D3 – USING ICT IN AN ORGANISATIONAL ENVIRONMENT   DECEMBER 2013
SOLUTIONS & MARKING SCHEME

Question A1
Some of your staff have asked to work from home because of the amount of time it takes to travel to work. To enable your staff to work from home you to have to purchase the necessary IT equipment, and facilities to enable them to communicate with the office.
List the minimum components that your staff would need to work from home, explaining why they are required. AC1.1 P194   (5 Marks)

Answer
- Computer/laptop/etc – to enable them to complete their work.
- Relevant software – to enable them to complete their work.
- Speakers – to be able to hear video conferencing etc.
- Printer – producing hard copies.
- Internet connection – to communicate with the office etc.
- Other justifiable equipment
2+3 marks

Question A2
An essential component of a computer is a motherboard. What is a motherboard, and what is its function? AC2.1 p28&42   (5 Marks)

Answer
- This is the big green circuit board to with virtually everything is connected to it. For example, printer, key board, mouse, disk drive, DVD etc. The processor and memory are also installed on the motherboard.
- Its primary function is to process the software instructions, store data whilst being used, provide connectivity etc.
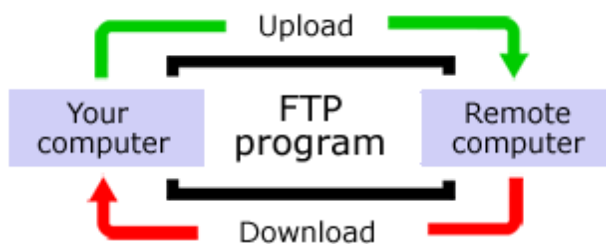2+3 marks

Question A3
Using a diagram define the terms Uploading and Downloading. AC3.1 P53,107&112   (5 Marks)

Answer
- Uploading – to transmit data from a local computer to a remote computer
- Downloading – to transmit data from a remote computer to a local computer.

 A diagram such as the above in more than ample
1+2+2 marks

Question A4
Repetitive Strain Injury (RSI) is a common illness with computer users. What is RSI and what precautions can be taken to prevent RSI? AC4.1 P289&302   (5 Marks)

Answer
- RSI are injuries associated with wrist, hand, arm, and neck injuries resulting when muscle groups are forced through fast, repetitive motions. It is also associated work for a long period of time without a rest.
- To prevent RSI the user should take frequent resets, different movements, sitting correctly, position equipment ergonomically.
3+2 marks

Question A5

With the aid of a diagram describe the main difference between a software firewall and hardware firewall. AC4.3 P348&356   (5 Marks)

Answer
- Software firewall is usually a set of coding incorporated in an operating system, or added to it to protect it from an intruder.
- Hardware firewall is a piece of hardware to attached to a computer such as a hub or router to protect it from an intruder.

2+3 marks

Question A6

Define the term ETHICAL and describe its implications of using a database whilst researching for a thesis. AC6.1 P459   (5 Marks)

Answer
- Paul and Elder define ethics as "a set of concepts and principles that guide us in determining what behavior helps or harms sentient creatures" (http://en.wikipedia.org/wiki/Ethics)

Any of the following implications are acceptable;
- You can not get the whole story.
- It is not the gospel.
- The database can not store all the relevant data, there may not be sufficient space or 'censorship'
- If you do not know the correct 'key words' …..
- History is limited and may not go back as far as you require.

2+3

Question A7

Define the term BANDWIDTH and describe its importance especially with the internet. AC5.1 P52, 106, 329&354   (5 Marks)

Answer
- This is the range of frequencies that a transmission medium can carry in a given period of time thus a measure of the amount of information that can be delivered. Bandwidth is the difference between the lowest and the highest frequencies transmitted.
- The importance is the wider the bandwidth the faster the data can be transmitted. (Is this true?)

3+2

Question A8

Define the term MULTITASKING and describe its importance on computers. AC2.3 P124&125   (5 Marks)

Answer
- Multitasking allows the execution of two or more programs concurrently by one user almost at the same time on the same computer with one CPU.
- Its importance is that as you are using a word processor etc, you can listen to music at the same time.

3+2

Question B9

In addition to commercial software there is Shareware and Freeware.
a)   Describe BOTH Shareware and Freeware.   (4 Marks)

b)   Give and describe for BOTH types of software TWO reasons why you would use that software in preference to the other. 2*(4+4) AC1.2 P147-149,179&183   (16 Marks)

Answer
a)   Shareware is copyrighted software that is distributed free of charge but requires users to make monetary contribution in order to continue using it.

- Freeware is copyrighted software that is distributed free of charge.
2+2

b) Murder Most Foul – An edited piece of game software that is 'purchased' for say 30 days to test it before purchasing outright, or to be a beta tester and a reduced price when released.
- Audacity – convert music on CD to MP3 format to play on MP3 players, and creating a unique CD.
2*(2+3+3)

Question B10
There are TWO advantages of database software over the old ways of organising files such as sequential or random files.

a) Describe BOTH of the Common Benefits. AC5.1 P160   (4 Marks)
b) Give and describe TWO reasons why BOTH of the advantages are a benefit to the user.   (8 Marks)
c) Give and describe TWO reasons why BOTH of the advantages are a benefit to the Database Administrator.   (8 Marks)

Answer
a) The benefits are Integration, where the data is not in separate files but integrated, and Integrity, where the data is more likely to be up to date and accurate.
2+2
b) A benefit for the user is that data is centralised and up to date and relevant. They can now store pictures, videos, and sounds, etc. Finally, it is easier to produce ad hoc reports as the data is in one place.
- A benefit for the Database Administrator is that data is centralised and stored on one file. If there are any errors it can be corrected relatively easily. Also the amount of storage space is less as well as only one file needs to be online.
2*(2+3+3)

Question B11
There are THREE types of e-commerce: Business-to-Business (B2B), Business-to-Commerce (B2C), and Commerce-to-Commerce (C2C). AC3.2 P432-448
a) Define EACH of the THREE types of e-commerce.   (6 Marks)
b) Using EACH of the THREE types of e-commerce describe the type of company that would use the e-commerce, and explain why it would use that mode of e-commerce in preference to the other two.   (14 Marks)

Answer
a) Business-to-Business (B2B) – a business selling to another business using the internet or a private network to cut transaction costs and increasing efficiencies.
- Business-to-Commerce (B2C) – a business selling goods or services to consumers or members of the general public.
- Commerce-to-Commerce (C2C) – a consumer selling goods or services directly to other consumers, often with the help of a third party.
3*2
b) A cleaning company that sells their services to another company.
- Any online supermarket.
- EBay.
3*5 to a max of 14

Question B12
Organisations go to tremendous lengths to protect their programs and data. In addition to making backup disks protecting against viruses there are THREE Controls that organisation can use to protect their software and data. AC4.4 P473
a) Define each of the THREE Controls.   (6 Marks)
b) Using EACH of the THREE Controls show how an organisation would use the Controls to protect their software and data.   (14 Marks)

Answer
a) Control of Access – controlling the access to data on the database and relevant software utilities.
•   Audit Control – where there is a tracking of all transactions by the users of the system.
•   People Control – where checks are made on CVs prior to employment, restricted areas where only authorised personnel are allowed access.
3*2
b) Control of Access – making backups, transaction logs, etc.
•   Audit Control – where there is a tracking of all transactions by the users of the system.
•   People Control – where there are processes in place to only allow authorised people access to specific parts of the organisation.
3*5 to a max of 14

Question B13
Portability of IT resources is of importance to an organisation and users. However, as with all aspects of portability such as mobile phones, PDA, etc., there are advantages and disadvantages. AC5.3 P366
Using a portable IT resource of your choice give and explain TWO advantages and TWO disadvantages of the portable IT resource.   (20 Marks)

Answer
Any of the following advantages are acceptable;
•   Be able to be contacted anywhere in the world. In other words people working in the field can use their portable phones to make phone without having to look for a landline, it being broken, etc. Also there is no time delay or addition expense. By using their portables for accessing to the internet the world is their oyster.
•   Download items whilst on the move. In other words messages etc can be received at any time rather than having to make a special trip to a connection point to find out that it is not working, you arrived too late, or the sender has not been able to collate the data etc.
•   Etc
2*5
 Any of the following disadvantages are acceptable;
Not being able to 'escape'. By being 'online' all the time too much time could be wasted ansering calls etc rather than doing the job required. Also when trying to relax in the evening the 'bleeding' phone is continually ringing
Overload of emails etc. Everybody copies you in to their emails, twatters, etc to the point that too much time is being spent reading irrelevant communications.
Pressure to work away from the workplace. Because you can not 'escape' there are no viable excuses to work hostile environments (weather, etc).
'Roaming' bills
Etc Whose phone are you using: if it is your will you be refund the cost of the calls. If not what cap is there on the cost of calls?
2*5