MODULE G SECURITY · G8

Preventing attacks 2: access levels, passwords, biometrics and two-step verification

Original practice questions · 21 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 **21 marks**. The practice, staff and passwords on this sheet are made up.

A veterinary practice keeps records about animals, their owners and appointments on a computer system. The vets, receptionists and the practice manager all log in to the system.

1

Total: 4 marks

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

Statement	Username and password	Biometrics	Two-step verification
A one-time code is sent to the user's registered phone or email address, and the user must enter it			
A physical feature of the user, such as a fingerprint or face, is scanned			
The user types a secret string of characters that they chose			
Data that is unique to the user's body is compared with data stored earlier			

2 **Total: 4 marks**

The practice gives each type of user a different access level. Receptionists book appointments and update owners' contact details.

(a) Give **one** thing a receptionist's access level should allow, and **one** thing it should **not** allow. **[2]**

Allow .....

Not allow .....

(b) A hacker finds out a receptionist's username and password and logs in. Explain how access levels help to keep the practice's data safe. **[2]**

3 **Total: 4 marks**

A receptionist uses the password **bella2019**. Bella is the name of her cat.

(a) Suggest **two** changes that would make this password stronger. **[2]**

1

2

(b) Explain how a strong password helps to keep data safe from a brute-force attack. **[2]**

4 **Total: 4 marks**

The vets log in to tablet computers in the treatment rooms using a fingerprint scanner.

(a) Describe how the fingerprint scanner is used to authenticate a vet. **[2]**

(b) Explain why biometrics can keep the tablets more secure than a password. **[2]**

5 **Total: 5 marks**

The practice manager logs in to the practice's online booking system from home. The system uses two-step verification.

(a) Describe how two-step verification is used when the practice manager logs in. **[3]**

(b) The practice manager's password is stolen in a phishing attack. Explain why two-step verification still helps to stop the hacker logging in. **[2]**

Total for this worksheet: 21 marks