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Digital Information Technology

Component 3: Effective Digital Working Practices

Pearson BTEC Level 1 / Level 2 Award in Digital Information Technology

Date of Exam

Assessment time: 1 hour 30 minutes Total marks 60

Answer ALL questions. Write your answers in the space provided.

Task 1

Anderson Insurance Company sells vehicle, home and and other insurance policies. All employees use personal computers in the office.

The management has created an Acceptable Use policy which all employees must adhere to.

(a) Identify **two** topics which would typically be found in an
Acceptable Use policy. [2 marks]

**1:**

**2:**

(b) Explain **two** reasons why an Acceptable Use policy is necessary
for an organisation. [4 marks]

**1:**

**2:**

The company is planning to upgrade all of its 300 PCs to a newer model with more memory and a faster processor.

The management is concerned about the environmental impact of the production of new computers and the improper disposal of the old ones.

(c) Discuss how the manufacture of new computers and disposal of old ones can contribute to environmental damage. [6 marks]

Premiums on car insurance from Anderson insurance are calculated based on the value of the vehicle, and the age and driving record of the driver.

Drivers under 25 are given a 10% discount on their premium if they have a “black box” installed in their car, which records their driving performance. Drivers aged 25 and over do not receive any “black box” discount.

The company has a computer program for calculating insurance premiums.

* It calculates the basic premium for the car he wants to insure
* If the driver is under 25 years old, the premium is doubled
* If the driver is under 25, and has a black box fitted, there is a 25% reduction in the premium.

(d) Draw the missing segment of the flowchart which shows how the premium
is calculated.

Start

End

Premium = BasicPremium

Output Premium

 [4 marks]

 **[Total for Task 1 = 16 marks]**

Task 2

Sid works as a scientist for C21 Pharmaceuticals, a company researching and manufacturing new drugs for medical use. He commutes to work every weekday by train.

While he is on the train, he works on his laptop. He can connect to the office network by tethering his smartphone to his laptop to create an ad hoc network.

(a) Describe how Sid can set up an ad hoc network instead of using the train’s
free Wi-Fi facility. [3 marks]

(b) Describe **one** factor which may cause Sid’s laptop to drop the connection
to the office network. [2 marks]

Some of the new drugs manufactured by C21 Pharmaceuticals take years to develop and test.

They need to protect their intellectual property.

(c) Explain **one** method the company can use to protect their
intellectual property. [2 marks]

The management is concerned about keeping the company systems and data secure from both internal and external threats.

They employ a security expert to perform penetration testing on their system.

(d) State the type of hacker more commonly associated with ethical hacking. [1 mark]

(e) Identify **three** security risks that the security expert may try to uncover when undertaking penetration testing. [3 marks]

**Device hardening** involves making devices, systems and networks more secure from
hackers and attacks. Device hardening measures include ensuring that a **firewall** is installed and correctly configured.

(f) Describe what a firewall is. [2 marks]

 **[Total for Task 2 = 13 marks]**

Task 3

The Halford Borough Council has a website which provides information on all the services it provides, such as housing, welfare and leisure facilities.

They provide equal access to services and information to all residents.

(a) Explain **three** ways in which they can make their website accessible to
people with different specified disabilities. [6 marks]

**1:**

**2:**

**3:**

(b) Explain **two** reasons why it is important to provide equal access to services
and information to all residents. [4 marks]

**1:**

**2:**

Halford Borough Council uses an Internet Service Provider (ISP) to host its website and to provide access to the Internet

The ISP must abide by net neutrality.

(c) Explain what is meant by net neutrality. [2 marks]

The Council is concerned about cyber attacks and their response to them.

(d) Discuss the actions that they would need to take following an attack. [6 marks]

 **[Total for Task 3 = 18 marks]**

Task 4

Jack works in the sales department of a clothing company. There are five other employees in his team, all of whom work from home in different parts of the West Country.

(a) Explain **two** drawbacks to the organisation of having employees working
from home rather than in the office. [4 marks]

**1:**

**2:**

The company will shortly be moving to cloud technologies for both their office software, email and telephone system.

(b) Assess the impact of cloud technologies on the company and employees.

You must provide a conclusion as to whether or not you think the company’s
move to cloud technologies is a good one. [9 marks]

 **[Total for Task 4 = 13 marks]**

 **[Total for assessment = 60 marks]**