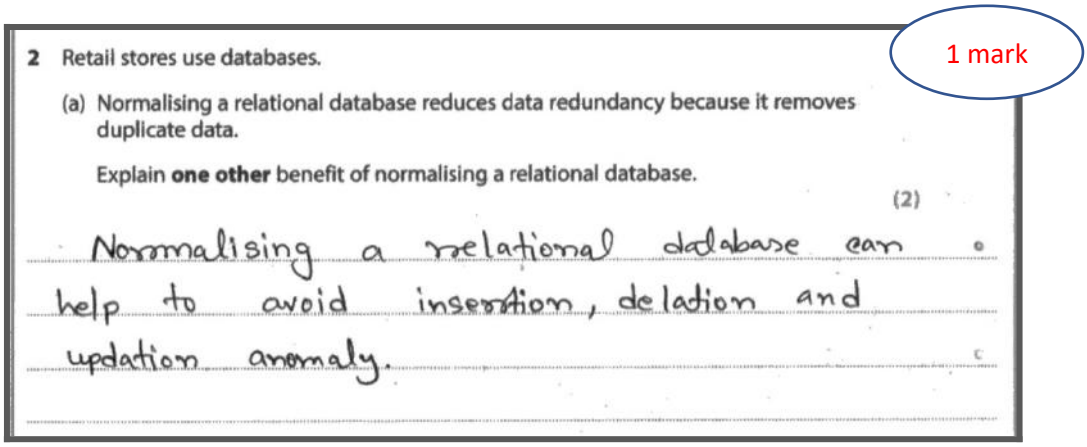
Some responses were based on removing duplicate data, but reduction of data redundancy by removing duplicate data was given in the question, so could not be the answer to the question.

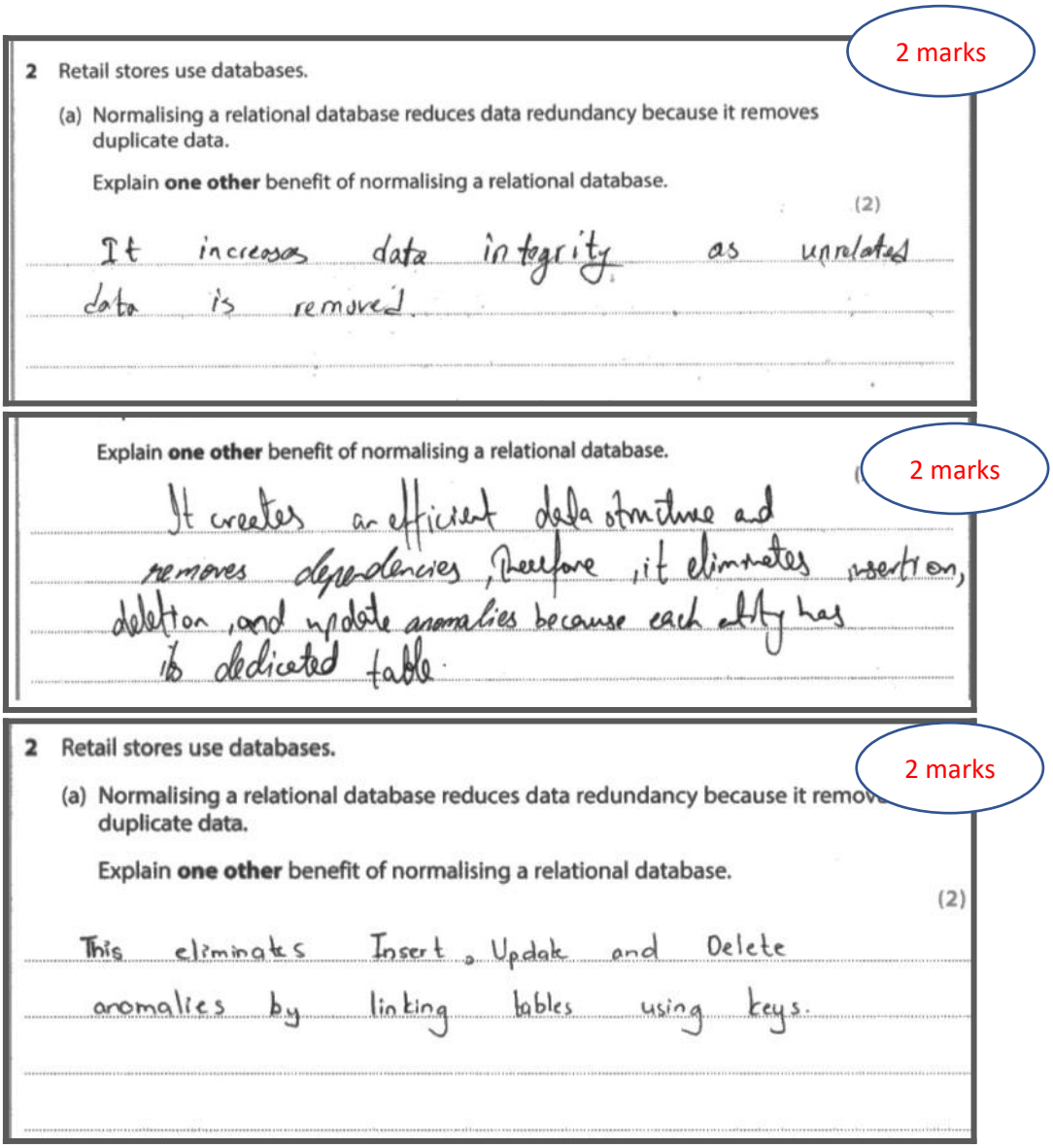
Responses that identified improving data integrity, went on to give a definition of data integrity (trustworthiness of data), rather than explain how this was achieved. In the same way, the reduction of anomalies was identified as a benefit, but lacked an explanation of how this was achieved. These responses earned one of the two available marks.

There was some confusion with the term integrity. Some responses went on to describe data integrity as a measure of how accurate or correct data is.

Other responses stated to 'improve data integrity' but expanded with 'ensuring data is changed together because of links in the tables'. The latter is really data consistency. The issue is that Microsoft Access uses the term 'referential integrity' to mean the latter.







2 Retail stores use databases.

(a) Normalising a relational database reduces data redundancy because it removes duplicate data.

Explain **one other** benefit of normalising a relational database.

(2)

It increases data integrity as unrelated data is removed.

2 marks

Explain **one other** benefit of normalising a relational database.

It creates an efficient data structure and removes dependencies, therefore, it eliminates insertion, deletion, and update anomalies because each entity has its dedicated table.

2 marks

2 Retail stores use databases.

(a) Normalising a relational database reduces data redundancy because it remov duplicate data.

Explain **one other** benefit of normalising a relational database.

(2)

This eliminates Insert, Updak and Delete anomalies by linking tables using keys.

2 marks

Q02bi

This question was well answered.

This question requires students to complete a table to name a validation type.

The most common error was giving a data type (text, number, short integer) for a validation type.

A lookup/list on the equipment names would not be practical in a real situation.

Information	Valid data	Invalid data	Validation type
Equipment names	Paddleboard Kayak Fishing canoe	<blank>	Is Not Null
Rental period in hours	1 to 24	30	Between 1 and 24

2 marks

Information	Valid data	Invalid data	Validation type
Equipment names	Paddleboard Kayak Fishing canoe	<blank>	Presence
Rental period in hours	1 to 24	30	Range

2 marks

Information	Valid data	Invalid data	Validation type
Equipment names	Paddleboard Kayak Fishing canoe	<blank>	~~Lookup~~ ~~list~~ ~~list~~ Lockup check
Rental period in hours	1 to 24	30	~~value~~ ~~between 24 and~~ 1 range check

1 mark

Information	Valid data	Invalid data	Validation type
Equipment names	Paddleboard Kayak Fishing canoe	<blank>	Text
Rental period in hours	1 to 24	30	Number

0 mark

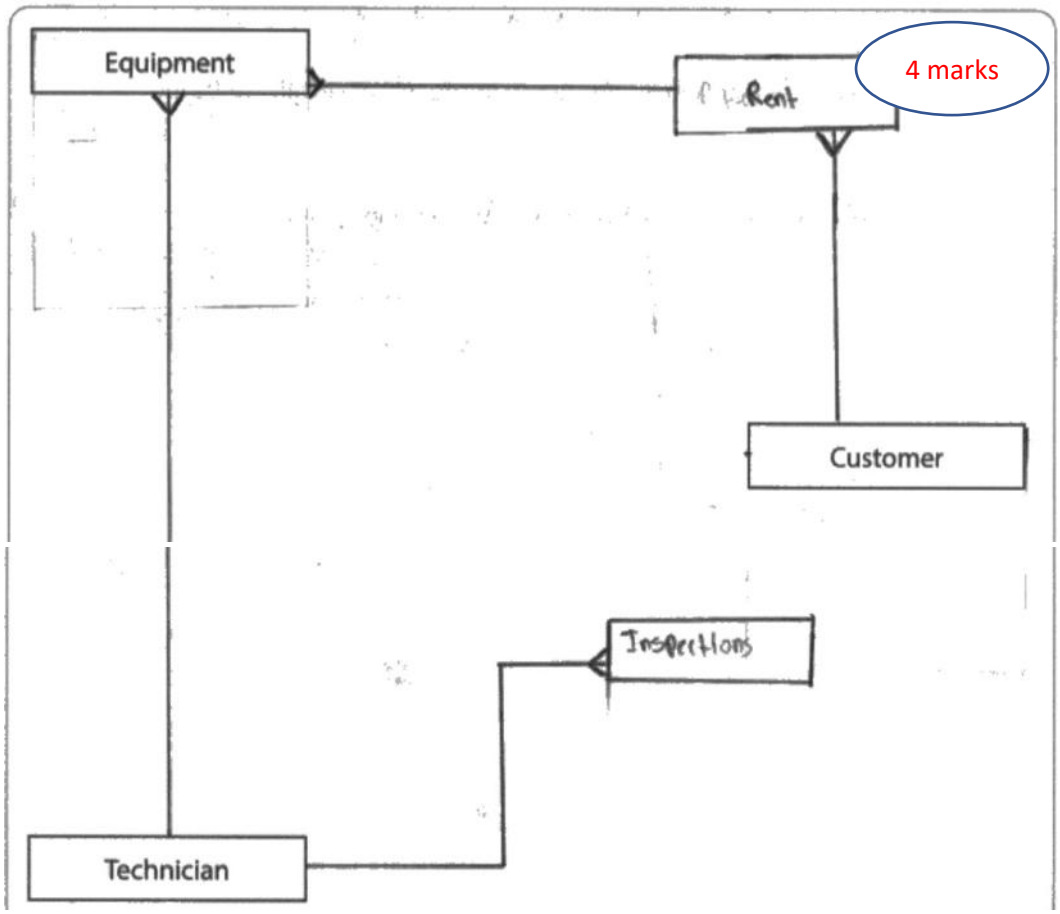
Q02bii

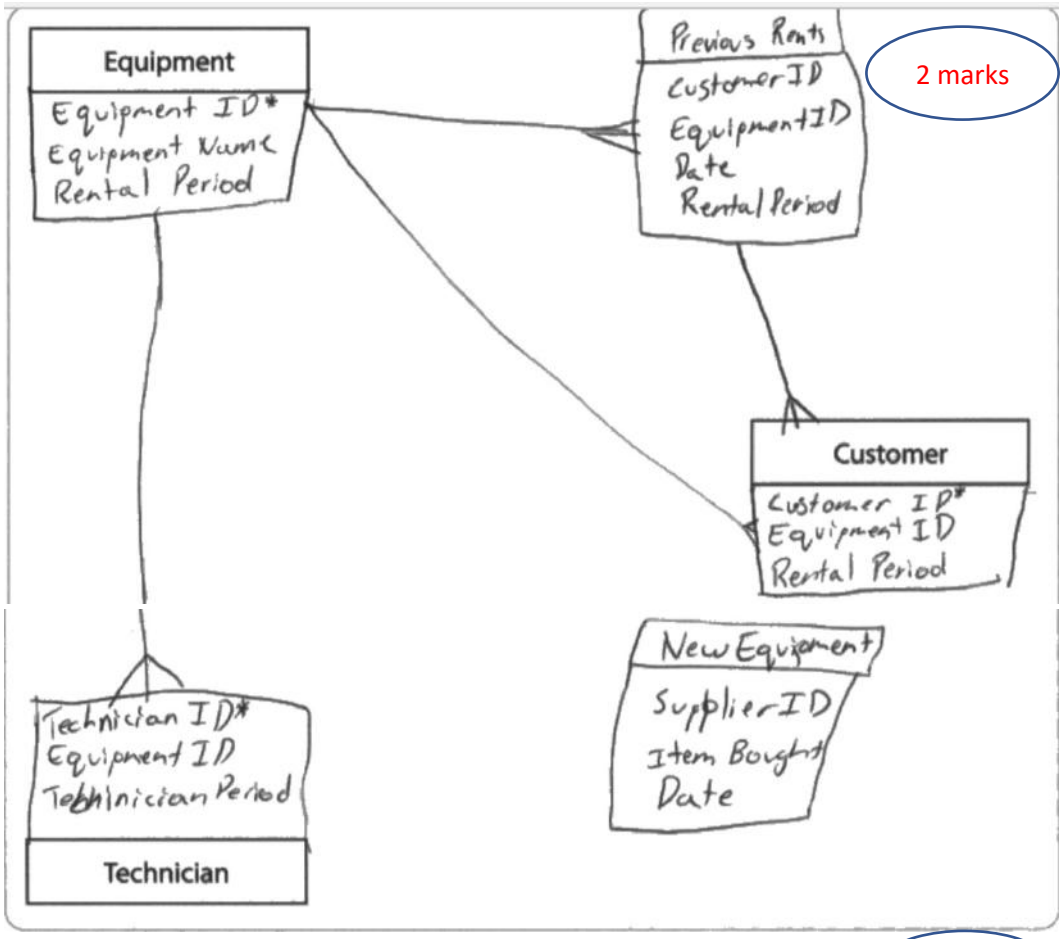
This question was not well answered. However, the majority of response was awarded one or more of the available marks.

This question asked students to complete an ER diagram. The question specifies the need for two entities, four relationships, and four relationship types.

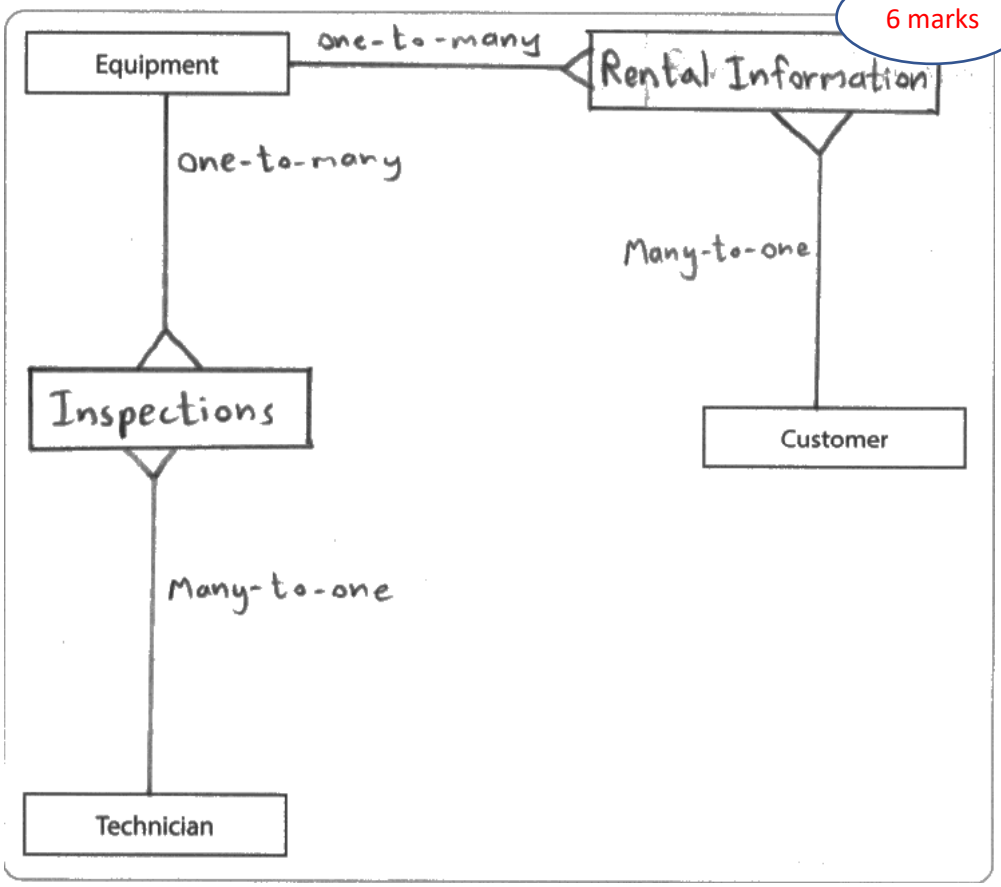
Attributes (field names) did not need to be added to the diagram. When they were added, they were ignored.

Common errors included reversing the relationships or adding relationships directly between two of the given entities.





2 marks



6 marks

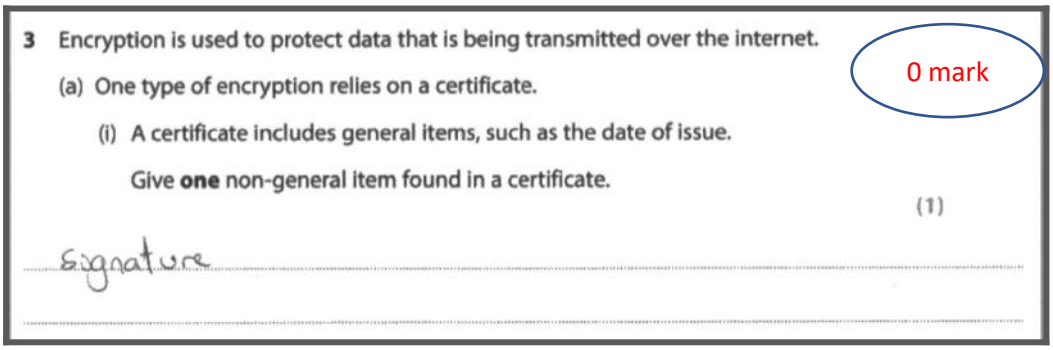
Q03ai

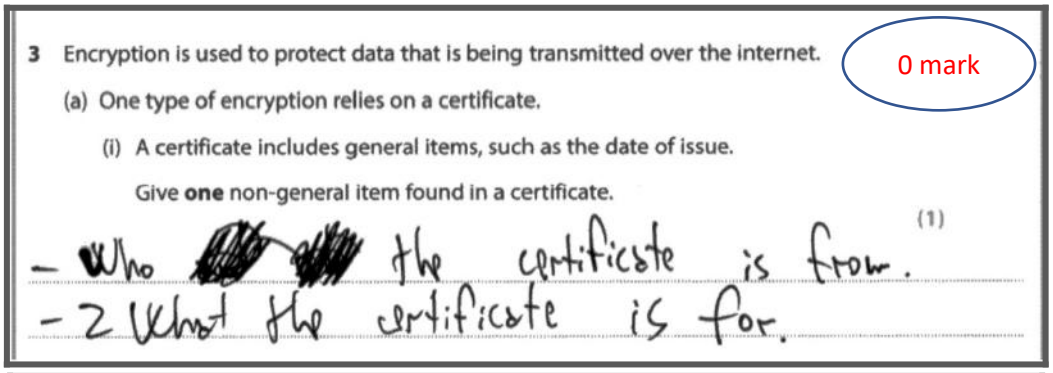
This question was not well answered, with more responses awarded zero marks than one mark.

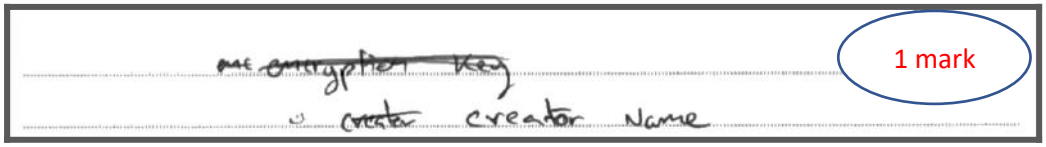
This question is the first of two about encryption. It asks for one non-general item found in a certificate, i.e. something specific that can identify the certificate.

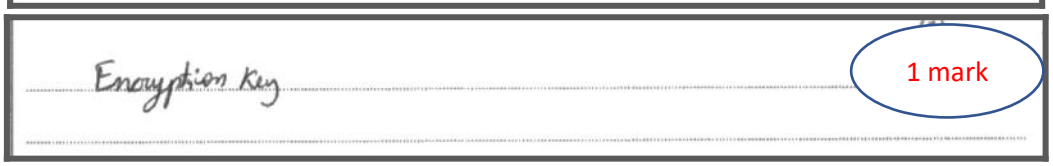
There was confusion with the use of some words. These included user, holder, sender, receiver, and entity, as it is not clear who these are. In many cases, it was not possible to determine if a word meant the owner of the certificate, the issuer of the certificate, or the user of the certificate, all of whom are different. The use of the word signature was also problematic, as there is no indication of which party the signature belongs to.

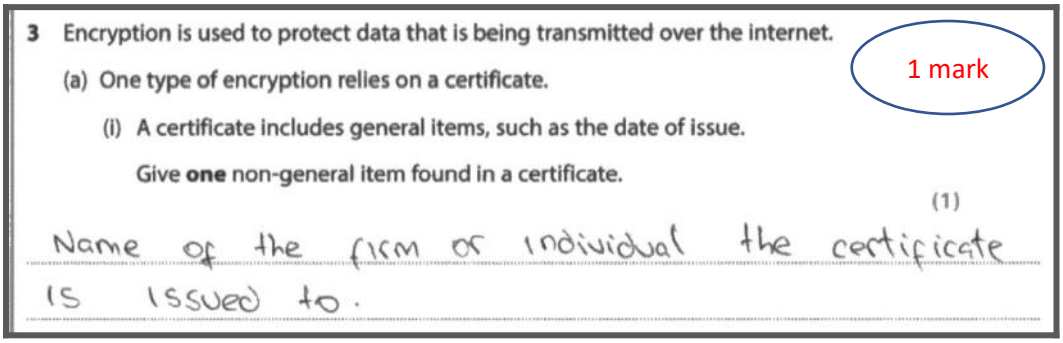
A range of responses were accepted as equivalent for the serial number of the certificate, such as certificate ID, certificate number, and certificate code.











Q03aii

This question was not well answered, with more responses awarded zero marks than either one or two marks.

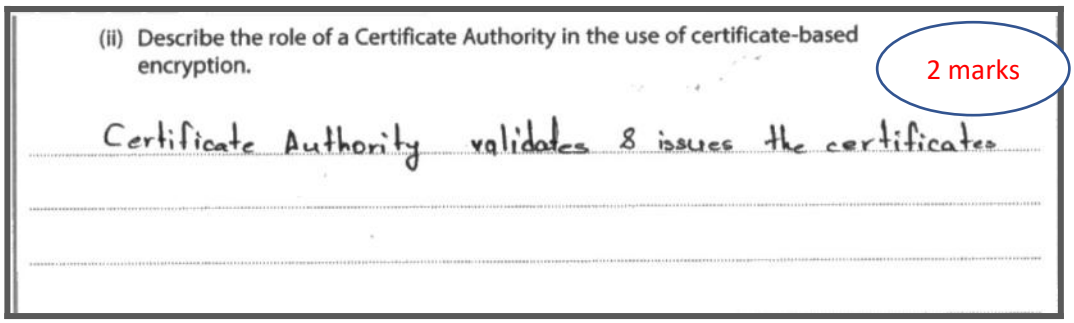
This is the second of the questions about encryption. It asks for the role that the Certificate Authority (CA) plays in certificate-based encryption.

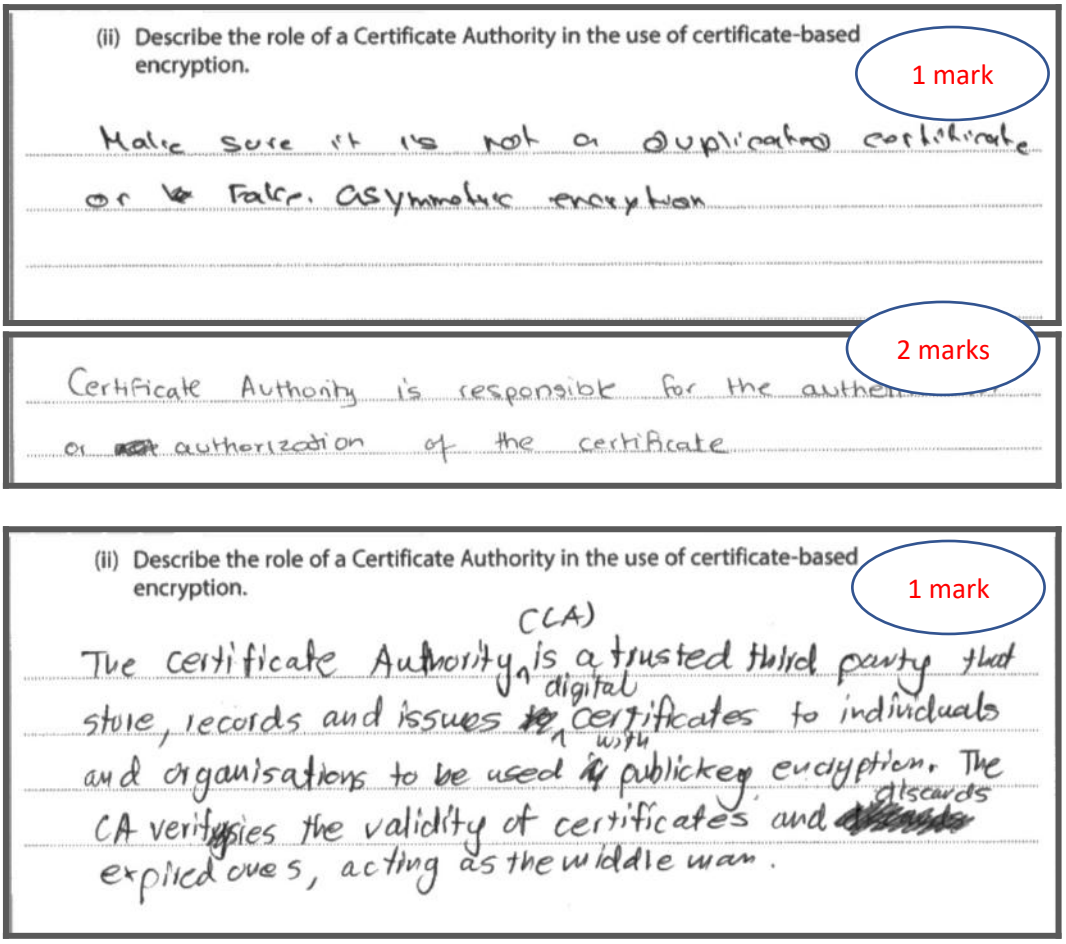
This is another question where the use of subject-specific terminology impacted the number of marks awarded. The terms user, owner, sender, and holder were all used, but in many cases, it was not possible to determine who that entity actually was.

Many responses indicated that it is the role of the CA to actually encrypt the data. Others indicated that the CA was responsible for ensuring the identity of the sender and receiver of the encrypted data.

Examiners did see some responses that indicated the CA verified the identify of the organisation that the certificate was issued to.

Responses indicating that the CA hands out or creates the keys or the certificate were awarded. The most commonly award mark was for the idea that the CA validated the certificate.





Q03b

This question was very well answered, with few responses awarded zero marks.

It was rare for a response to be awarded fewer than two marks. However, it was also rare for a response to be awarded all nine marks. Unfortunately, some students declined to attempt to answer the question.

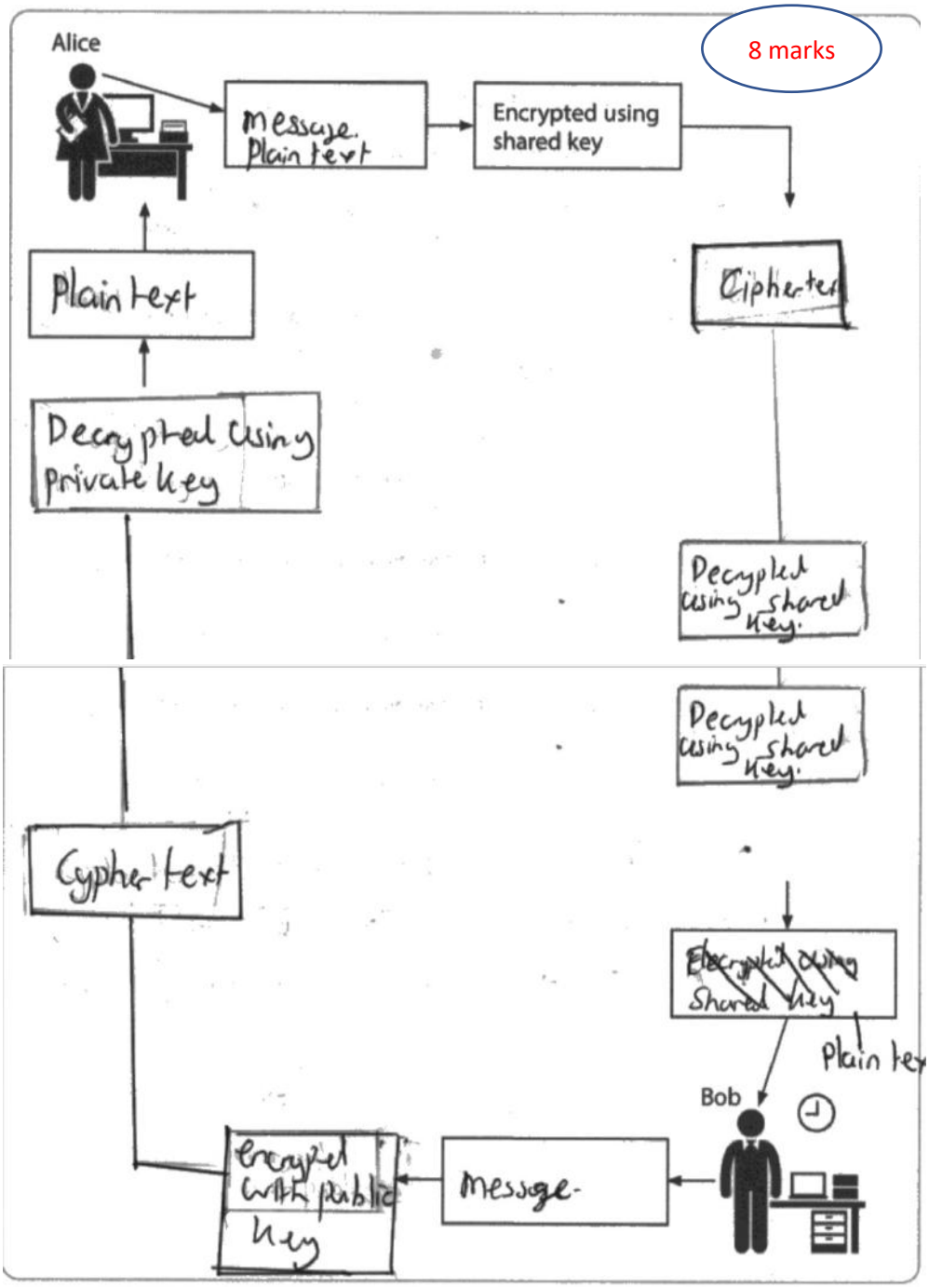
This question requires students to complete a diagram illustrating symmetric and asymmetric encryption. Some steps in the process are provided.

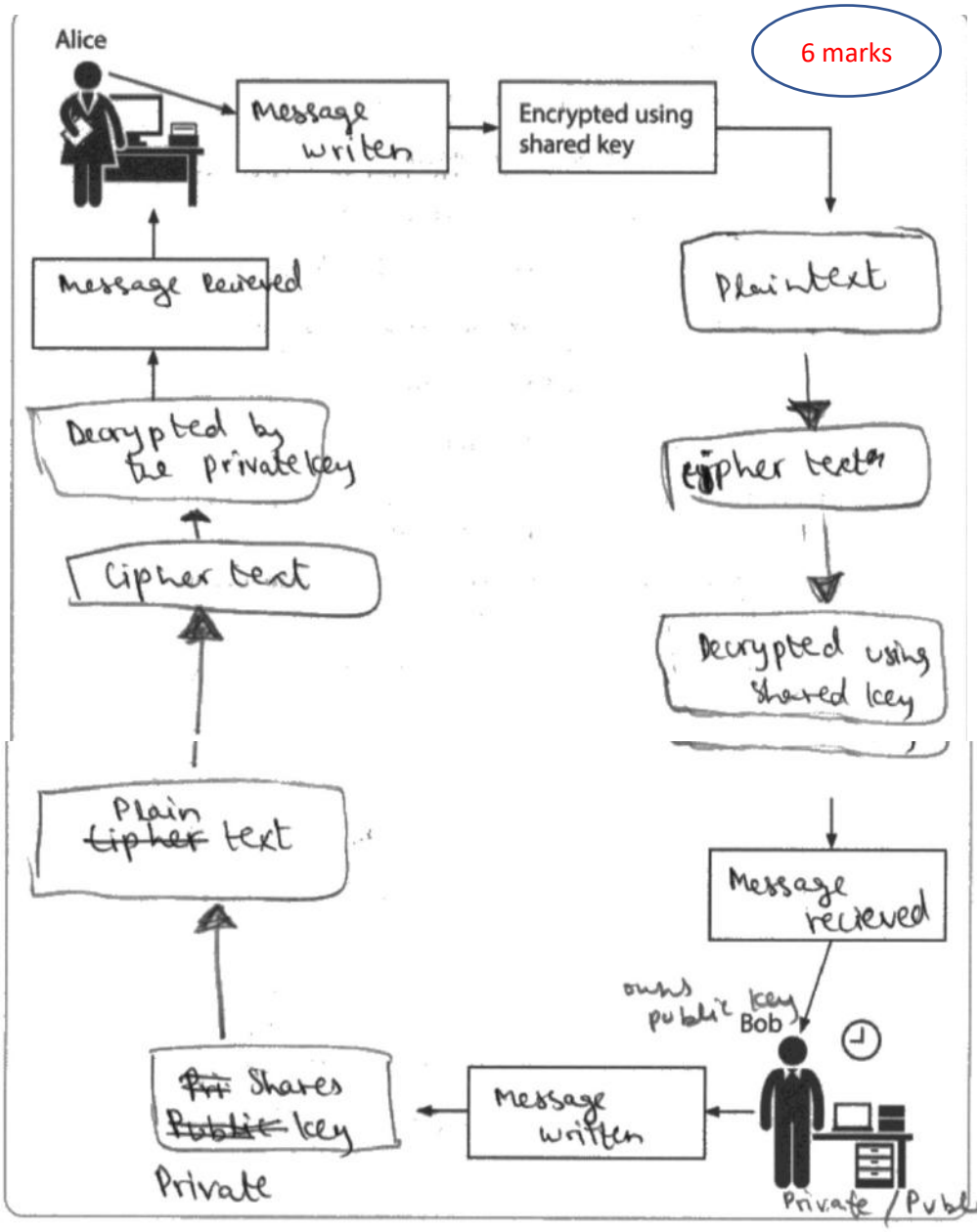
The most common omission was not expressing that the public and private keys, on the asymmetric side, belong to Alice.

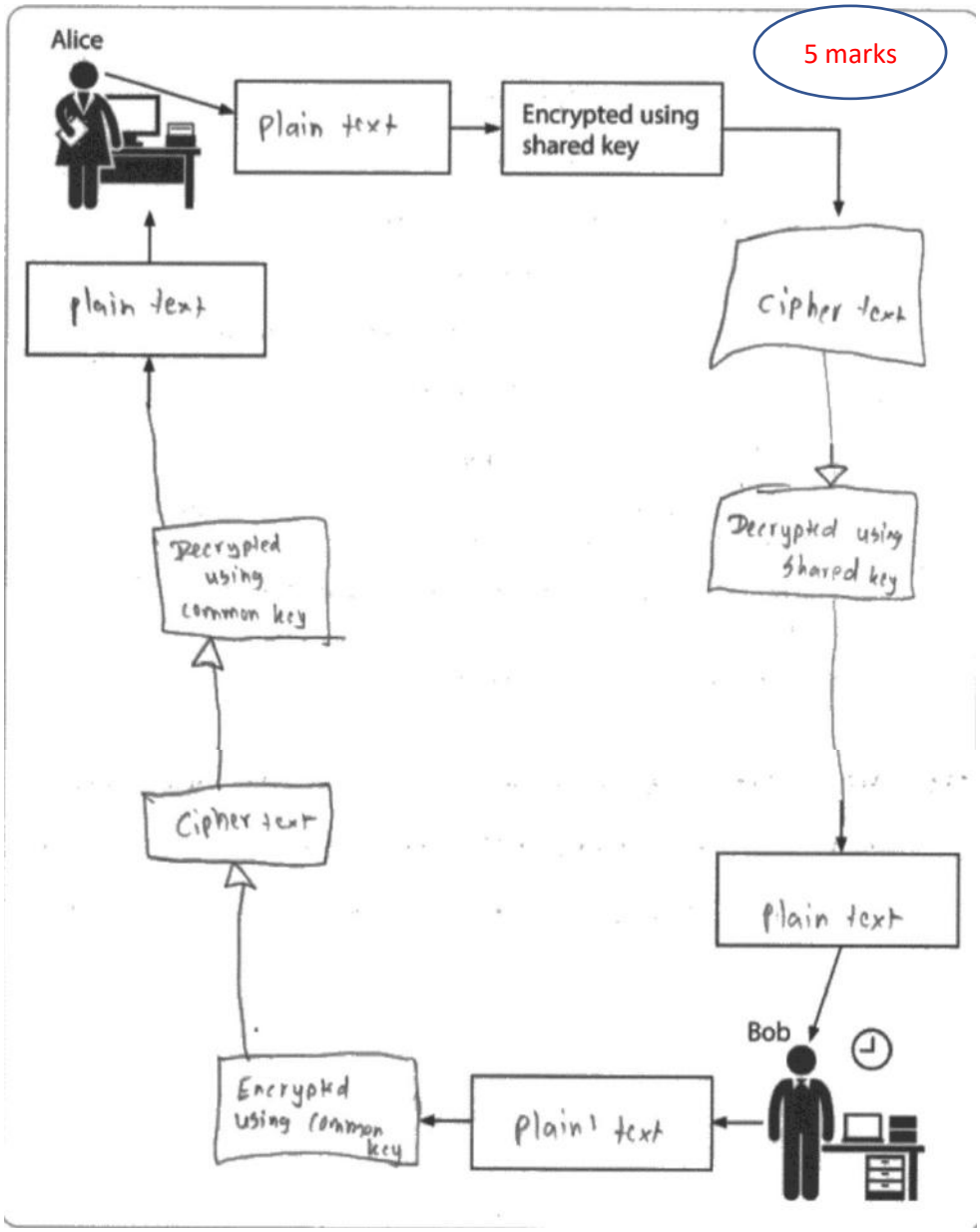
The question states that responses should use the subject-specific vocabulary of plaintext and ciphertext. Some responses did not receive full marks because there was no distinction made between plaintext and ciphertext. The term message, when it could be interpreted, was awarded for plaintext.

There was some confusion between the terms shared, private, public, secret, symmetric, and asymmetric when used with key. In some cases, the terms

were used together, such as shared private key, public shared key, or public/shared key.




6 marks
Alice
Message written
Encrypted using shared key
Plaintext
Cipher text
Decrypted using shared key
Message recieved
Message recieved
Decrypted by the private key
Cipher text
Plain text
Shares key
Private
Message written
owns public key
Bob
Private / Publ


5 marks
Alice
Plain text
Encrypted using shared key
plain text
cipher text
Decrypted using shared key
Decrypted using common key
Cipher text
plain text
Bob
Encrypted using common key
plain text

Q04ai

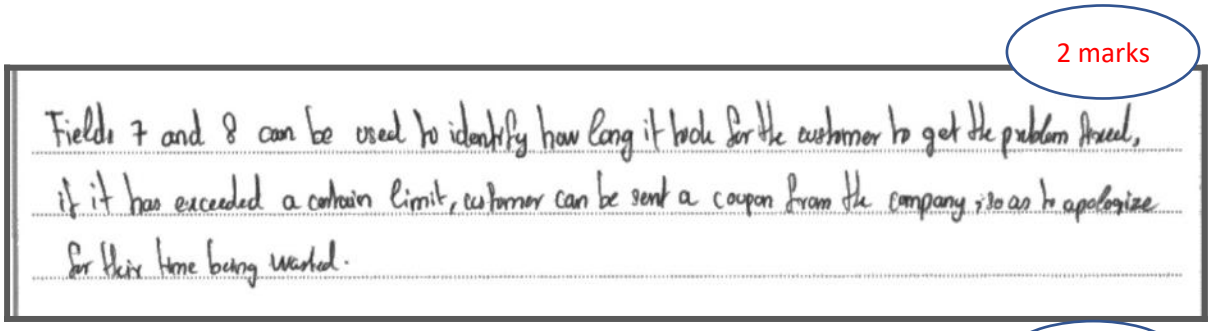
There was a full range of marks awarded on this question. The most common mark awarded was one mark.

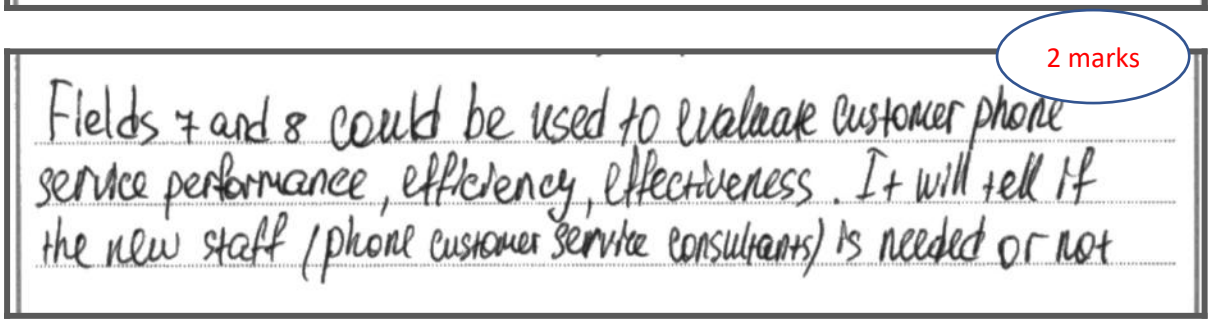
This is the first of two questions about customer-relationship management (CRM) systems. Both questions require students to apply their understanding of a CRM system to a context.

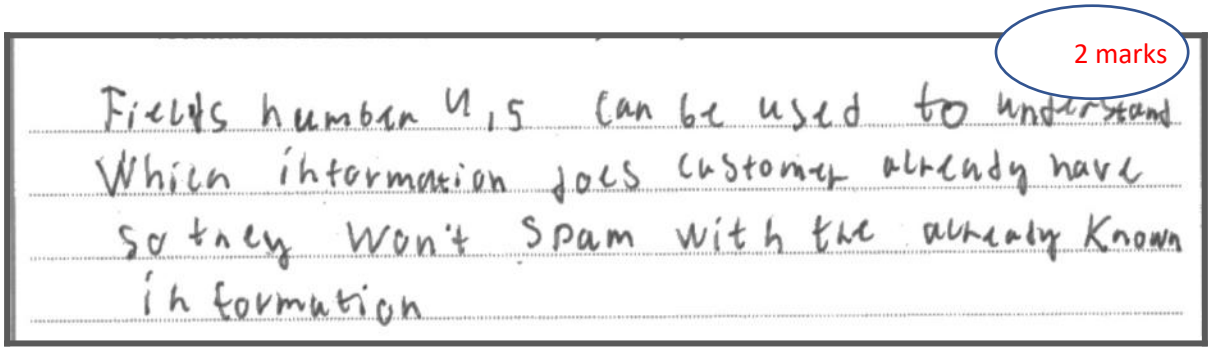
This first question requires students to identify two fields in the CRM system that could be used by the customer services department.

The selection of the two fields to use and the new information that can be extracted, should lead to an expansion. In some cases, responses selected unrelated fields, then could only add an expansion that was relevant to one field.

A common error was to provide 'improve customer service' for the expansion mark. However, that is not specific enough.







1 mark

While checking the average time that a customer waits in the queue using Field no. 7, the department can increase their customer service call agents to reduce their waiting time.

1 mark

Use Field 1 and 8 to send a voucher to the customer to compensate for wasting his precious amount of time when he was dealing with the problem.

Q04aii

There was a full range of marks awarded on this question. The most common mark awarded was one mark.

This is the second of two questions about customer-relationship management (CRM) systems. Both questions require students to apply their understanding of a CRM system to a context.

This second question requires students to identify three fields in the CRM system that could be used by the marketing department.

A common error was to provide 'sell more' or 'improve marketing strategies' for the expansion mark. However, that is not specific enough, as the marketing department's job is to 'sell more' and 'improve marketing strategies'.

Some responses did not acknowledge the context of the question, the marketing department, and included fields that were related to customer services.

Many responses chose combinations of 1, 2, 3, 4, and 5 that made it a challenge to get them to work together.

2 marks

They can use fields 1, 4 and 5 to identify how many times they have sent a promotional email to a customer in order to reduce the spam email on the customer's email

2 marks

Fields 1,2 and 3 can be used to determine a customer's favorite item to advertise that product to them if they havent been to the shop in a while.

2 marks

Fields 3, 4 and 5 to figure out if the customer bought something from the promotional contact, so that they can increase the frequency of sending promotional material.

2 marks

fields 1, 3 and 4 can be used to contact customer about newly discounted items that are yet to be recommended to them by past promotional email

2 marks

Field numbers 2, 4, 5 can be used to determine if the last promotional contact was before the last visit, if so, then the marketing department can send a thank you with a free coffee voucher.

1 mark

(2)

Fields 1, 2, and 3 can be used to analyse buying trends to be able to make decisions to maximise their sales

Q04b

This question was very well answered.

This question requires students to complete a table indicating the changeover method for four different scenarios.

The most commonly missed changeover type was phased.

3 marks

Plan	Changeover method
The accountants at every retail store will use both the existing accounting software and the new accounting software for the next month.	Parallel changeover
Head office will switch the records it holds for the stores in Liverpool to the new system and leave the records of the other stores on the existing system. It will switch the records of the other stores to the new system when the new system is working correctly.	~~phased~~ Pilot changeover
The retail stores will use the new electronic point of sale machines but will continue to use the existing purchasing system for another three months.	Parallel changeover
The purchasing department at head office will close for a week so that the existing software is removed and the new software is installed on all computers in the department at the same time.	Direct changeover

3 marks

Plan	Changeover method
The accountants at every retail store will use both the existing accounting software and the new accounting software for the next month.	Parallel
Head office will switch the records it holds for the stores in Liverpool to the new system and leave the records of the other stores on the existing system. It will switch the records of the other stores to the new system when the new system is working correctly.	Pilot
The retail stores will use the new electronic point of sale machines but will continue to use the existing purchasing system for another three months.	Partial.
The purchasing department at head office will close for a week so that the existing software is removed and the new software is installed on all computers in the department at the same time.	Direct.

Q04c

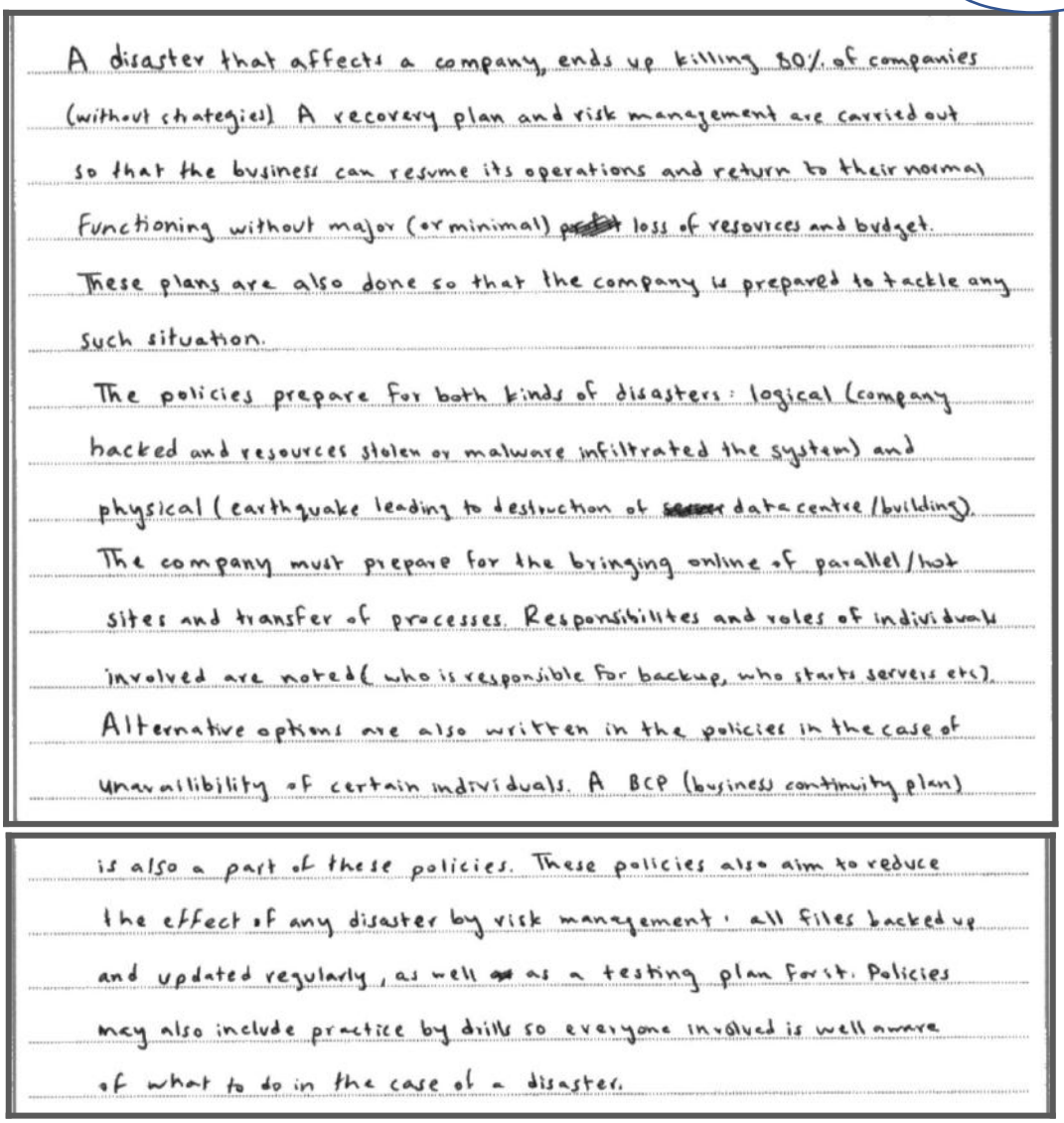
Responses to this essay question were awarded a full range of marks.

This question requires students to discuss the need for and features of risk management and disaster recovery policies.

Most responses were able to state a need for risk management and disaster recovery, even if they did not elaborate on what each meant. Some responses were high-level discussions. They lacked IT-specific details, particularly about the content of risk management related to IT systems and backup and recovery strategies.

Examiners did see some very good responses pertaining to backup strategies, such as parallel systems (warm) or running in the cloud.

5 marks



A disaster that affects a company, ends up killing 80% of companies (without strategies) A recovery plan and risk management are carried out so that the business can resume its operations and return to their normal Functioning without major (or minimal) ~~profit~~ loss of resources and budget. These plans are also done so that the company is prepared to tackle any such situation.

The policies prepare for both kinds of disasters: logical (company hacked and resources stolen or malware infiltrated the system) and physical (earthquake leading to destruction of ~~server~~ data centre/building). The company must prepare for the bringing online of parallel/hot sites and transfer of processes. Responsibilites and roles of individuals involved are noted (who is responsible for backup, who starts servers etc). Alternative options are also written in the policies in the case of unavailibility of certain individuals. A BCP (business continuity plan) is also a part of these policies. These policies also aim to reduce the effect of any disaster by risk management: all files backed up and updated regularly, as well ~~as~~ as a testing plan for it. Policies may also include practice by drills so everyone involved is well aware of what to do in the case of a disaster.

4 marks

Disaster Recovery policies are documentations/instructions that are used incase of an unplanned accident. For example if there is unauthorised access to the retailer's IT systems that would lead to deletion, the retailer needs to be prepared in this scenario, this can also involve natural disasters such as flooding, to prevent this a Disaster Recovery Plan/Policy is implemented, to protect its IT systems from unauthorised access they should have Access Control, This is where authorised users are given spesific access to different parts of the IT system so that it is safe and secure from hackers. A Disaster Recovery Policy includes archiving data, This is where data that is no longer activily used is

separated to an offsite or storage system, this brings benefits such as: freeing up space and maintaining data until it is needed. There is also inclusion of backup, This is where data is backed up on the cloud in case an accident occurs in its main IT systems they can always recover it, hence data loss in prevented. A Disaster recovery plan also includes detecting on what caused the issue and how in the future, that issue can be prevented.

2 marks

Risk management and disaster recovery policies are put in place to create measures to be taken in case of a disaster or unexpected occurance that may damage the buisness.

They are necessary because they help to protect the brand from damage as it would be incompetent of them not to have the policies in place.

They also help to ~~prev~~ minimise loss of data and damage to the company IT infrastructure because the data can be backed up and saved.

They facilitate the continuity of the buisness after a disaster and improve on customer relationships because the customers will be comfortable that their data will be secure.

Risk management particularly helps the retailer to avoid risks in the first place because they will be well documented and identified by the retailer so they will become less susceptible to them.

They facilitate service delivery even after the disaster which maintains customer loyalty because their needs will be continued to be met.

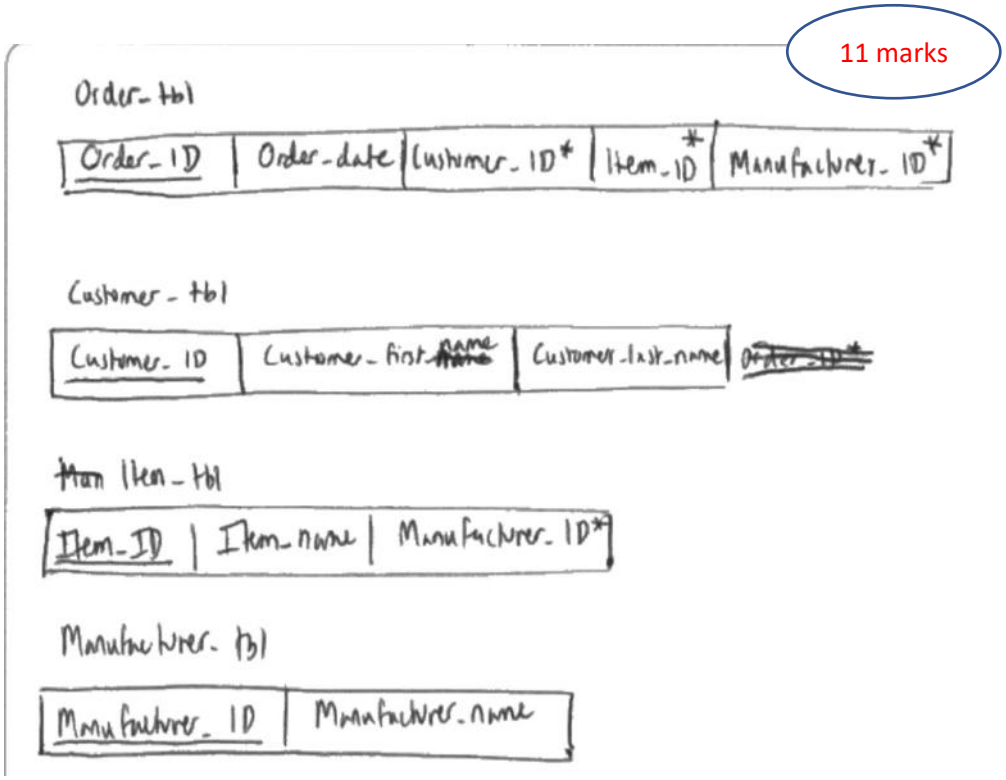
Q05

This question was well answered. Most responses were awarded marks for this question. The middle band (five to eight) made up the largest segment of awarded marks.

This question requires students to design a normalised database solution from a flat file for a retailer.

Many responses attempted a normalised solution with only three tables, rather than the required four. The most common table omitted was the manufacturer's table.

A variety of annotation was used. Most responses were in the form of tables, as indicated in the question. A few responses were in parenthetical form, which can be seen in the mark scheme. Where responses were ER or EAR diagrams, marks were awarded, ignoring any relationship lines.



8 marks

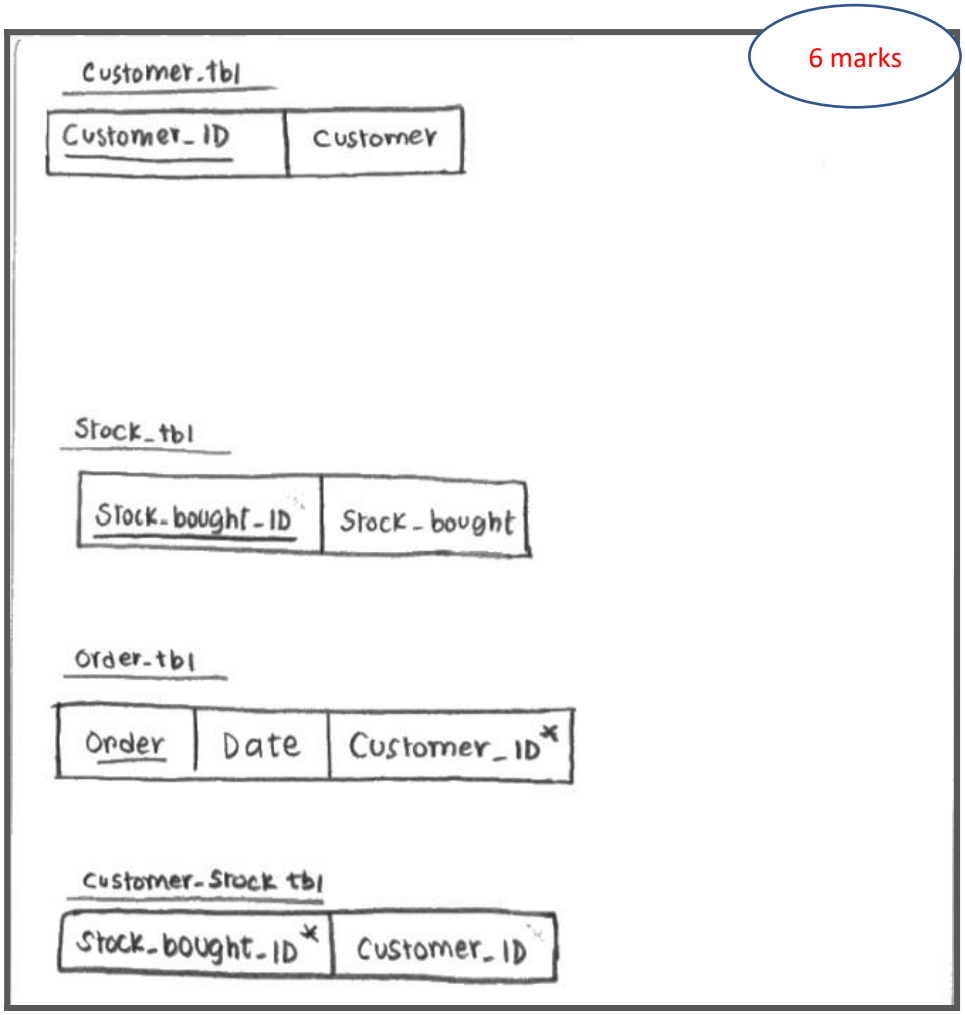
order(orderID, orderDate, ItemsOrdered)

Customer(CustomerID, CustomerName, order ID*)

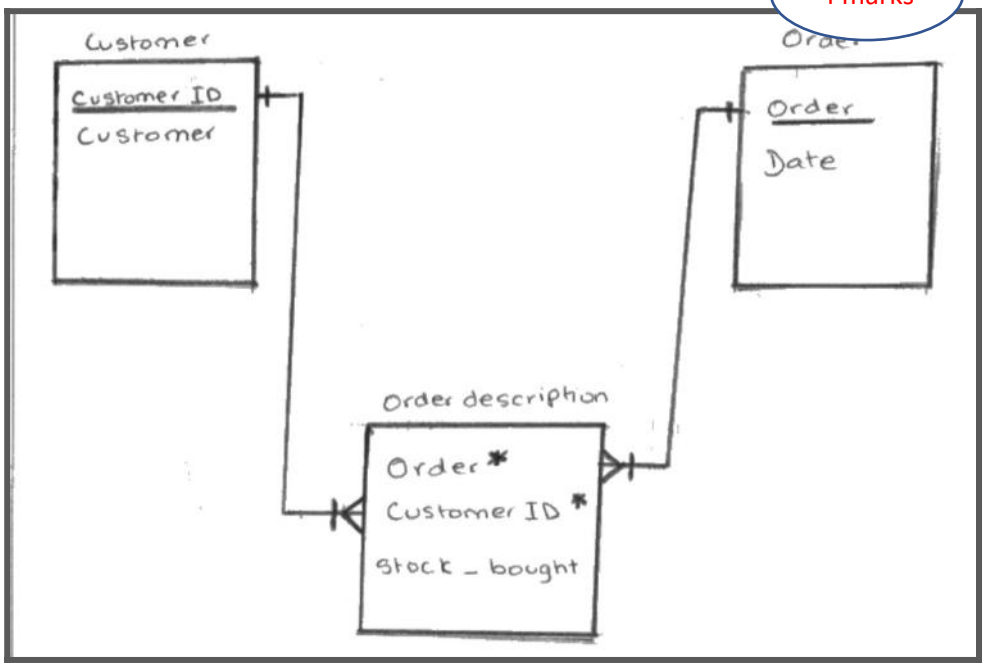
Item(ItemID, ItemName, Item Production Date, ItemExpiryDate)

Company(CompanyID, CompanyName, CompanyProduct)

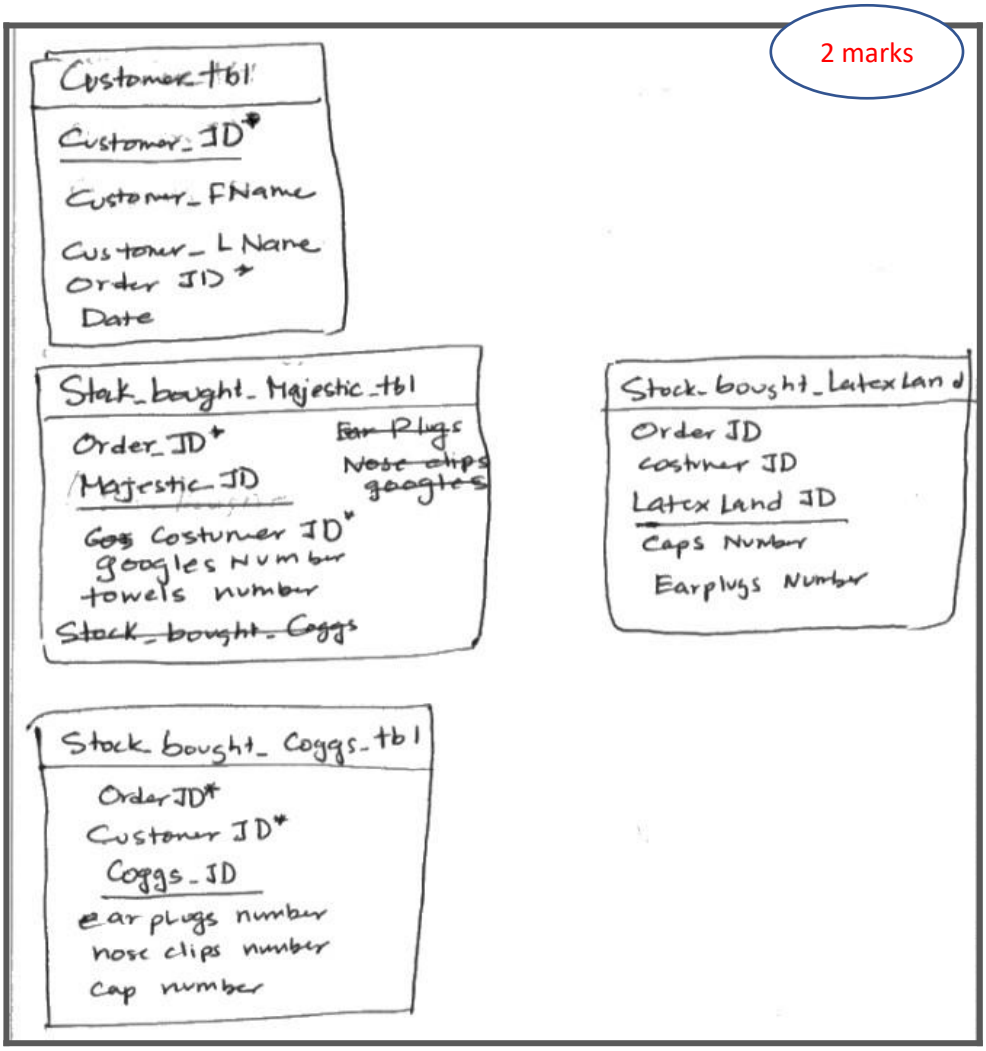
6 marks



4 marks



2 marks



Q06a

This question was well answered.

This is the first of two questions requiring students to apply their knowledge of human computer interface (HCI) design and user experience. This question requires students to draw a set of windows of an HCI for a conference centre.

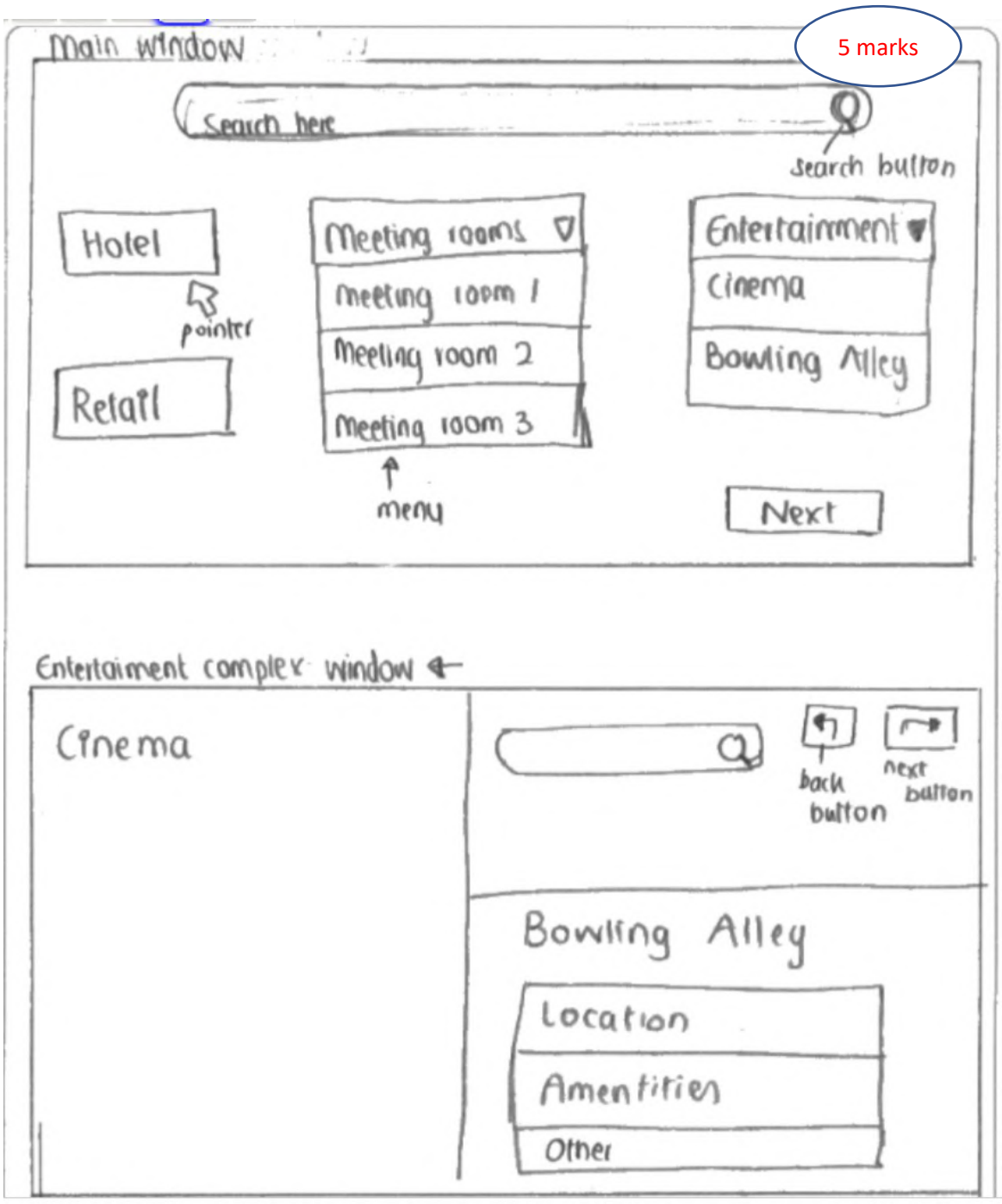
Students were able to draw a graphical user interface containing one or more of the required items of windows, icons, menus, and pointers.

However, some responses, did not distinguish between a button, link, or icon. That often resulted in the loss of two marks, because of the requirement to label an icon. Other very good diagrams did not provide labels for window, icon, menu, or pointer.

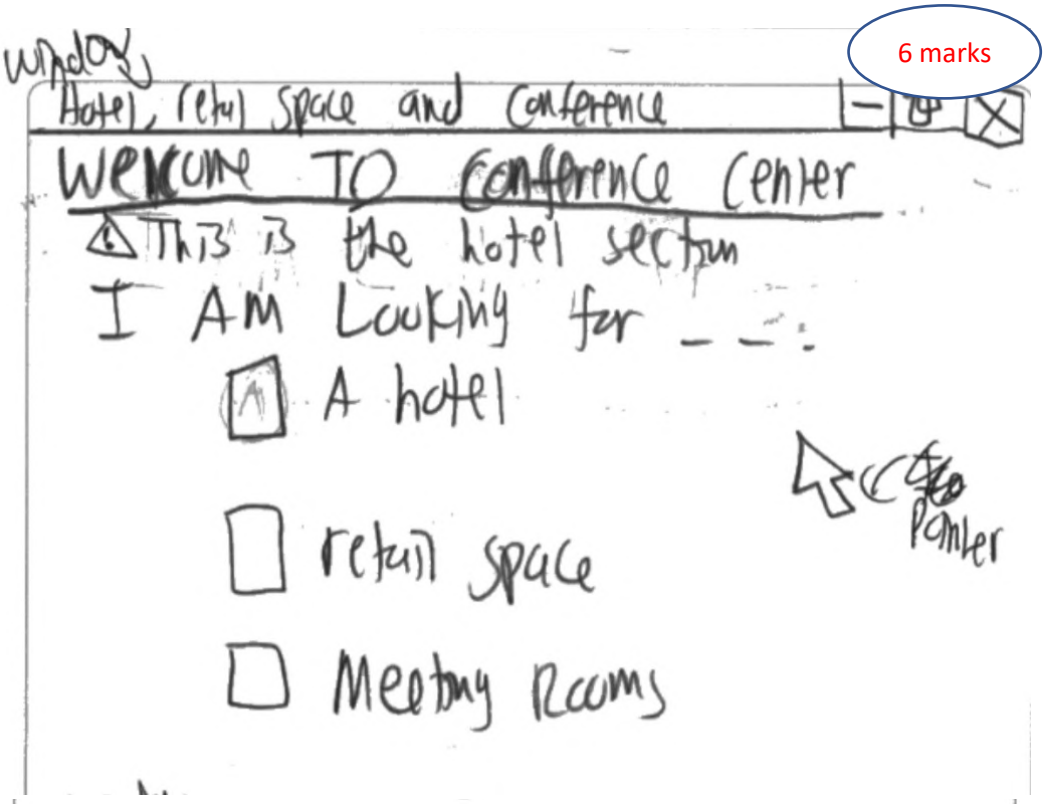
Some responses did not provide two windows, but identified a frame, table, or image as a window. This was most often a tab that was identified as a window. A tab navigates to a window, but is not a window itself.

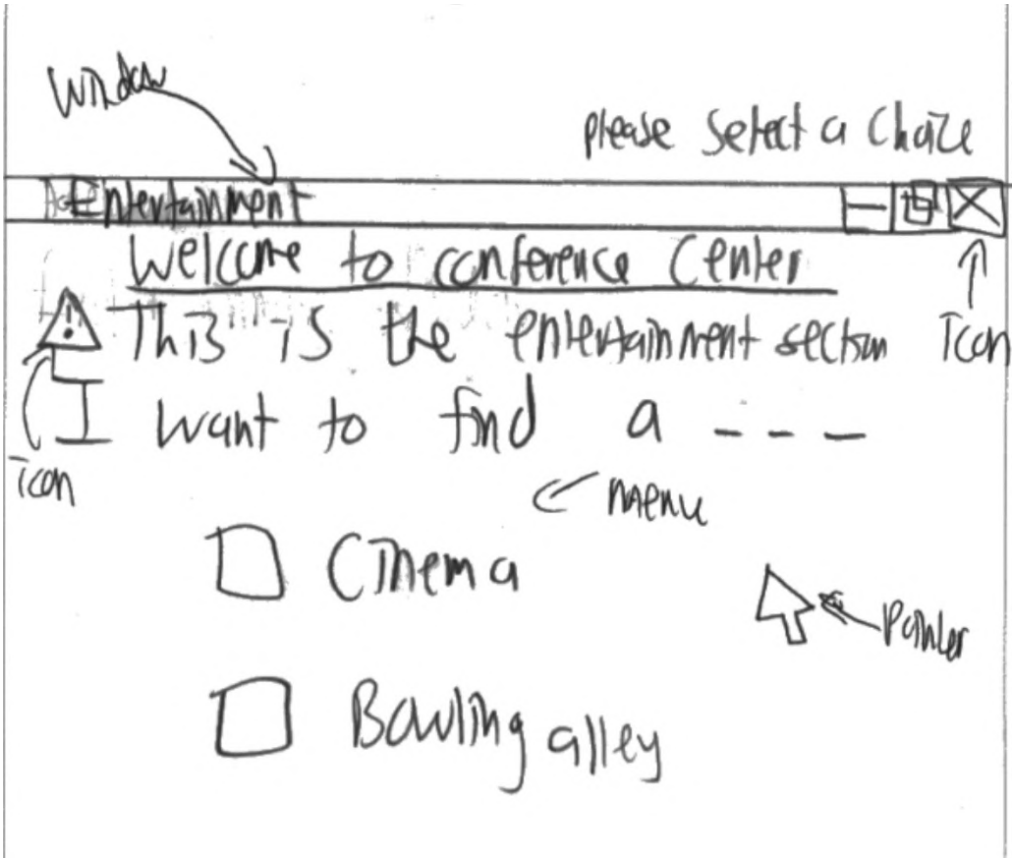
Some responses labelled an arrow-shaped button on the window as a pointer. The text on the arrow-shaped button often gave directions, such as 'choose one' or 'go back'. The pointer is the symbol on the screen that moves when the user interacts with a mouse or other pointing device.

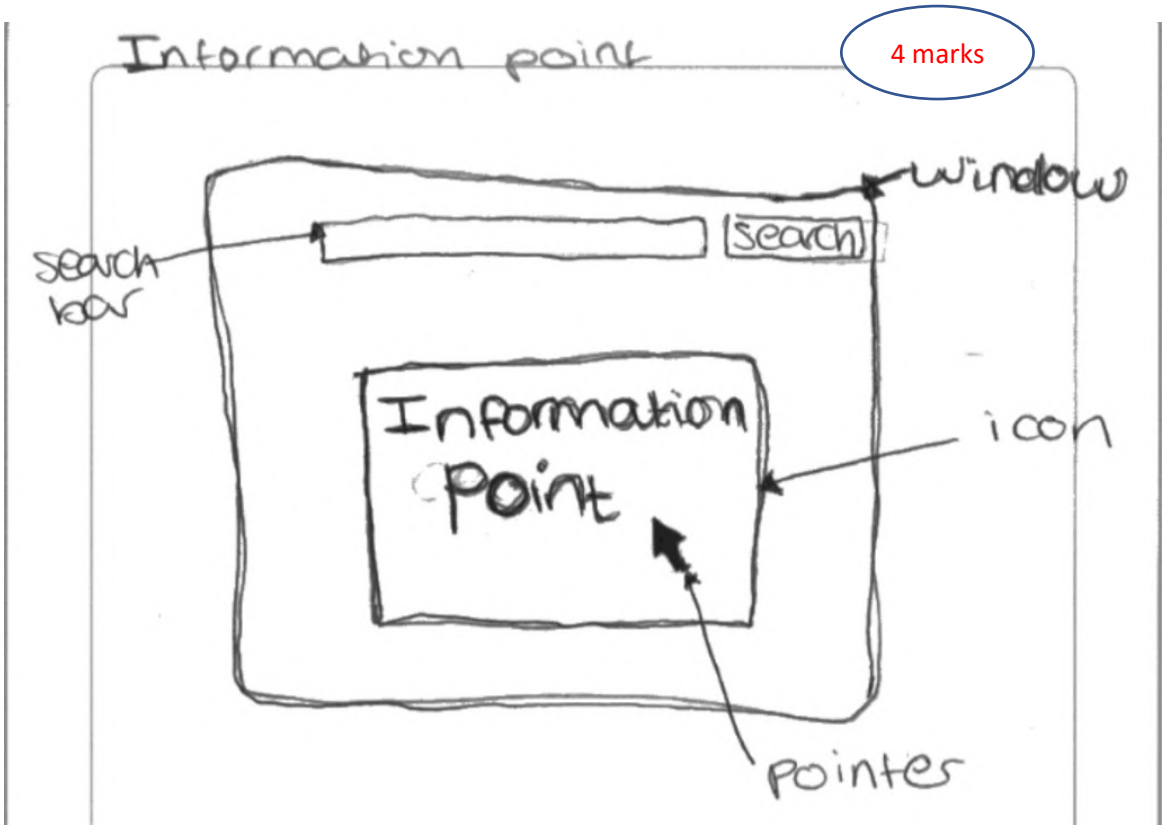
Examiners saw a few responses that were generalised, as in block diagrams of a generic desktop, with no application to the context of the conference centre.

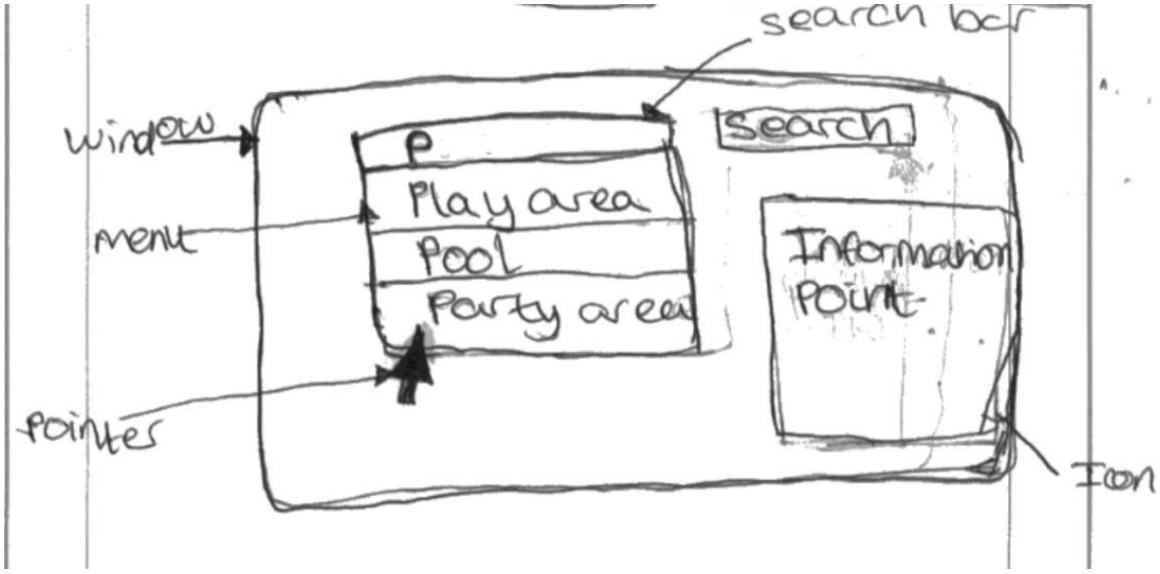

5 marks
Main window
Search here
search button
Hotel
pointer
Retail
Meeting rooms
meeting room 1
Meeting room 2
Meeting room 3
menu
Entertainment
Cinema
Bowling Alley
Next
Entertainment complex window
Cinema
back button
next button
Bowling Alley
Location
Amenities
Other

6 marks

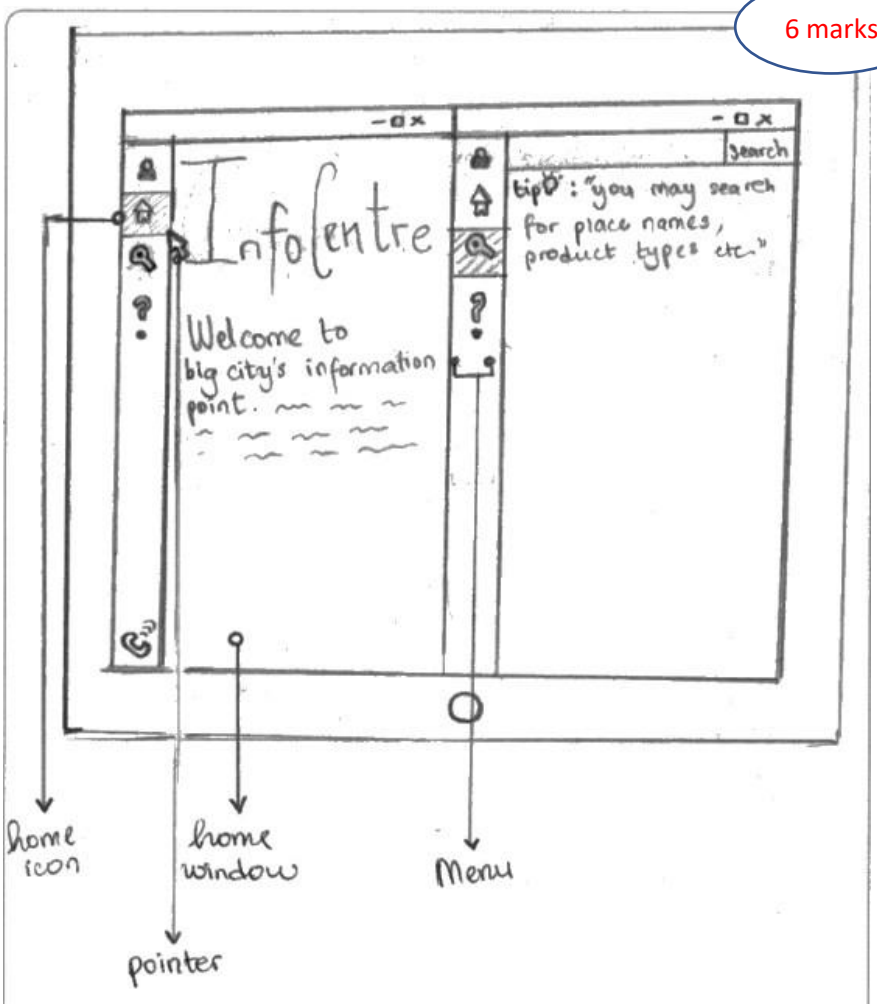

window
Hotel, retail space and conference
welcome TO conference center
This is the hotel section
I AM Looking for _ _ :
A hotel
retail space
Meeting Rooms
Pointer


window
please select a choice
Entertainment
welcome to conference center
This is the entertainment section
I want to find a _ _ _
Icon
Icon
menu
Cinema
Bowling alley
Pointer

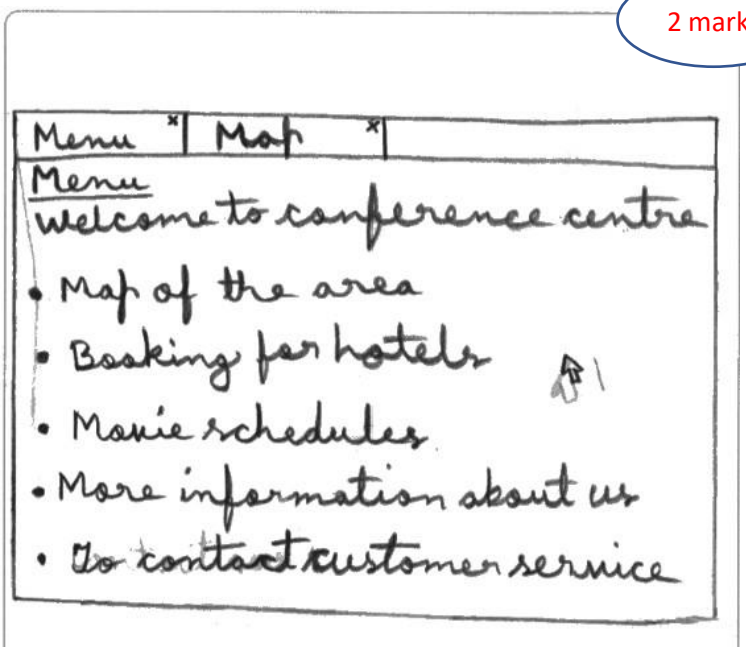

Information point
4 marks
window
search
search bar
Information Point
icon
pointers


search bar
window
search
Play area
Pool
Party area
Information Point
pointers
Icon

6 marks



2 marks



Q06b

This question was well answered, with a full range of marks awarded.

This second question about HCI design requires students to evaluate a proposed design. Students are given four rules (consistency, universal usability, feedback, and reversal of actions) to use as metrics for their evaluations.

Most students were able to achieve marks in the three to seven range for or an analysis of the proposed designs in relation to the four design rules.

The most common misunderstood rules were that of informative feedback and universal usability. The former was interpreted to mean a location on the screen where the user could provide feedback to the hotel, rather than how the user interface provides feedback or instruction to the user. Responses addressing universal usability often failed to identify that the usability applied to different categories of user and should address accessibility.

The interface is not consistent as the first screen has different fonts instedd of using one consistent font through out. The different screens all have different formats which might be confusing to a lot of users. The different screens also all have different font-colors which are not following a consistent scheme. The Interface designs for the screens also don't seek universal ability as the color scheme might be straining for people with visial impairements to see. They would have to strain their eyes to ~~see~~ be able to read between the backgrouad colors and text colors. Using bright colors such as red and green might cause eye pain to the users. ~~as they~~ The font of the title in screen one might also be difficult for users to read and the font decreases which might cause a repetitive strain injury to the users eyes. It might also be hard for blind users to use the screens as everything in every screen is randomly placed and don't follow a consistent order.

This interface only offers informative feedback in the third screen with the display of amount of characters other than that, users are not recieving any feedback on any of the screens. If a user clicks on the icons in the welcome screen it doesn't ask them or confirm with them if thats what they want to choose. As there is also no back button the user would get stuck on that screen without a way to change their choice. On the second screen the buttons don't offer informative feedback or doesn't indicate clearly what the user is clicking. For the last rule. both screen one and screen 3 don't offer a back button; however they do offer a backspace key to the user incase they make a mistake while typing. On the second screen the user has the option of going back to the previous page which offers easy reversal for the user.
The designs of these are not completely accessible to everyone easily and not very ergonomic as it lacks basic accomodations for various types of users.

10 marks

In order to enhance user experience and allow for an interactive, user-friendly interface design, the ~~four~~ rules of interface design must be implemented; however, the given 3 screens lack a number of qualities.

Firstly, the number 1 is not satisfied as the fonts on the first screen is not consistent. The words 'mares', 'sports' 'account' and the heading all have different fonts which does not appear appealing to the user. Moreover, the text colour is also different for different texts. The font size in the second screen is not consistent either which creates confusion. Font size of 'welcome screen' is also different.

Moreover, the third screen is very poorly designed and lacks the basic requirements as the ~~keyboard~~ keypad does not have ~~all~~ display all the alphabets which can lead to user having difficulty in finding their desired marie. Symbols like brackets and semi-colon are unnecessarily given. ~~Both~~ In addition, the cant down on the marie name is not appropriate as some maies have names with a larger number of characters. Also, there are no numbers shown in the key pad.

As for Rule 2, there seems to be no guidance or facility for people with visual or auditory impairments on the screens. To resolve this issue, there should be optional audio ~~feedback~~ guidance on the screens to allow ~~deaf~~ blind people to use the interface. Other than, that, the system would also be hard for people with minor visual impairment to use since the main titles 'Account screen' and 'Find a Movie' are not highlighted to be the main focus which can be solved by using a different text colour or bold font for them. Another improvement that can be made is voice typing so blind people do not face the challenge.

Moving on to Rule 3, the labels on screen 1 (Make a Choice) tells the user what to do but the arrow is not pointing in the right direction. Moreover, the account screen does not give meaningful labels which wastes the users time. Other than that, there is no useful information guiding the users' on how to use the interface and where to find what.

Lastly, Rule 4 ~~was~~ has been somewhat followed as there is a 'back' button on account screen and a 'backspace' button to change the movie name on the movie screen; however, there is no exit option on the movie screen to go back to the welcome screen hence that ~~can~~ is to be changed.

In conclusion, the designs of all 3 screens need to be updated for users to give a positive feedback on the system and have an enhanced experience. **(Total for Question 6 = 18 marks)**

8 marks

Rule 1 of interface design is to strive for consistency. However, the required screens are not consistent. One the first required screen on Figure 3, the words welcom screen, however, these words are not the same font size and are in a font type that is hard to read and understand. The 3 options of 'Movies', 'Sports', 'Account' are also in different fonts, this should be changed to the same font style. The

Throughout the screens, loads of different colours are used, for text and background. Such as red, green and green. These colours should be changed to a plain, more basic color scheme, as a mix of different colours may not be attractive for the user, and may make them think it is cheap. the colors ~~don~~ r do not match well with. bad combination. (→ next page)

The 'make a choice' arrow is located in the wrong place as it is not pointing towards any of the choices. This should be readjusted to point towards the options, as this may confuse some users.

According to Rule 2, it should seek universal ~~ability~~ usability. However, if this design would be hard to use for people with disabilities, as such as visual, or hearing. The hotel should add text-speech and speech to text capabilities. It should also ensure that the colours are big, bold and contrast enough with the background.

There are no use of icons. This makes the interface boring, and may also make it hard for illiterate users to access, as icons are self explanatory.

Rule 4 states Recursive design. This is showcased well on Screen 2, however, there is no back button on the 3rd Screen, which may make it harder for the user to navigate. An option for different languages must also be added for users who may not speak the language. The utility of space on the interface is bad on Screen 2, the options should be more centralised as the whitespace is being wasted. On the 3rd page, the keyboard is too small and it may be hard for some users to type numbers should be added. Should be expandable, and a keyboard

More feedback and tiny summaries of the different options should also

(Total for Question 6 = 18 marks)

TOTAL FOR PAPER = 80 MARKS

6 marks

- Different text fonts and color respects rule 1 and 2. as ~~they~~ the designs shows different text color to making it easier for people disability to identify the different context buttons and informations. This strives for consistency as throughout the design the color of text and button changes accordingly to the context ~~and~~.
- Rule 8: Throughout the design simple ~~and easy~~ feedback is given like count downs making it easier for the user to type with the given characters.
- Rule 4: Permit for reversal action are ~~big~~ big and clear enough for the ~~student~~ users to easily indicate and reverse their action. Also making easier for the users with disabilities to ~~a~~ use.
- The alignment and ~~do~~ positions to buttons throughout the designs tells about Rule 1 (consistency) ~~which~~ is maintained and with color schemes for the Aesthetics

→Titles and sub-titles given in the design make if easier for customers to identify the page and gives direction on what to do. This respect rule 1 and 3.
→ Spaced out button organizes the whole ~~the~~ design making it easier for

4 marks

For Rule 1: ~~Same~~ consistent colour, only red and green same size of the options. but different types of font and different ~~types~~ shapes of operational buttons. What's more, it shaw different size of words. ~~The~~ All first letters are upsize.

For Rule 2: All screens ~~can chan~~ have at least one button to change to another page. Users can easy to choose the things they want with easy operation but the buttons are at different places and not fully shown keyboard.

For Rule 3: the designs give the ~~bese~~ basic tips and tables to give ~~the~~ users information. And shows colour change

For Rule 4: Users can return back to the original page and delect the worng characters with backspace button

2 marks

By looking at the welcome screen and the dimension used, we can see that it is very clear and also that even if the client is far from the TV screen he can see clearly. However, the characters chose for the sports are too small but looks goods I think what the client will consider is that everything is visible, it doesn't have to be well written in the small characters.
For the last screen, the system should add a button for going back to the first screen because if it's a client who don't know how to use the TV, he'll be lost with all the buttons. If a client click by mistake on the wrong button they should be able to back up.
Indicating characters left in the last screen will help the client to know that there are a limit to number of characters that has to be respected.

Summary

- Use subject-specific terminology accurately in all responses
- Identify the requirements of the response from the command word used in the question
- Identify the requirement for subject-specific notation as indicated in the question
- Ensure your response is phrased in the context of the question, if there is one
- Use the bullets provided in the large essay question to structure your response