Enabling the information society

# Qualification Specification for the Knowledge Modules that form part of the BCS Level 4 Network Engineer Apprenticeship

**BCS Level 4 Certificate in Network Principles**
**BCS Level 4 Certificate in Network Systems and Architecture**
**BCS Level 4 Certificate in Network Security**

**Version 4.0**

**September 2020**

# Contents

## 1. About BCS

Our mission as BCS, The Chartered Institute for IT, is to enable the information society. We promote wider social and economic progress through the advancement of information technology science and practice. We bring together industry, academics, practitioners and government to share knowledge, promote new thinking, information the design of new curricula, shape public policy and inform the public.

Our vision is to be a world class organisation for IT. Our 70,000 strong membership includes practitioners, businesses, academics and students in the UK and internationally. We deliver a range of professional development tools for practitioners and employees. A leading IT qualification body, we offer a range of widely recognised qualifications.

## 2. Equal Opportunities

BCS wishes to ensure good practice in the area of Equal Opportunity. Equality of opportunity extends to all aspects for the provision of BCS qualifications.

## 3. Introduction to the qualification

### 3.1 Qualification summary

| Qualification Title | QAN | Accreditation Start |
|---|---|---|
| BCS Level 4 Certificate in Network Principles | **603/0548/4** | **30/09/2016** |
| BCS Level 4 Certificate in Network Systems and Architecture | **603/0547/2** | **30/09/2016** |
| BCS Level 4 Certificate in Network Security | **603/0546/0** | **30/09/2016** |

The three knowledge module qualifications listed above have been developed based on the requirements set out in the Standard issued by Tech Partnership and approved by the Government, details of which can be located in the Assessment Plan (Click here) and Occupational Brief (Click here) documents.

Apprentices must achieve one internationally recognised vendor or professional qualification, from the right hand column in the table below. This then exempts one of the Ofqual-regulated knowledge modules, as shown in the left hand column.

Knowledge Modules Vendor or Professional Qualifications.

| BCS qualification | Vendor certification alternative chosen |
|---|---|
| BCS Level 4 Certificate in Network Principles | CCNA 1+2<br>Network +<br>Juniper JNCIA – Junus |
| BCS Level 4 Certificate in Network Systems and Architecture | MCP Server Virtualization -Windows Server Hyper V<br>MCP MS Exchange Server<br>MCP Server 2012<br>MCP Windows Administrator<br>Server +<br>Juniper JNCIS – Ent |
| BCS Level 4 Certificate in Network Security | Security +<br>CCNA Security<br>MTA Cloud and Mobility<br>Juniper JNCIS – Sec |

All BCS qualifications are subject to our quality assurance and validation process. This ensures that new and revised qualifications are fit for purpose. Qualifications are reviewed to ensure the alignment of the qualification with agreed design principles, regulatory requirements and to

ensure accuracy and consistency across units and qualifications. Through our quality assurance and validation process, we ensure the qualification, its units and assessments, are fit for purpose and can be delivered efficiently and reasonably by Training Providers.

### 3.2 Purpose of the qualifications

The qualifications are designed for apprentices enrolled on the Level 4 Network Engineer Digital IT Apprenticeship, to provide them with the technical knowledge and understanding they require for their role detailed below:

*The primary role of a network engineer is to design, install, maintain and support communication networks within an organisation or between organisations. Network engineers need to maintain high levels of operation of communication networks in order to provide maximum performance and availability for their users, such as staff, clients, customers and suppliers. They will understand network configuration, cloud, network administration and monitoring tools, and be able to give technical advice and guidance.*

### 3.3 Structure of the qualifications

This document covers the following qualifications which are used towards the Level 4 Network Engineer Apprenticeship. The qualifications can be taken in any order however it is recommended that they be completed in the following sequence:

1. BCS Level 4 Certificate in Network Principles
2. BCS Level 4 Certificate in Network Systems and Architecture
3. BCS Level 4 Certificate in Network Security

| **Qualification Level 4 Descriptor** | |
|---|---|
| Knowledge descriptor (the holder…) | Has factual, procedural and theoretical knowledge and understanding of a subject or field of work to complete tasks and address problems that while well-defined, may be complex and non-routine. Can interpret and evaluate relevant information and ideas. Is aware of the nature of the area of study or work. Is aware of different perspectives or approaches within the area of study or work. |
| Skills descriptor (the holder should have…) | Logical and creative thinking skills • Analytical and problem solving skills • Ability to work independently and to take responsibility • Own initiative • A thorough and organised approach • Ability to work with a range of internal and external people • Ability to communicate effectively in a variety of situations • Maintain productive, professional and secure working environment. |

### 3.4 Prior learning

The only pre-requisite to take the qualifications is enrolment on the Level 4 Network Engineer Digital IT Apprenticeship.

Individual employers will set the selection criteria for enrolment onto the Apprenticeship, but this is likely to include five GCSEs, (especially English, Mathematics and a Science or Technology subject); a relevant Level 3 Apprenticeship; other relevant qualifications and experience; or an aptitude test with a focus on IT skills.

### 3.5 Learner progression

This document covers the qualifications that are part of the Level 4 Network Engineer apprenticeship. The qualifications must be completed to allow the apprentice to progress onto the End-Point-Assessment, detailed below:

*The final, end point assessment is completed in the last few months of the apprenticeship. It is based on*

- *a portfolio – produced towards the end of the apprenticeship, containing evidence from real work projects which have been completed during the apprenticeship, usually towards the end, and which, taken together, cover the totality of the standard, and which is assessed as part of the end point assessment*
- *a project - giving the apprentice the opportunity to undertake a business-related project over a one-week period away from the day to day workplace*
- *an employer reference*
- *a structured interview with an assessor - exploring what has been produced in the portfolio and the project as well as looking at how it has been produced*

*An independent assessor will assess each element of the end point assessment and will then decide whether to award successful apprentices with a pass, a merit or a distinction.*

## 4. Units

### 4.1 Guidance on the qualifications' content

The content for each qualification has been developed based on the criteria set out in the Occupational Brief.

| Qualification Title | TQT (Guided Learning + Direct Study + Assessment) |
|---|---|
| BCS Level 4 Certificate in Network Principles | 150 (38h + 111h + 1h) |
| BCS Level 4 Certificate in Network Systems and Architecture | 188 (38h + 149h + 1h) |
| BCS Level 4 Certificate in Network Security | 125 (23h + 101h + 1h) |

## 4.2 Learning outcomes and assessment criteria

| Qualification Name | Learning outcomes<br>The learner will…. | Assessment Criteria<br>The learner can… |
|---|---|---|
| BCS Level 4 Certificate in Network Principles | Understand the principles of networking. | Describe the components of a network. |
| | | Explain how rules are used to facilitate data communication.<br>encoding;<br>• formatting and encapsulation;<br>• size;<br>• timing;<br>• delivery options;<br>  ○ unicast;<br>  ○ multicast;<br>  ○ broadcast. |
| | | Explain the role of protocols in facilitating interoperability in network communications.<br>• RIPv1;<br>• RIPv2;<br>• OSPF;<br>• EIGRP;<br>• RIPng;<br>• OSPFV3;<br>• EIGRP for IPv6. |
| | | Describe LANs, WANs and MANs |

| Qualification Name | Learning outcomes The learner will…. | Assessment Criteria The learner can… |
|---|---|---|
| | | Understanding of all seven layers and representative protocols at each layer within the OSI model.<br>• the Physical layer;<br>  ○ electrical;<br>  ○ optical;<br>  ○ wireless.<br>• the Data Link layer;<br>  ○ purpose of the Data Link layer;<br>  ○ data format;<br>  ○ description of an Ethernet frame;<br>• the Network layer;<br>  ○ purpose of the Network layer;<br>  ○ Internet Protocol;<br>• the Transport layer;<br>  ○ purpose of the Transport layer;<br>  ○ Transport layer protocols (TCP and UDP);<br>• the Session layer;<br>  ○ purpose of the Session layer;<br>• the Presentation layer;<br>  ○ purpose of the Presentation layer;<br>• the Application layer;<br>  ○ purpose of the Application layer. |

| Qualification Name | Learning outcomes<br>The learner will…. | Assessment Criteria<br>The learner can… |
|---|---|---|
| | Learn the principles of network addresses. | Explain the purpose and features of IP.<br>• IP addressing - definition of network and host addresses;<br>• classful addressing (class A, B, C, D, E);<br>  ○ IP address allocation;<br>  ○ IP address format<br>  ▪ binary;<br>  ▪ dotted decimal notation;<br>  ○ network and broadcast addresses;<br>• IP header format;<br>  ○ type of service (TOS) field;<br>  ○ protocol field;<br>  ○ time to live (TTL) field;<br>  ○ checksum;<br>• mapping IP to the Datalink layer;<br>  ○ Address Resolution Protocol (ARP);<br>  ▪ ARP broadcast;<br>  ○ Reverse Address Resolution Protocol (RARP);<br>• IP scaling problems;<br>  ○ growth of Internet;<br>  ○ subnet masks – the need for 3rd level of hierarchy;<br>  ▪ subnet mask format;<br>  ▪ logical AND operation;<br>  ▪ public and private addresses;<br>  ▪ default gateway;<br>  ○ static and dynamic address allocation;<br>  ▪ Dynamic Host Configuration Protocol (DHCP);<br>  ▪ DHCP server requirements;<br>  ▪ the DHCP process (DORA);<br>  ▪ DHCP lease;<br>  ▪ domain names; |

| Qualification Name | Learning outcomes The learner will…. | Assessment Criteria The learner can… |
|---|---|---|
| | | ▪ domain name resolution;<br>▪ requirements of DNS servers;<br>▪ host name resolution (7 step sequence);<br>▪ NetBIOS name resolution (6 step sequence);<br>▪ subnetting (and supernetting) networks;<br>▪ design considerations (the 4 key questions);<br>• purpose of IP v6<br>○ benefits of IP v6;<br>○ extended address space;<br>• IP v6 addressing (binary, hexadecimal);<br>○ octet pair notation;<br>○ abbreviated octet pair notation;<br>• IP v6 header format;<br>○ version;<br>○ priority, traffic class;<br>○ flow label;<br>○ payload length;<br>○ next header;<br>○ hop limit;<br>• host address calculation<br>○ EU164 addresses;<br>○ default gateway;<br>• router advertisement;<br>• extended features;<br>○ path MTU discovery;<br>○ mobility – destination options;<br>○ IPSec authentication. |

| Qualification Name | Learning outcomes<br>The learner will…. | Assessment Criteria<br>The learner can… |
|---|---|---|
| | Develop a solid understanding of numbering systems. | Explain different numbering systems<br>• binary;<br>• decimal;<br>• hexadecimal. |
| | | Demonstrate an ability to convert between binary and decimal. |
| | | Demonstrate an ability to calculate the number of host addresses available when given a network and a subnet mask. |
| | | Demonstrate an ability to calculate the necessary subnet mask when given a network diagram in order to accommodate the requirements of the network. |
| | | Explain the benefits of variable length subnet masking (VLSM). |
| | | Explain what an algorithm is and give examples of their use in computer networking.<br>• DUAL.<br>  ○ Which routing protocol uses it.<br>  ○ How it determines the correct path.<br>• Dijkstra.<br>  ○ Which routing protocol uses it.<br>  ○ How it determines the correct path. |
| | | Explain how network monitoring systems enable the collection of data for statistical analysis and forecasting.<br>• hardware;<br>• bandwidth. |

| Qualification Name | Learning outcomes<br>The learner will…. | Assessment Criteria<br>The learner can… |
|---|---|---|
| BCS Level 4 Certificate in Network Systems and Architecture | Understand causes and impacts of load balancing failures. | Describe the causes and impact of DNS round robin failures and summarise the appropriate response for each.<br>• misconfiguration - loss of connection to one/all nodes;<br>• single/multiple node failure(s) - intermittent connection;<br>• all nodes fail - complete outage. |
| | | Explain causes and consequences of network load balancer failures and summarise the appropriate response for each.<br>• misconfiguration - loss of connection to one / some nodes increasing load on remaining nodes;<br>• misconfiguration – loss of connection to all nodes;<br>• single node failure - intermittent connection;<br>• single/multiple node failures - intermittent loss of access;<br>• all nodes failure - complete outage. |
| | Understand the causes and impact of storage protocol failures. | Identify the reasons for and the impact of locally attached storage protocol failures (SATA, SCSI, SAS) and summarise the appropriate response for each.<br>• hardware failure - loss of access to local disk(s) and / or corruption of data. |
| | | Describe the causes and impact of failures of RAID (0,1,5,10) and summarise the appropriate response for each.<br>• loss of single / multiple disks - reduced throughput / loss of data depending on RAID level and number of disk failures;<br>• loss of RAID controller - permanent / temporary loss of access to data. |

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| | | Describe the causes and impact of failures of network shares and network-attached storage (NAS), and summarise the appropriate response for each.<br>• misconfigured firewall or protocols (NFS, SMB, TCP/IP, AFS) - complete loss of access to NAS;<br>• misconfigured NFS - loss of access for Linux / NAS network shares;<br>• misconfigured SMB - loss of access to Windows network shares;<br>• misconfigured AFS - loss of access for Apple systems shares;<br>• misconfigured authentication and/or authorisation - loss of access to some / all NAS / network shares. |
| | | Explain causes and consequences of storage area network (SAN) failures over the Fibre Channel protocol and summarise the appropriate response for each.<br>• single misconfigured or failed Fibre switch - increased load on remaining switches and possible reduced throughput and/or storage outage. The standard data network is unaffected;<br>• loss of all Fibre switches - complete loss of access to storage. The standard data network is unaffected;<br>• failure of a single host bus adapter (HBA) - increased load on remaining HBA on a single node and possible reduced throughput for this node or complete outage if this is the only on-board HBA. |

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| | | Explain causes and consequences of SAN failures over Fibre Channel over Ethernet (FCoE) and summarise the appropriate response for each.<br>• single misconfiguration or failed standard switch - increased load on remaining switches and possible reduced throughput or storage outage. The standard data network may also be impacted;<br>• TCP/IP misconfiguration - inability for some / all nodes to access storage;<br>• failure of a single network interface controller (NIC) - increased load on remaining NIC on a single node and possible reduced throughput for this node or complete outage if this is the only onboard NIC;<br>• incorrect / invalid logical unit number (LUN) - inability to access logical storage device;<br>• loss of network - total outage. |
| | | Explain causes and consequences of SAN failures over the iSCSI and summarise the appropriate response for each.<br>• single misconfiguration or failed standard switch - increased load on remaining switches and possible reduced throughput or storage outage. Standard data network may also be impacted;<br>• TCP/IP misconfiguration - inability for some / all nodes to access storage;<br>• failure of a single NIC - increased load on remaining NIC on a single node and possible;<br>• reduced throughput for this node or complete outage if this is the only onboard NIC.<br>• incorrect / invalid iSCSI qualified name (IQN) address - inability to access logical storage device. |

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| | | Describe the causes and consequences of cloud storage failures and summarise the appropriate response for each; with a focus on personal and enterprise storage: OneDrive, Dropbox, Google Drive, Amazon EC2 and Microsoft Azure.<br>• router / ISP failure - complete loss of access;<br>• TCP/IP misconfiguration - inability for some / all nodes to access storage;<br>• misconfigured authentication / authorisation - loss of access to some / all cloud storage;<br>• cloud service provider failure - loss of access to data and / or loss of data. |
| | Understand the causes and impacts of hardware failures. | Explain the causes and impact of computer system failures and summarise the appropriate response for each.<br>• memory component failure - individual node crash;<br>• SSD/HDD failure - system crash and possible loss of data;<br>• CPU failure - intermittent system crash or failure to boot on a single node;<br>• power supply - intermittent system crash or failure to boot on a single node;<br>• cooling - intermittent crash or possibly permanent damage to components. |

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| | | Express the causes and impact of network failures and summarise the appropriate response for each.<br>• NIC failure - loss of access from/to one network node;<br>• switch failure - loss of access to LAN or reduction in throughput depending on redundant configuration;<br>• router failure - loss of access to WAN or reduction in throughput depending on redundant configuration;<br>• firewall - loss of access to some/all network nodes / protocols;<br>• web proxy - loss of access to web traffic;<br>• cabling - incorrect cable type (straight through / cross over);<br>• cabling - exceeding recommended lengths and / or EMI;<br>• wireless - exceeding maximum distance and / or EMI or RFI. |
| | Understand the causes and impacts of configuration errors. | Describe the causes and impact of incorrectly applied / faulty patches and summarise the appropriate response for each.<br>• intermittent problems / complete loss of function;<br>• failure to boot OS. |
| | | Explain causes and impact of IP Addressing configuration errors and summarise the appropriate response for each; with a focus on Invalid IP address, netmask, gateway and DNS Server.<br>• loss of access to some / all LAN / WAN / nodes. |
| | | Describe the causes and impact of VLAN configuration errors and summarise the appropriate response for each.<br>• invalid VLAN tagging - loss of access to nodes / lack of necessary network isolation. |
| | Understand the causes and impacts of environment | Explain causes and impact of excessive heat and summarise the appropriate response.<br>• intermittent restarts / complete component failure. |

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| | | Describe causes and impact of a lack of power and summarise the appropriate<br>response.<br>• blackout / brownout;<br>  ○ intermittent problems;<br>  ○ system reboots;<br>  ○ complete loss of systems;<br>  ○ data loss. |
| | | Describe causes and impact of EMI / RFI and summarise the appropriate response.<br>• network interference - loss of some / all data. |
| | Understand the causes and impacts of errors in security. | Describe the causes and impact of backup failure and summarise the appropriate response.<br>• misconfigured backup / restore - loss of some / all data;<br>• corrupted missing / backup medium - loss of some / all data;<br>• fault backup / restore device - loss of some / all data. |
| | | Explain the causes and impact of malware infection and summarise the appropriate response.<br>• lack of user training - loss of some/all data and or reduction in work efficiency;<br>• insufficient anti-malware tools - loss of some / all data and / or reduction in work<br>• efficiency;<br>• poorly configured firewall - loss of some / all data and / or reduction in work efficiency. |
| | | Explain the causes and impact of poor wireless security and summarise the appropriate response.<br>• weak encryption / poor selection of passphrase - loss of some / all data and / or reduction in work efficiency. |

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| | | Explain the causes and impact of a failure to implement physical security.<br>• unauthorised access and / or loss of data and / or reduction in work efficiency. |
| | Understand the causes and impacts of errors resulting from a lack of capacity. | Describe the causes of network latency and summarise the appropriate response.<br>• jitter on time critical services - poor quality VOIP / video conferencing. |
| | | Describe the causes of lack of bandwidth and summarise the appropriate response.<br>• more traffic than network designed to accommodate - loss of some / all network<br>• traffic;<br>• misconfigured network device(s) - loss of some / all network traffic. |
| | | Explain the causes of lack of storage capacity and summarise the appropriate response.<br>• lack of maintenance - storage filled resulting in system slowdown / crash;<br>• neglecting to plan for future storage needs - storage filled resulting in system slowdown / crash;<br>• system failure producing large files - storage filled resulting in system slowdown / crash. |
| | | Explain the causes of lack of memory and summarise the appropriate response.<br>• unexpected demand - system slow and / or crashes;<br>• application memory leaks - system slow and / or crashes;<br>• failure to plan - system slow and / or crashes. |
| | | Describe the causes of lack of compute (CPU) capacity and summarise the appropriate response.<br>• unexpected demand - system slow and / or crashes;<br>• failure to plan - system slow and / or crashes. |

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| | Identify the purpose of network infrastructure components. | Explain the purpose of types of network switches.<br>• layer 2;<br>• layer 3;<br>• three layered model (access, distribution, core);<br>• VLANs. |
| | | Describe the functions of routers.<br>• static routing;<br>• dynamic routing;<br>• subnet access;<br>• WAN access;<br>• segmentation and broadcast traffic reduction. |
| | | Describe the function of wireless systems.<br>• wireless access points (WAP);<br>• wireless routers. |
| | | Describe the functions of key network security devices.<br>• firewalls - stateful, stateless and deep packet inspection;<br>• intrusion prevention systems (IPS);<br>• intrusion detection systems (IDS);<br>• honeypot. |
| | | Explain the differences between server hardware formats.<br>• tower;<br>• rack mount;<br>• blade. |
| | Identify the key features of client-server operating systems and applications. | Describe the typical client operating system features.<br>• designed for end user;<br>• includes a GUI;<br>• accesses resources provided by a server;<br>• user applications are locally installed. |
| | | Explain the typical server operating system features. shares resources to client systems;<br>• stores resources centrally for easy management<br>• may have a GUI and / or CLI. |

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| | | Describe the function of different types of server.<br>• Directory Active Directory / NIS<br>• DNS<br>• web proxy server;<br>• file and print;<br>• email;<br>• database;<br>• virtualisation. |
| | | Explain the key function of business application software.<br>• sales - customer relationship management;<br>• marketing - presentation and communication;<br>• finance - accountancy packages;<br>• HR - employee record management;<br>• technical support – helpdesk;<br>• general – communication;<br>  ○ email;<br>  ○ instant chat;<br>  ○ VOIP;<br>  ○ video conference. |
| | Identify the components and functions of virtualised systems. | Describe the functions of basic components of virtualised systems.<br>• host (type 1 and type 2);<br>• guest;<br>• hardware acceleration extensions (VT-x/AMD-V);<br>• sharing of physical resources;<br>  ○ memory;<br>  ○ storage;<br>  ○ compute (CPU). |
| | | Explain the key differences offered by levels of cloud service.<br>• Infrastructure as a Service (IAAS);<br>• Platform as a Service (PAAS);<br>• Software as a Service (SAAS). |

| | | |
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| | | Describe the function of virtual desktop infrastructure |
| | Identify the key features of middleware. | Explain the key features of middleware.<br>• distribute and coordinate processing across many hardware and application<br>• platforms;<br>• provides a centralised location for ‘business logic’;<br>• provides a framework for the forwarding and queuing of transactions. |

| Qualification Name | Learning outcomes<br>The learner will…. | Assessment Criteria<br>The learner can… |
|---|---|---|
| BCS Level 4 Certificate in Network Security | Understand the types of security threats. | Describe security threats.<br>• virus;<br>• malware;<br>• DDoS attacks;<br>• Trojan;<br>• worm;<br>• spyware;<br>• social engineering;<br>• phishing attacks;<br>• man-in-the-middle<br>• DNS posioning<br>Describe vulnerabilities.<br>• ports;<br>• services;<br>• code. |
| | | Describe vulnerabilities.<br>• ports;<br>• services;<br>• code. |
| | Learn how to mitigate known security threats. | Describe security procedures.<br>• security policy;<br>• securing the perimeter;<br>• physical security;<br>• securing the network;<br>• securing devices;<br>• securing applications;<br>• O/S updates. |

| | | |
|---|---|---|
| | | Describe common ways to protect data.<br>• file and folder permissions;<br>• encryption;<br>• group policy. |
| | | Describe protection against malicious software.<br>• anti-virus;<br>• anti-malware. |
| | | Describe types of firewalls.<br>• packet filter;<br>• stateful;<br>• application level;<br>• intrusion detection systems;<br>• intrusion prevention systems. |

## 5. Assessment

### 5.1 Summary of assessment methods

The qualification is assessed in controlled exam conditions using a one-hour multiple-choice examination consisting of 40 questions.

The exams are externally marked.

### 5.2 Availability of assessments

To be able to offer BCS Qualifications you need to become a BCS Approved Training Provider.

All staff members who are involved in the management, invigilation and training must be registered with BCS. Suitably qualified individuals may be registered for more than one role. At least two members of staff must be registered with BCS in one of the roles in order for the Training Provider to retain Training Provider approval.

### 5.3 Grading

The exam has a pass mark of 65%.

Please note: Whilst BCS would not normally want to make changes to either grade thresholds or grading algorithms there is potential for them to change in order to maintain standards.

### 5.4 Externally assessed units

External tests from BCS come in the form of automated tests. The tests offer instant results to the learner.

### 5.5 Specimen assessment materials

A sample test is available on the BCS Website.

### 5.6 Support materials

BCS provides the following resources specifically for these qualifications:

| Description | How to access |
|---|---|
| Syllabus | Available on website |
| Sample tests | Available on website |

### 5.7 Access to Assessment

BCS seeks to provide equal Access to Assessment for all learners, ensuring that there are no unnecessary barriers to assessment and that

any reasonable adjustments for learners preserve the validity, reliability and integrity of the qualification.

We will consider requests from BCS approved Training Providers for reasonable adjustments and special considerations to be approved for a learner. The decision will be based on the individual needs of the learner as assessed by suitably qualified professionals. In promoting this policy, BCS aims to ensure that a learner is not disadvantaged in relation to other learners and their certificate accurately reflects their attainment.

## 6. Contact Points

BCS Customer Services is committed to providing you with professional service and support at all times through a single, dedicated point of contact. With a flexible and proactive approach, our team will work together with you to ensure we deliver quality solutions that are right for you.

BCS, The Chartered Institute for IT
3 Newbridge Square,
Swindon,
SN1 1BY

T: +44 (0) 1793 417 424
W: www.bcs.org/qualifications

If you require this document in accessible format please call +44 (0) 1793 417 424