**Longer Answer Questions Explain, Analyse, Discuss & Evaluate**

**Q1 - Explain / Analyse**

All Key/Command words in a question require you to read the question carefully.

1. Think about the topic that the question is covering.
2. Write down at least the **number of points** indicated by the question mark (8 marks 8 points) when putting the **‘Main Points’** that you think the question maybe or is referring to.
3. Use technical vocabulary in relation to the topic being explained. **(Corrupted, virus, bandwidth, speed, performance, processing calculations …)**
4. Use **examples** to support your point of view.
5. Refer back to the **scenario** when answering the question.

**Example:**

Fletcher and Nicholson is a designer fashion label who uses e-commerce to sell its products, maintain e-commerce databases containing all of its product images, videos, product descriptions and the back office information such as stock, orders and customer account information.

Explain the need to back up and archive its data and the procedures required to do this. **(8 marks)**

**Your Answer:**

It is needed to archive information in case a security breach happens or any situation that can compromise important data. There will be a copy of the data on a separated storage device that cannot be accessed through the system normally in case it gets hacked or corrupted. This frees up space on the running or live system whilst maintaining availability for more processes if this is required. Since the data is backed up there is no need to recreate the data and start from beginning, for e-commerce companies like ‘Fletcher and Nicholson’ losing their data could mean compromising their personal information which could result in lawsuits filed against the company and a loss of reputation.

They should incrementally archive on a schedule such as at the end of every month or week periodically to ensure new items or orders from customers, as well as removed items and the stock which is kept up to date in the stored archives. Which is important so that the company doesn’t sell items that are out of stock and can’t be supplied, it also lets them keep a track of their stock at the end of the day and they can know if they are running low on stock and need to acquire more products. They can also cross check their list of products with their backup if there is an error suspected.

Data is usually archived to a separate, cheaper and mostly slower storage method than the server such as an offline disc (HardDrive).

**Q2 - Discuss**

1. Start with writing down an **introduction** based around the scenario or case study or have a restatement of the question.
2. Include a **range** of ideas that you will discuss. This can include **technical concepts** or ideas or **list of factors.**
3. **Relate** the **technical details** to the scenario or given case study when answering it.
4. Include **examples** to support further your answer.

**Example:**

The multi-floor shopping mall intends to add custom-built interactive information kiosks at strategic points in the centre. Discuss the type of user interface it should use. **(4 marks)**

**Your Answer:**

The shopping mall should use user interfaces at strategic points around the centre.

The shopping centre should use a graphical user interface (GUI) instead of a command line interface (CLI) as it is more user friendly and will be easily accessible by all people, a CLI will be harder to use for the general populace as many will not have the required knowledge and training to use it.

A GUI would be more suitable than a menu driven interface as it allows for more functionality such as browsing the web, but this can be used to cause security breaches and people would hog the kiosks and watch videos or take a long time browsing the web.

A forms user interface reduces the possibility of error as it only allows simple input choices such as directions using menu buttons and text input boxes, due to this they cannot access unauthorised parts such as a CLI where the system can be hacked easily.

**Q3 - Evaluate**

1. Include an **introduction** outlining the **factors** you will begin to investigate, include main factors that you will talk about.
2. Write about **both sides to an argument** (benefits/advantages and weakness/disadvantages), looking to provide a balanced view if possible.
3. Use technical vocabular **(Corrupted, virus, bandwidth, speed, performance, processing calculations, handover, implementation …)** best suited for the **given scenario** which should be integrated/included in your work.
4. Use a **precise** example to **emphasis** or push a particular point.
5. Come to a **decision** and **conclude** as to **why** a certain point should be followed, or recommend what should be done.
6. Use **academic** language, or **third person narrative**, **‘It is’**, **not** **‘I recommend’**.

**Example:**

Fruitful Vegan Restaurant Chain is planning a large expansion across the UK under the direction of new Commercial Director, Bill Fence. It has a single computer system in each branch which runs the whole branch operation. The system uses open source software for all task, adapted by a local software house for the company’s specific needs, running a version of the open source BSD operating system. Although the system works effectively, Bill has decided he wants to move the most popular, proprietary operating system running the standard office software he has always used and feels most new recruits will know and understand.

Evaluate Bills Fence’s Decision **(6 marks)**

**Your Answer:**

Bill fence is a new commercial manager who wants to expand the business, it currently uses BSD as the OS on the company computers and he wants to change it to the most popular system and office which he is used to – which I am assuming is Microsoft windows and office – and assumes that everyone will already know how to use it.

This is a good choice as most will know how to use windows but it is not absolute. Someone may have only used computers in the shops and never at home so they could not know how to navigate through windows, the open source software will be more familiar to them and they won’t have any issues with using it but the software itself may be limited in its functions whereas windows will not be. Majority of the time though the staff will know how to use it and will have prior experience in working on It, this will boost their work efficiency and will be a lot easier for them to do their work.

Another benefit this change could bring would be more security as Microsoft is not an open source OS and will have better security than BSD, so there is less risk of being hacked or having security breaches.

Windows is also built specifically for this purpose of doing work unlike BSD which is a multi-purpose unrefined OS, so it will be more suited to that purpose and better for doing their job successfully.

A disadvantage could be the cost of retraining the staff to use the new softwares, but in the long run it will be worth it. You should do a feasibility study prior to implementing any of this though.

# ANSWERS

**Answer Q1:**

Fletcher and Nicholson will need to backup its data so that it can be restored if the data is lost or corrupted, through accidental mishap such as a hard disk cash or a malicious act such as sabotage or a virus. If data cannot be restored it could be catastrophic to the firms trading.

Data is archived to keep copies of non-live data (such as previous years’ products or accounting data) available for future use. This frees up space on the running or live system whilst maintaining availability if required.

The procedure for backing up will include a schedule for backing up incremental data such as new products or customers or orders added at least daily and for doing a full backup of all data periodically (perhaps weekly). The data will be backed up to a separate storage medium, with one full copy to be held off site on a removable disk or secure cloud storage.

Data are archived to a separate, probably slower and cheaper, storage location, such as an offline disk or tape or DVDR. This can be done periodically but less often, perhaps at a quarter end or year end.

**Answer Q2:**

The purpose of an interactive information kiosk in a shopping centre is to provide shoppers with information about the centre, and possibly provide directions and advice. The type of user interface chosen will have to consider the diverse range of users, the requirement for system security, and the need for a very fast response in order to answer queries quickly and be compatible with the hardware used for kiosk.

A command line interface (CLI) would not be at all appropriate as it requires skill and experience to use and potentially exposes the system to accidental error or deliberate hacking. A graphical user interface (GUI) could be considered as it can be east to use, but a forms-based interface would be the most likely choice as it involves little or no prior experience or skill and can deal with all the required functionality in a very easy to user and secure manner.

A Forms UI is fast and easy for the shopper to input choices, such as ‘Directions to nearest WC’ or ‘Jewellers’ or ‘Coffee’ using items such as menu buttons and allows text-based entry in search boxes.

A forms-based interface reduces the possibility of error and of the shoppers’ accessing unauthorised parts of the system as it restricts the choices that can be made, which could be a potential problem when using a GUI.

The simplicity of the forms interface means it can be consistent and efficient to process and a very fast response, thus minimising queues at the kiosk. A GUI may allow further functionality such as, for example, browsing the internet, but this could cause hogging of the kiosk and indeed potential for security breaches.

Finally, a form-based interface is also fully compatible with a touchscreen which is ideal for use in information kiosks.

**Answer Q3:**

Bill Fence’s decision to change the operating system and software from an existing working open source system to a proprietary system has a number of implications for Fruitful regarding the compatibility of current hardware, current software, training needs of existing as well as new staff, costs of implication and handover and the lifetime cost of the new system, including licensing, support cost etc.

On the positive side the use of proprietary system will mean that many new staff will have some familiarity with the basic file operations of the system and may have some experience with the office software already in use. With a large expansion planned this could be very beneficial. On the other hand, current staff a re use to working with the current system.

One of the major issues for Fruitful will be compatibility of there current hardware with the OS, EPOS tills, contactless card system, etc, may need to be adapted or indeed changed.

Bill Fence’s decision is, on balance, a risky one for Fruitful. It will be changing from an existing, effective system to new system that will need some development, although it is based on well-known operating system and software. There will be training needs, development needs and extra cost at each stage of the implementation, handover and during the lifetime of the product. A full feasibility study may be the best option at this stage