Level 2 Principles of ICT Systems and Data Security (7540-011)

Systems and Principles
Assignment guide for Candidates
Assignment A

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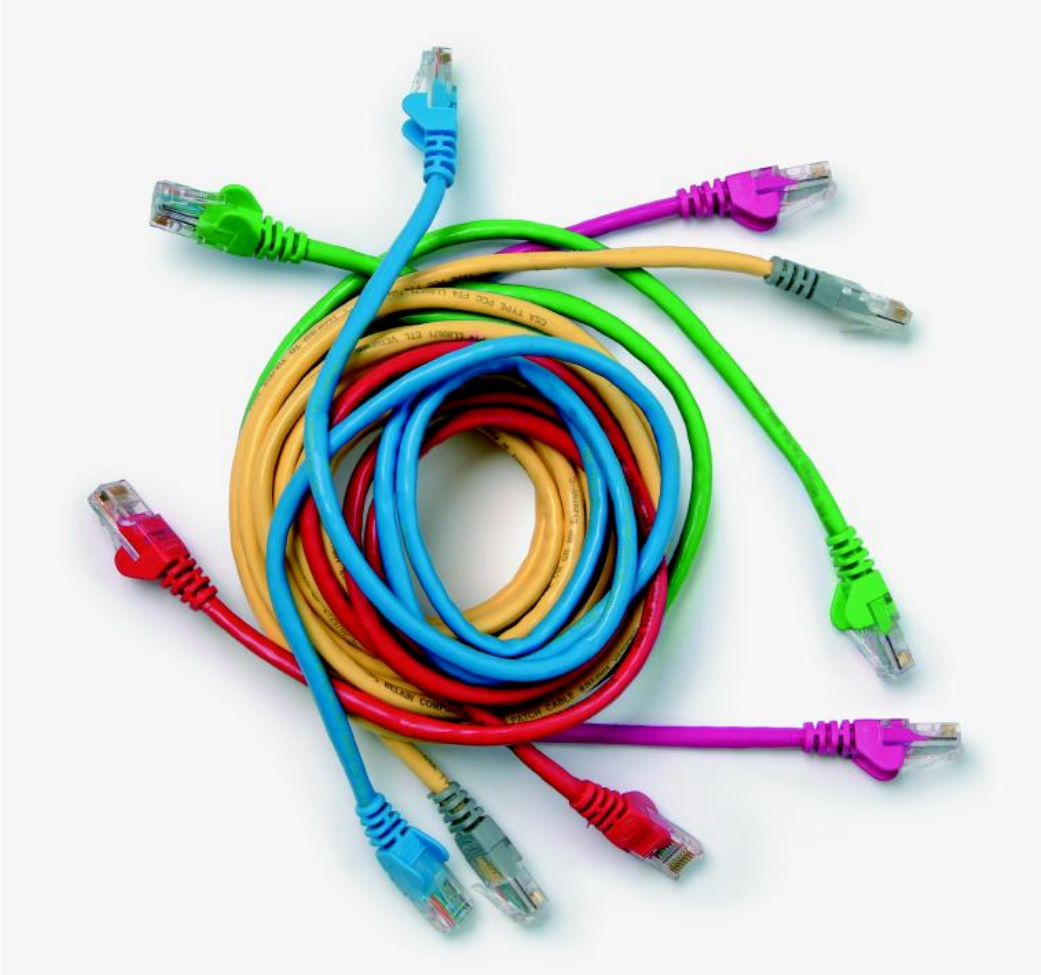

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Level 2 Principles of ICT Systems and Data Security (7540-011)

Introduction – Information for Candidates

About this document

This assignment comprises all of the assessment for Level 2 Principles of ICT Systems and Data Security (7540-011).

Health and safety

You are asked to consider the importance of safe working practices at all times.

You are responsible for maintaining the safety of others as well as your own. Anyone behaving in an unsafe fashion will be stopped and a suitable warning given. You will **not** be allowed to continue with an assignment if you compromise any of the Health and Safety requirements. This may seem rather strict but, apart from the potentially unpleasant consequences, you must acquire the habits required for the workplace.

Time allowance

The recommended time allowance for this assignment is **2.5 hours**.

Level 2 Principles of ICT Systems and Data Security (7540-011)

Candidate Instructions

Time allowance: 2.5 hours

Assignment set up:

This assignment is made up of **three** tasks:

- Task A – Common threats to IT Systems and Data
- Task B – Protection of IT Systems and Data
- Task C – The meaning of Cryptography and its successful application to ICT Systems and Data.

Scenario

You are a technical Apprentice in a company that supports business and industry in their IT Systems and Data requirements.
You have been asked by a senior manager to provide information that will be used in a forthcoming presentation to 40 Small and Medium Sized Enterprises (SMEs).

The manager requires detailed, accurate and current information in three specific areas:

- Common threats to IT Systems and Data
- Protection of IT Systems and Data
- The meaning of Cryptography and its successful application to ICT Systems and Data.

It is vital that the explanations and examples you provide, as far as possible, use "non technical" language, as the intended audience are not IT specialists.

You may provide the required information in a format of your choice however you should note that you are NOT being asked to produce a presentation, that is the managers' job.

Task A – Identify and explain common threats to IT Systems and Data

Please use the Answer Sheet provided to complete Task A.

1	Identify and briefly describe the consequences of **seven** common physical threats to ICT systems and data including hardware damage, loss and theft eg • deliberate damage to hardware or equipment • inadequate physical security • loss or theft due to size or portability of devices • accidental damage to hardware or equipment.
2	Identify and briefly describe the consequences of the following types of malicious code: • Virus • Trojan • Logic bomb • Worm • Spyware.
3	Identify and briefly describe the consequences of **six** other electronic threats to ICT systems and data.
4	List **three** of the security vulnerabilities associated with remote access technologies, including wireless.

Task B – Identify and explain ways of protecting ICT Systems and Data

Please use the Answer Sheet provided to complete Task B.

1	Identify and briefly explain the function of physical access control and security for ICT systems including: • locks (hardware locks and entry locks) • biometric controls (fingerprint and voice recognition) • CCTV • fire control systems • Shielding (cable screening).
2	Identify and explain ways of providing electronic protection and security controls for any **six** of the following: • firewalls • virtual networks • secure connection/transfer protocols • wireless connection security • login and password protection • access rights and permissions (including limiting data access) • virus, malware and spyware protection • secure remote access • backup and restore systems.
3	Identify and give examples of **three** characteristics of strong passwords.

Task C – Identify and explain the application of Cryptography to ICT Systems and Data

Please use the Answer Sheet provided to complete Task C.

C1	State **two** methods for applying cryptography to ICT systems and data security.
C2	State how Public Key Infrastructure (PKI) operates

When you have finished working:

- Sign each document above your name and label all removable storage media with your name.
- Hand all paperwork and removable storage media to your assessor.

If the assignment is taken over more than one period, all paperwork and removable media must be returned to the test supervisor at the end of each sitting.

End of assignment

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