

IMIS DIPLOMA QUALIFICATIONS

**Using ICT in an Organisational Environment
(D3)****Wednesday 4TH June 14:00hrs – 17:00hrs****DURATION: 3 HOURS****SOLUTIONS & MARKING SCHEME****Question A1**

Define the terms PRIMARY STORAGE and SECONDARY STORAGE. LO1 AC1.1
P 43 (5 marks)

Answer

Primary storage is the internal component circuitry that temporarily holds data waiting to be processed, whilst Secondary storage is the devices and media that stores data and programs permanently.

3 marks for each term to a max of 5 marks

Question A2

Global Positioning Systems (GPS) are often installed in cars.

Describe what a GPS is and what three parameters the receiver produces LO1
AC1.2 P356 (5 marks)

Answer

It is a series of earth-orbiting satellites continuously transmitting timed radio signals that can be used to identify earth locations. A GPS receiver picks up the transmission and calculates the receiver's longitude, latitude, and altitude.

2 marks for a description and 3 marks for the parameters produced

Question A3

Define the term **Open-Source Software**. Describe **ONE** reason why Open-Source software is popular with organisations. LO2 AC2.3 P144 (5 marks)

Answer

Open-source software is software that can be downloaded free and modified locally. It is popular because organisations can download the software and tailor it to their requirements, which saves both time and money.

3 marks for a description and 2 marks for why it is popular.

Question A4

Define the term **Dumb Terminal**. Describe ONE situation where a dumb terminal is used. LO2 AC2.1 P 256 (5 marks)

Answer

A dumb terminal is a terminal that allows data to be input and output, but it does not process data. It would be used to input data to display responses such as the times.

3 marks for a definition and 2 marks for a usage.

Question A5

Name a SPECIALITY KEYBOARD and describe how it operates. LO3 AC3.1 P257
(5 marks)

Answer

One of the most popular speciality keyboards is a generic PDA keyboard. They work on the principle that there is a keyboard where data is entered and either wirelessly transmitted to a receiver or, can be docked into a receiver, for processing.

2 marks for a name and 3 marks for how it works.

Question A6

Most IT personnel are familiar with the term Hackers, but not so with **Crackers**. Define the term Cracker. What is the main motive of a Cracker? LO4 AC4.1 P347
(5 marks)

Answer

A cracker is a malicious hacker who breaks into computer for malicious reasons. The main function of a cracker is to gain financially from their actions, be it blackmail, stealing of on-line money.

2 marks for a definition and 3 marks for a motive.

Question A7

Define the term **Mash-Ups**. Describe why Mash-ups are becoming a popular feature on the internet. LO5 AC5.1 P365
(5 marks)

Answer

A Mash-Up is when a set of data is taken from one site and attaches it to a map file on Google Maps. It is popular because it can be used, such as when purchasing a product, it could show where the cheapest item is, or where it can be bought from.

2 marks for a definition and 3 marks for a function.

Question A8

Define the term **Dirty Data**. Using an example describe **ONE** problem with Dirty Data. LO6 AC6.2 P462
(5 marks)

Answer

Dirty Data is where data is incomplete, outdated, or otherwise inaccurate. A major problem is that if it is not corrected in time wrong decisions can be made, or the Dirty Data could magnify the problem. For example the mis-spelling of a person's name.

2 marks for a definition and 3 marks for a problem.

Question B9

Bandwidth is a term IT engineers use when talking about Wireless Communication channel, and there are **TWO** general classes of Bandwidth. AC1.1 AC2.1 AC2.2 AC5.1 AC5.2 AC5.3 P329

- a) Using examples define **BOTH** of the **TWO** general classes. (8 marks)
 b) Give and explain **THREE** factors that need to be taken into consideration when deciding which class of bandwidth is to be used. (12 marks)

Answer

a) The two classes are:

- Narrowband, also known as voiceband, is used for regular telephone communications (that is speech, faxes, and data). Transmission rates are usually 1.5 Mbps. Dialup modems use this bandwidth.
- Broadband is used to transmit high-speed data and high-speed audio and video. Transmission speed is up to 1Gbps.

2(2 marks for each definition + 2 marks for the examples)*

b) Three factors to be taken into account are:

- Price – how much will it cost for the link?
- Amount of data to be transmitted/received – how much data is to be transmitted? Videos etc or just text?
- Number of users – how many users will use the connection, such as a college, school, etc?
- Location of the user – can the user access a high speed connection?
- Etc

*3*4 marks for a factor.*

Question B10

In addition to protecting the hardware and software from hackers or viruses IT centres need to have a Disaster Recovery Plan in place. AC4.1 AC6.2 P473

- a) Define the term Disaster Recovery Plan. (4 marks)
 b) Why is a Disaster Recovery Plan so important to an organisation? (4 marks)
 c) Give and describe **THREE** actions that need to be incorporated in a Disaster Recovery Plan. (12 marks)

Answer

a) Disaster Recovery Plan is a method of restoring information processing operations that have been halted by destruction or accident.

4 marks for a definition

b) It is important to have a Disaster Recovery Plan, then should any data be lost, for whatever reason, it will be possible to recover it cheaply and quickly.

4 marks for a response

c) Any three of the following are acceptable:

- Backup made at frequent intervals.

- Copies of the backup are kept at an off-site location.
- Regular training sessions
- Updating of plans etc.

*3*4 marks for an action*

Question 11

In addition to the normal keyboard and mouse modes of input there are source data-entry devices. AC1.1 AC2.1 AC5.1 AC5.3 P265

- Define the term **other source data-entry** device and given an example of **ONE**.
(4 marks)
- Using an **example** give **TWO** reasons why they are preferred to a keyboard and mouse modes of input.
(4 marks)
- In an attempt to reduce input errors your company you have been asked to recommend **THREE** possible addition modes of input. Describe how each of these modes of input work.
(12 marks)

Answer

- Source data-entry devices are sources/devices that are 'input' into the machine directly and the data is read off them. For example scanners, bar code readers.
2 marks for a term + 2 marks for an example

b) They are preferred because they are:

- less prone to errors as there is no transcription
- quicker to input such as multi-question exam papers
- the input form can be designed to ensure that all the relevant data fields are completed
- etc

4 marks per proffering

c) Any of the following are accepted:

- Bar code readers
- 'tick boxes' where the user ticks the appropriate box
- Scanners
- Memory sticks
- Etc

*3*4 marks per mode of input*

Question B12

Protocols, Packets, and IP Addresses are **THREE** commonly used terms when describing the Internet. AC3.1 P62

- a) For **EACH** type of terms describe what they are and what their function is on the Internet. (16 marks)
- b) Every time a users logs onto the Internet the IP Address is different. Give **TWO** reasons why this is? (4 marks)

Answer

- a) The following responses are acceptable:
- Protocols – a set of rules that all computers must follow to transmit data electronically. The protocol that enables all computers to use the data transmitted on the internet is called Transmission Control Protocol/Internet Protocol (TCP/IP).
 - Packets – and these are fixed-lengths blocks of data for transmission. This allows a message to be split up and its parts sent by separate routes, yet still arrive at the same destination using the embedded address.
 - IP Addresses – this is an address that uniquely identifies every computer and devices that is connected to the internet. This allows the relevant response to be sent to the correct computer/device, and also provides an audit trail.
- 3*(2 marks for a description + 3 marks for the function) +1*

- b) The following responses are acceptable:
- Briefly this is so that large number of addresses are required, and perhaps infrequently used.
 - Addresses can be kept to a minimum and only called upon when required.
 - Etc
- 2*2 marks per description*

Question B13

TRUTH ISSUES are an important issue with the sophistication of today's IT facilities. AC4.2 AC4.4 AC6.2 P457

- a) Describe the term **Truth Issues**. (4 marks)
- b) Using your personal experiences give and explain **FOUR** situations where Truth Issues have arisen, and how they were overcome. (16 marks)

Answer

- a) Truth Issues is the term used to describe a situation where the user of information may doubt the originality/authenticity of a piece of data. For example airbrushing photos, etc
- 4 marks for a description*

The response will depend upon the student's situations.

- b) Possible situations could include:
- Airbrushing
 - Distorted photographs
 - Bias by reporters
 - Malicious phone calls
 - Etc
- 4*4 marks for a situation*