

City & Guilds Level 4 End-point Assessment for Cyber Security Technologist (9661-12 / 9661-13 / 9661-14)

Standard: ST1021

EPA Plan: Version AP02 and V 1.1

Sample Test A
February 2026 Version 1.2

Sample Knowledge Test

Sample paper, multiple choice answer sheet and mark scheme

Version and date	Change detail	Section
V 1.0 June 2022	Initial input of data	Document
V 1.1 April 2025	Update of titling convention	Title page and footer
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1 Introduction

What is in this document

This document contains the Sample Knowledge test for the City & Guilds Level 4 Cyber Security Technologist Multiple Choice EPA- Knowledge test (Sample Test A).

How to use the forms

The following documents are included:

- Sample questions
- Multiple choice answer sheet
- Mark scheme

Apprentices should be provided with the sample questions and the answer sheet.

The mark scheme is to be used by employers/providers/tutors to mark the completed tests.

9661-401 End-point Assessment - Knowledge test (Sample Test A)



Test duration: 60 minutes

You should have the following for this test:

- a pen with black or blue ink
- multiple-choice answer sheet.

Read the following notes before you answer any questions:

- Attempt all questions
- If you find a question difficult, leave it and return to it later.

This paper contains 40 multiple choice questions worth 1 mark each.

This question paper is the property of City & Guilds.

How to complete the multiple choice answer sheet

Each multiple choice question shows four possible answers (lettered 'a', 'b', 'c' and 'd'); only **one** is correct.

Decide which one is correct and mark your answer on the answer sheet with your pen.

For example, if you decide 'b' is correct, mark your answer with a cross like this:

1 a b c d

If you change your answer, cancel your first choice by filling in the box; then put a cross in the answer which you have now decided is correct, like this:

1 a b c d

9661-401 End-point Assessment - Knowledge Test (Sample Test A)

1. What is the function of the transport layer of the OSI Model?
 - a) Tracks the location of all devices attached to the network.
 - b) Controls the flow of data between communicating nodes.
 - c) Initiates the multiplexing of transmitted signals between nodes.
 - d) Determines the best way to move data on the network.

2. When providing routing services to an internal network, at which level of the OSI model does a router function?
 - a) Application layer.
 - b) Transport layer.
 - c) Network layer.
 - d) Physical layer.

3. Which of the following layers is found in the OSI Model but **not** in the TCP/IP model?
 - a) Application layer.
 - b) Session layer.
 - c) Transport layer.
 - d) Internet layer.

4. Which of the following protocols functions at the Application layer of the TCP/IP model?
 - a) SSH.
 - b) TCP.
 - c) ICMP.
 - d) ARP.

5. Which of the following Protocol data units (PDUs) is used at the Internet Layer of the TCP/IP model?
 - a) Segment.
 - b) Packet.
 - c) Datagram.
 - d) Port.

6. Which one of the following is a feature of sliding window protocol?
 - a) It decreases the need to sort packets.
 - b) It uses only half duplex transmissions.
 - c) It increases the efficiency of data transfer.
 - d) It uses a sender size protocol of one.

7. Once a packet is formed at the transport layer in the TCP/IP model, where is the packet sent?
- a) Data link layer.
 - b) Physical layer.
 - c) Network layer.
 - d) Application layer.
8. Which of the following parts of a packet contains the information that is used to route data to its intended destination?
- a) The header.
 - b) The trailer.
 - c) The payload.
 - d) The interface.
9. Which packet capture methodology should be implemented when troubleshooting intermittent problems?
- a) Continuous.
 - b) Scheduled.
 - c) On-demand.
 - d) User-initiated.
10. What is the ARP protocol?
- a) A network layer protocol used for error handling.
 - b) An application layer protocol used to auto-configure devices.
 - c) An application layer protocol used to transfer files.
 - d) A network-level protocol used to map logical addresses.
11. Which of the following protocols can be used to retrieve emails and synchronise messages across multiple devices?
- a) SMTP.
 - b) UDP.
 - c) POP.
 - d) IMAP.
12. Which range of ports is reserved for privileged services and designated as well-known ports?
- a) 0 to 1023
 - b) 1024 to 49151
 - c) 49152 to 65535
 - d) 0 to 65535

13. A cyber security technologist is troubleshooting a security issue and needs to find out which ports are open on a PC. Which one of these netstat commands would they use?
- a) netstat – r.
 - b) netstat – e.
 - c) netstat – an.
 - d) netstat – f.
14. Which one of the following protocols is secure?
- a) SFTP.
 - b) HTTP.
 - c) TCP.
 - d) SMTP.
15. Which one of the following is a **true** statement about IPsec?
- a) IPsec authenticates by placing a digital signature on each data packet.
 - b) IPsec traffic does not affect the performance of the CPU.
 - c) IPsec is very secure because it operates at the OSI application layer.
 - d) IPsec traffic is unable to be monitored, which increases security.
16. The default route in IPv4 is designated as:
- a) 127.0.0.1/0
 - b) 192.168.1.1/0
 - c) 0.0.0.0/0
 - d) 10.10.0.1/0
17. Which of the following is a **disadvantage** of VLANs?
- a) Administrative overheads are increased by VLANs.
 - b) VLAN leakage can occur if ports are misconfigured.
 - c) VLANs increase the number of physical devices required.
 - d) Traffic on VLANs is slower as all data is encrypted.
18. Which of the following is a characteristic of dynamic routing?
- a) It is implemented in large networks.
 - b) Paths/routes are defined by administrative.
 - c) Requires less bandwidth than static routing.
 - d) Does not use any complex routing protocols.
19. Which of the following is a characteristic of a logical topology?
- a) It can only be implemented using a Star or Mesh topology.
 - b) It has a major impact on the cost of designing a solution.
 - c) It is easily modified, based on the identified needs of an organisation.
 - d) It provides a high-level representation of data flow across a network.

20. Which one of the following is an **advantage** of ring topology?
- a) It requires centralised control.
 - b) If a node fails, other nodes are not affected.
 - c) Reduces the chances of data collision.
 - d) Easy to reconfigure and upgrade.
21. Which of the following is a potential **benefit** of data encryption?
- a) Helps store passwords so they don't need remembering.
 - b) Requires minimal resource to process encryption requests.
 - c) It decreases the probability of a hacker tampering with data.
 - d) It is easy to store and retrieve data encryption keys.
22. Which of the following is a **disadvantage** associated with encrypting emails?
- a) Systems overheads are increased.
 - b) Bandwidth utilisation is increased.
 - c) Communication channels overlap.
 - d) Bandwidth aggregation overlaps.
23. Which encryption method requires one of the parties to communication to disclose part of the encryption key?
- a) Algorithms for generating random-like numbers.
 - b) One-way functions which include one-way hashes.
 - c) Asymmetric key pair, also called public-private key.
 - d) Complex mapping that requires a key for translation.
24. Which of the following is an example of the Transposition Technique?
- a) Vigenere Cipher.
 - b) Rail Fence Technique.
 - c) Mono Alphabetic Cipher.
 - d) Polygram Cipher.
25. What data is a business required by law to protect by means of cryptography?
- a) Intellectual Property.
 - b) Information about commercial relationships.
 - c) Any personally identifiable information.
 - d) Company financial accounts.
26. Which technology do asymmetric encryption and decryption algorithms rely on?
- a) Secret-key.
 - b) Hash Functions.
 - c) Public-key.
 - d) Substitution.

27. Which principle states that a cryptographic system should be publicly available, except for the key?
- a) Dijkstra's.
 - b) Kerckhoff's.
 - c) Substitution.
 - d) Hashing.
28. A digital certificate associates a user's:
- a) public key with their private key.
 - b) private key with their public key.
 - c) identity with their public key.
 - d) private key with a digital signature.
29. Users of a website have been receiving errors indicating that website certification has been revoked. Which of the following includes a list of certificates that have been revoked?
- a) CA.
 - b) CRL.
 - c) OCSP.
 - d) CSR.
30. In what situation would a business deploy Class 2 Digital Certificates?
- a) Where the consequence of data compromise would have a low impact.
 - b) Where the consequence of data compromise would have a high impact.
 - c) For identification of specific business units.
 - d) For code signing to identify trust codes.
31. What term is given to the group of PKI standards that have been defined by the RSA Corporation?
- a) CP.
 - b) PKCS.
 - c) CPS.
 - d) SSH.
32. Which of the following will remove all private and public keys, along with the user's identification information held in the Certificate Authority?
- a) Renewal.
 - b) Generation.
 - c) Destruction.
 - d) Revocation.
33. Which term refers to a hierarchical system for the creation, management, storage, distribution, and revocation of digital certificates?
- a) IAAS.
 - b) PKI.
 - c) CA.
 - d) CPS.

34. Which of the following is a technique used to increase the strength of stored keys by adding random bits?
- a) Key stretching.
 - b) Key hashing.
 - c) Key escrow.
 - d) Key revocation.
35. Which legislation requires an organisation to safeguard your personal data?
- a) Data Protection Act.
 - b) Data Protection Law.
 - c) Data Privacy Law.
 - d) Data Privacy Act.
36. When may a technology/telecommunications business be required to remove encryption from data?
- a) If served with a Technical Capability Notice by the Secretary of State.
 - b) If an end user demands it.
 - c) If a recipient can decrypt the data.
 - d) If requested to remove encryption by the Information Commissioner's Office.
37. Which of the following accurately describes the Wassenaar Arrangement?
- a) Restricts exports to the former Soviet Union and the Eastern Bloc.
 - b) Promotes greater responsibility among its members in exports of conventional arms, and dual use goods and technologies.
 - c) Discourages the import and sales of weapons and dual use technologies into the United Kingdom.
 - d) Obligates members to comply with any sanctions placed on a country.
38. According to the PCI DSS, which of the following can be stored?
- a) PANs and cardholder names.
 - b) The PANs and CVVs/CVCs.
 - c) Only the Cardholder names.
 - d) Primary Account Number (PAN).
39. When referring to PCI compliance, what is an ASV?
- a) Anomalous Software Vulnerability.
 - b) Application Security Vector.
 - c) Approved Scanning Vendor.
 - d) Application Service Vendor.
40. What is the purpose of the Official Secrets Act in Great Britain?
- a) Punishes the act of lying under oath in a British court.
 - b) Punishes acts of malicious treason within the British Armed Forces.
 - c) Prohibits undisclosed agreements between competitor organisations.
 - d) Prohibits disclosure of sensitive government information.

9661-401 End-point Assessment - Knowledge test (Sample Test A) answer sheet

Candidate name:
(Please print)

Date of test:

1 a b c d

21 a b c d

2 a b c d

22 a b c d

3 a b c d

23 a b c d

4 a b c d

24 a b c d

5 a b c d

25 a b c d

6 a b c d

26 a b c d

7 a b c d

27 a b c d

8 a b c d

28 a b c d

9 a b c d

29 a b c d

10 a b c d

30 a b c d

11 a b c d

31 a b c d

12 a b c d

32 a b c d

13 a b c d

33 a b c d

14 a b c d

34 a b c d

15 a b c d

35 a b c d

16 a b c d

36 a b c d

17 a b c d

37 a b c d

18 a b c d

38 a b c d

19 a b c d

39 a b c d

20 a b c d

40 a b c d

Number of correct answers: / 40

9661-401 End-point Assessment Knowledge Test (Sample Test A) – Multiple Choice Mark Scheme

Grading:

Pass 25 marks (62.5%)

Question no	Key	Question no	Key
1	B	21	C
2	C	22	A
3	B	23	C
4	A	24	B
5	B	25	C
6	C	26	C
7	C	27	B
8	A	28	C
9	A	29	B
10	D	30	A
11	D	31	B
12	A	32	C
13	C	33	B
14	A	34	A
15	A	35	A
16	C	36	A
17	B	37	B
18	A	38	A
19	D	39	C
20	C	40	D