

Please write clearly in block capitals.

Centre number

Candidate number

Surname \_\_\_\_\_

Forename(s) \_\_\_\_\_

Candidate signature \_\_\_\_\_

## Level 3 Technical Level IT: NETWORKING

### Unit 6 Network security management

Wednesday 13 June 2018

Afternoon

Time allowed: 2 hours

#### Materials

For this paper you may use:

- a ruler
- a scientific calculator (non-programmable)
- stencils or other drawing equipment (eg flowchart stencils).

#### Instructions

- Use black ink or black ball-point pen.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer each question in the space provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.
- If you need more space use the additional pages at the back of this booklet.

#### Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 80. There are 50 marks for **Section A** and 30 marks for **Section B**.
- Both sections should be attempted.

#### Advice

- In all calculations, show clearly how you work out your answer.
- Use diagrams, where appropriate, to clarify your answers.
- You are expected to use a calculator where appropriate.
- You are reminded of the need for good English and clear presentation in your answers.

For Examiner's Use	
Question	Mark
1–5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
<b>TOTAL</b>	



## Section A

Answer **all** questions in this section.

In multiple choice questions only **one** answer per question is allowed.

For each answer completely fill in the circle alongside the appropriate answer.

CORRECT METHOD



WRONG METHODS



If you want to change your answer you must cross out your original answer as shown.



If you wish to return to an answer previously crossed out, ring the answer you now wish to select as shown.



You may do your working in the blank space around each question but this will not be marked. Do **not** use additional sheets for this working.

**0 1**

Which **one** of the following would you **not** expect to find in a VPN (Virtual Public Network) policy?

[1 mark]

- A** privileges to ensure unauthorised users are denied access
- B** controls on the use of split tunnelling
- C** automated forwarding of email to external destinations
- D** evaluation of risk and determining control measures

**0 2**

Which legislation made it illegal to use other people's broadband connection without permission?

[1 mark]

- A** Communications Act (2003)
- B** Small Business, Enterprise and Employment Act (2015)
- C** Computer Misuse Act (1998)
- D** Investigatory Powers Act (2016)



0 3

Which **one** of the following is **not** an aim of penetration testing?

[1 mark]

- A** minimising risk by identifying vulnerabilities and blocking threats
- B** modelling real-world threats to discover vulnerabilities
- C** controlled exploitation to discover business risk
- D** using a vulnerability to cause damage to a target system

0 4

In which **one** of the following sections would you expect to find 'objectives' in a Network Security Plan?

[1 mark]

- A** assessment results
- B** overview
- C** resources and budget
- D** appendix

0 5

Which **one** of the following is **not** an encryption or security protocol?

[1 mark]

- A** TKIP
- B** VPN
- C** WPA2
- D** WEP

5

Turn over ►



0 6

Organisations should scan their systems regularly for vulnerabilities. Scanning is one way of identifying weak points in a network.

Suggest why vulnerability scanning should be continuous and automated.

[2 marks]

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2

0 7

'Never open an attachment directly from email.'

Opening an attachment directly from email is something the vast majority of IT users do every single day.

Explain why this may prove harmful to your PC, laptop or network.

[2 marks]

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2

0 8

One way of securing a network is through a Wireless Intrusion Prevention System (WIPS).

Give **one** threat that a WIPS might identify, and **one** response that a WIPS might provide.

[2 marks]

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2



0 9

Suggest **two** disciplinary actions you might find in a Computer Acceptable Use Policy.

[2 marks]

1 \_\_\_\_\_

\_\_\_\_\_

2 \_\_\_\_\_

\_\_\_\_\_

2

1 0

Sending commercially sensitive data wirelessly to other equipment is now common practice.

1 0 . 1

Wi-Fi Protected Access (WPA) is a security standard or protocol.

What is meant by a security standard or protocol?

[1 mark]

\_\_\_\_\_

\_\_\_\_\_

1 0 . 2

Wi-Fi Protected Access (WPA) replaced and improved upon Wired Equivalent Privacy (WEP).

Give **two** areas where improvements have been made.

[2 marks]

1 \_\_\_\_\_

\_\_\_\_\_

2 \_\_\_\_\_

\_\_\_\_\_

3

Turn over ►



1 1

Many people now access bank accounts through their mobile phones.

Explain recent improvements in authentication techniques used to secure accounts.

[3 marks]

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3

1 2

In developing a Network Security Plan, you would review, classify, and prioritise business critical assets and exposures.

1 2 . 1

Give **three** examples of content you might include.

[3 marks]

1 \_\_\_\_\_

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2 \_\_\_\_\_

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3 \_\_\_\_\_

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1 2 . 2

Risk assessments help determine which assets are at greatest risk.

Give **three** issues that a risk assessment should consider.

[3 marks]

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6



1 3

Explain what the role of an ethical hacker might involve.

[3 marks]

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3

1 4

Logs are used to routinely monitor a network.

1 4 . 1

State **two** items that might be monitored or logged.

[2 marks]

1 \_\_\_\_\_

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2 \_\_\_\_\_

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1 4 . 2

Explain why monitoring or logging is undertaken, providing examples of what might cause concern or need further investigation.

[4 marks]

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6

Turn over ►



1 5

For a Security Service Level Agreement (SSLA) to be meaningful, it must define criteria capable of being measured.

State **three** criteria appropriate for measuring performance and explain how each might be measured.

**[6 marks]**

1 \_\_\_\_\_

\_\_\_\_\_

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2 \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3 \_\_\_\_\_

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6

1 6

Explain how a packet sniffer works.

**[4 marks]**

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\_\_\_\_\_

4







**Section B**

Answer **all** questions in this section.

1 8

You are a Network Manager reviewing an in-house **Security Service Level Agreement (SSLA)** that is managed by colleagues within your own department.

1 8 . 1

As part of your review, you find reference to email abuse has been limited to viruses and malware.

List **four** forms of email abuse that are not classified as viruses.

**[4 marks]**

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1 8 . 2

Your virus detection Service Level Agreement (SLA) for email security will not offer 100% protection.

Explain when, either due to employee action or inaction your SLA for email security will not apply.

**[4 marks]**

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8













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**DO NOT WRITE ON THIS PAGE  
ANSWER IN THE SPACES PROVIDED**

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