OCR GCSE (J277)

Module D: Data transmission

Workbooklet · 1 part · 20 marks

D1-D5 are IGCSE only and not on J277.

Contents

Part	Topic	Marks
D6	Encryption	20
	Total	**20**

MODULE D DATA TRANSMISSION · D6

Encryption

Original practice questions · 20 marks · ~25 minutes · OCR J277 spec 1.3.2, 1.4.2, 1.5.2

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 **20 marks**.

1

Total: 3 marks

(a) Describe what happens to data when it is encrypted. **[2]**

(b) Tick (✓) **one** box to show what is needed to decrypt encrypted data so it can be understood. **[1]**

Item	Tick (✓) one
A firewall	
The key	
The IP address of the sender	
A faster network connection	

2 **Total: 5 marks**

An architecture firm sends building plans to its clients across the internet. Some of its staff work from a café using public Wi-Fi.

(a) Explain how encryption secures the building plans when they are sent across the network connection. **[3]**

(b) The office manager says: "Our plans are encrypted, so nobody can intercept them." Explain why the office manager is **not** correct. **[2]**

3 **Total: 4 marks**

(a) Tick (✓) **one** box in each row to show whether each statement about encryption is true or false. **[4]**

Statement	True	False
Encrypted data is scrambled so it cannot be understood without the key		
Encryption stops malware from being downloaded		
Decryption turns encrypted data back into its original form		
Encryption makes a file take up much less storage space		

4 **Total: 3 marks**

A delivery company's drivers send customers' names and addresses from handheld devices to the head office over a wireless network.

(a) Identify the form of attack that encryption is used to limit when this data is sent. **[1]**

(b) Describe how encryption limits this attack. **[2]**

5 **Total: 3 marks**

The architecture firm in Question 2 installs encryption software on every staff laptop. The software encrypts all the files stored on each laptop.

(a) State the purpose of encryption software. **[1]**

(b) A laptop is left on a train and is taken by someone. Explain how the encryption software protects the firm's files. **[2]**

6 **Total: 2 marks**

(a) Give **two** examples of data that should be encrypted when it is sent across a network connection. **[2]**

1

2

Total for this worksheet: 20 marks