MODULE G SECURITY · G10

Staying safe online: SSL, proxy servers, privacy settings and checking messages

Original practice questions · 22 marks · ~25 minutes · Cambridge 0478 syllabus 5.3.2

Name _____ Date _____

Instructions. Answer all questions in the spaces provided. The marks for each part are shown in brackets [ ]. The total for this worksheet is **22 marks**. All organisations, names and web addresses in this worksheet are invented.

1

Total: 4 marks

(a) Tick (✓) **one** box in each row to show which solution each statement describes. **[4]**

Statement	SSL	Proxy server	Privacy settings
Requests and responses pass through it on their way between a user's device and the internet			
A security protocol that encrypts data sent between a web browser and a web server			
Lets a user choose who can see their profile and posts			
Can stop websites seeing the IP address of the user's device			

2 **Total: 6 marks**

A housing association lets its tenants log in to its website to report repairs and pay their rent. The website uses the secure socket layer (SSL) protocol.

(a) The statements describe how SSL sets up a secure connection when a tenant's web browser connects to the website's web server. Step 1 has been done for you. **[4]**
Write the numbers **2**, **3**, **4** and **5** in the table to show the order of the other steps.

Step	Order
The web server sends a copy of its SSL certificate to the web browser.	
The web server acknowledges the message and the SSL-encrypted session begins.	
The web browser asks the web server to identify itself.	**1**
The web browser checks that the SSL certificate is authentic.	
The web browser sends a message to the web server to say that communication can begin.	

(b) During a session, a criminal intercepts the data that contains a tenant's password. **[2]**
Explain why the tenant's password is still protected.

3 **Total: 4 marks**

A museum sends all web traffic between the computers in its offices and the internet through a proxy server.

(a) Explain **two** ways the proxy server helps to keep the museum's network and data safe. **[4]**

1

2

4 **Total: 5 marks**

A customer of Fernbrook Savings receives this message.

> **From:** Fernbrook Savings · **Subject:** URGENT – your acount is suspended
>
> Dear Valued Costumer,
> We have detected unusual activity on you're account. Your acount will be closed permanently in 24 hours unless you confirm your details NOW.
> Click below and enter your full password and card number to keep your account open.
>
> **Confirm my account**
>
> If you do not act today we will take legal action against you.
> Fernbrook Savings Securty Team

(a) The customer checks the spelling and tone of the message. **[3]**

Identify **three** signs in the message that suggest it is **not** genuine.

1

2

3

(b) The customer hovers the pointer over the button, without clicking it, to check the URL attached to the link. The browser shows the first address below. The second address is the genuine Fernbrook Savings website.

URL attached to the link	`http://fernbr0ok-savings-verify.example/login`
Genuine website	`https://www.fernbrook-savings.example`

Give **two** differences between the two URLs that show the link is not genuine. **[2]**

1

2

5 **Total: 3 marks**

A self-employed dog groomer has a public social media account. Their profile shows their date of birth, their home town and their own pet's name. Each post shows the place where it was posted.

(a) Explain how changing the privacy settings on the account could help keep the dog groomer's personal data safe. **[3]**

Total for this worksheet: 22 marks