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Qualification Specification for the Knowledge Modules that form part of the BCS Level 4 Unified Communications Trouble Shooter Apprenticeship

BCS Level 4 Award in Server
BCS Level 4 Award in Security Principles
BCS Level 4 Certificate in Network Services
BCS Level 4 Award in Voice and Data Solutions

Version 2.0
August 2020

Making IT good for society

BCS Level 4 Unified Communications Trouble Shooter Qualification Specification

Contents

Change History

Any changes made to the qualification specification shall be clearly documented with a change history log. This shall include the latest version number, date of the amendment and changes made. The purpose is to identify quickly what changes have been made.

Version Number	Changes Made
V1.0 July 2018	Document created.
V1.1 February 2019	External links updated.
V1.2 December 2019	Statement added to Grading section 5.3
V2.0 August 2020	Address updated

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 Award in Server	**603/3254/2**	**01/06/2018**
BCS Level 4 Award in Security Principles	**603/3255/4**	**01/06/2018**
BCS Level 4 Certificate in Network Services	**603/3256/6**	**01/06/2018**
BCS Level 4 Award in Voice and Data Solutions	**603/3257/8**	**01/06/2018**

The four 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.

An apprentice needs to have passed the four knowledge module qualifications (mentioned in the above table) before being able to move on to the End Point Assessment to complete their apprenticeship.

Please note an apprentice can be exempt from sitting one of the above knowledge module qualifications by passing one of the approved vendor or professional qualifications located in the Occupation Brief instead.

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 Unified Communications Trouble Shooter Digital IT Apprenticeship, to provide them with the technical knowledge and understanding they require for their role detailed below:

The primary responsibility of a Unified Communications Trouble Shooter is to provide customers (internal or external) with a specialist technical service to set them up on unified communications systems and to resolve problems when they arise. This service can be delivered face-to-face, on the 'phone or online. They are required to install equipment and software and handle incidents and requests for help, including providing fault diagnostic across a broad range of unified communications technologies in accordance with business service level agreements.

3.3 Structure of the qualifications

This document covers the following qualifications which are used towards the Level 4 Unified Communications Trouble Shooter 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 Award in Server
2. BCS Level 4 Award in Security Principles
3. BCS Level 4 Certificate in Network Services
4. BCS Level 4 Award in Voice and Data Solutions

Qualification Level 4 Descriptor	
Knowledge descriptor (the holder…)	The apprentice will: • Understands server administration principles including storage, print services, group policy, availability, load balancing, failover clustering, back-up and disaster recovery. • Understands the server and client architecture, features, deployment process and troubleshooting tools for client software and applications. • Understands security principles including software, access such as VPN, encryption and auditing. • Understands network fundamentals including network components and internet protocols. • Understands network services solutions including cloud services, SIP (Session Initiation Protocol), internet connectivity, mobility, fixed lines and hosted solutions. • Understands domain services including administration, user and service accounts and group policy. • Understands voice solutions and can identify the components of such a solution, the features, the deployment process and troubleshooting tools and techniques. • Understands data solutions (LAN/WAN/WLAN), the differences between the different technologies and how the components form part of a solution.
Skills descriptor (the holder should have…)	Apprentices will develop skills and be able to demonstrate: • Logical and creative thinking skills. • Analytical and problem-solving skills. • Ability to work independently and take responsibility. • Use of own initiative. • A thorough and organized 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 Unified Communications Trouble Shooter 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 Unified Communications Trouble Shooter 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 Award in Server	99h (68h + 30h + 1h)
BCS Level 4 Award in Security Principles	83h (52.5h + 30h + 0.5h)
BCS Level 4 Certificate in Network Services	137h (75h + 61h + 1h)
BCS Level 4 Award in Voice and Data Solutions	82h (45h + 36h + 1h)

4.2 Learning outcomes and assessment criteria

Qualification Name	Learning outcomes The learner will….	Assessment Criteria The learner can…

BCS Level 4 Award in Server	Describe and explain server administration principles including storage, print services, group policy, availability, load balancing, failover clustering, back-up and disaster recovery.	Describe how to administer and manage a server.
		• installation;
		• maintenance;
		• monitoring;
		• configuration;
		• base lines;
		• policies;
		• NTFS permissions;
		• security;
		  ○ HTTPS;
		  ○ BitLocker;
		  ○ certificates;
		UEFI / secure boot.

		Explain domain services. • Active Directory; • DNS; • domain names; • DHCP; • print server; • remote desktop services; • Group Policy.
		Explain internet protocols. • TCP/IP; • IPV4; • IPV6.

Qualification Name	Learning outcomes The learner will….	Assessment Criteria The learner can…
		Describe and explain host configuration, data storage and load balancing. • storage area network (SAN); • redundant array of independent disks (RAID); • network-attached storage (NAS); • direct-attached storage (DAS).

		Identify types of systems failures and their consequences.
		• load balancing failures;
		  ○ misconfiguration - loss of connection to one / some nodes increasing load on remaining nodes;
		  ○ misconfiguration – loss of connection to all nodes;
		  ○ single / multiple node failures - intermittent connection;
		  ○ all nodes fail - complete outage;
		• storage protocol failures;
		  ○ hardware failure - loss of access to local disk(s) and / or corruption of data;
		  ○ loss of single / multiple disks - reduced throughput / loss of data depending on RAID level and number of disk failures;
		  ○ loss of RAID controller - permanent / temporary loss of access to data.
		  ○ misconfigured firewall or protocols (NFS, SMB, TCP/IP, AFS) - complete loss of access to NAS;
		  ○ misconfigured NFS - loss of access for Linux / NAS network shares;
		  ○ misconfigured SMB - loss of access to Windows network shares;
		  ○ misconfigured authentication and/or authorisation - loss of access to some / all NAS / network shares;
		  ○ loss of all Fibre switches - complete loss of access to storage, the standard data network is unaffected;
		  ○ TCP/IP misconfiguration - inability for some / all nodes to access storage;
		  ○ 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;
		  ○ incorrect / invalid logical unit number (LUN) - inability to access logical storage device;
		• hardware failures;
		  ○ memory component failure - individual node crash;
		  ○ SSD/HDD failure - system crash and possible loss of data;

Qualification Name	Learning outcomes The learner will….	Assessment Criteria The learner can…
		○ CPU failure - intermittent system crash or failure to boot on a single node; ○ power supply - intermittent system crash or failure to boot on a single node; ○ cooling - intermittent crash or possibly permanent damage to components; ○ NIC failure - loss of access from / to one network node; ○ switch failure - loss of access to LAN or reduction in throughput depending on redundant configuration; ○ router failure - loss of access to WAN or reduction in throughput depending on redundant configuration; ○ firewall - loss of access to some / all network nodes / protocols; ○ web proxy - loss of access to web traffic; ○ wireless - exceeding maximum distance and / or EMI or RFI.
	Understand the server and client architecture, features, deployment process and troubleshooting tools for client software and applications.	Identify troubleshooting tools and explain in which circumstance they are to be used. • U-Boot tests; • Pc-Check diagnostic tests; • route utility; • netstat; • nslookup; • ping; • ipconfig; • traceroute; • chkdsk. Note: Awareness of built in tools for specific software, hardware and applications.

Qualification Name	Learning outcomes The learner will….	Assessment Criteria The learner can…
		Describe server and client requirements within the architecture of a network. • client; • server; • LAN; • WAN; • wireless.
		Recognise and explain the architecture required to implement IT systems to meet a business needs. • servers; • network; • switch; • router; • internet; • clients; • firewall; • WiFi; • VPN.
BCS Level 4 Award in Security Principles	Describe and explain security principles including software, access (such as VPN), encryption and auditing.	Describe and explain the different platforms and operating systems. • Linux; • Google Android; • iOS; • macOS; • Microsoft Windows.

Qualification Name	Learning outcomes The learner will….	Assessment Criteria The learner can…

		Recognise secure communications interfaces.
		• virtual private network (VPN);
		• short messaging service (SMS);
		  ○ characteristics;
		  ○ limitations;
		• VoIP;
		• 4G;
		• wireless.

		Describe and explain encryption and auditing principles. • authentication; • authorization; • encryption; • auditing; • cryptography.
		Identify the appropriate tools to rectify known security threats. • virus; • worm; • Trojan horse; • spyware; • adware; • ransomware; • logic bomb; • rootkits; • botnets; • spoofing; • social engineering; • privilege escalation.

Qualification Name	Learning outcomes The learner will….	Assessment Criteria The learner can…
		Identify how to prevent future threats from known security threats. • personal; • physical.
		Describe the components of a network.

Qualification Name	Learning outcomes The learner will….	Assessment Criteria The learner can…
		Desribe all seven layers and representative protocols at each layer within the OSI model. • The Physical layer; - Electrical - Optical - Wireless • The Data link layer; - Purpose of the data link layer; - Data format; - Description of the Ethernet frame; • The Network layer; - Purpose of the Network Layer; - Internet Protocol; • The Transport layer; - Purpose of transport layer; - Transport layer protocols (TCP and UDP); • The Session layer; - Purpose of the session layer; • The Presentation layer; - Purpose of the presentation layer; • The Application layer; - Purpose of the Application layer

Qualification Name	Learning outcomes The learner will….	Assessment Criteria The learner can…
		Explain the role of protocols in facilitating interoperability in network communications. • RIPv1; • RIPv2; • OSPF; • EIGRP; • RIPng; • OSPFV3; • EIGRP for IPv6.
		Explain different numbering systems. • binary; • decimal; • 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 noise to signal ratios.

Qualification Name	Learning outcomes The learner will….	Assessment Criteria The learner can…
		Recall the maximum rated segment lengths for a range of cable types, including legacy cables. • 10Base2; • 10Base5; • 10BaseT; • 100Base-TX; • 1000Base-T; • 10GBase-T; • 100Base-FX; • 1000Base-LX (single-mode); • 1000Base-LX (multi-mode); • 1000Base-SX; • 10GBase-SR; • 40GBase-SR4; • 100GBase-SR10.
		Recall the maximum rated indoor transmission distances for a range of wireless protocols. • IEEE 802.11a; • IEEE 802.11b; • IEEE 802.11g; • IEEE 802.11n; • IEEE 802.11ac.

Qualification Name	Learning outcomes The learner will….	Assessment Criteria The learner can…

	Describe and explain network service solutions.	Explain the purpose of:
		• operating system – software used to manage the basic functions of a computer;
		• applications – software designed to provide a specific task normally for end users;
		• databases – used to storage and rapid retrieval of information;
		• servers – provide systems resources that other computers can access;
		  ○ Active Directory;
		  ○ DNS;
		  ○ web proxy server;
		  ○ file and print;
		  ○ email;
		  ○ database;
		  ○ virtualisation;
		  ▪ scalability – the ability to add capacity for expansion;
		  ▪ scalability – fault tolerance by implementing clustering;
		• networking - provide managed communication links between computers;
		• security – maintaining the integrity of systems and data.

		Explain the purpose of cloud-based services. • Infrastructure as a Service (IaaS); • Platform as a Service (PaaS); • Software as a Service (SaaS).

Qualification Name	Learning outcomes The learner will….	Assessment Criteria The learner can…

		Identify the purpose of types of data communication platforms used in networking.
		• video;
		  ○ typically requires more bandwidth than voice or data;
		  ○ individual packets can be lost and communication still works but at reduced quality;
		  ○ impacted by jitter;
		• voice;
		  ○ typically requires greater bandwidth than data less than video;
		  ○ individual packets can be lost and communication still works but at reduced quality;
		  ○ impacted by jitter;
		• data;
		  ○ typically requires less bandwidth than video or voice;
		  ○ typically, a whole message must be received for the file to be uncorrupted.

		Describe SIP user agents – the network elements that use SIP. • user agent; • proxy server; • registrar; • redirect server; • session border controller; • gateway.

Qualification Name	Learning outcomes The learner will….	Assessment Criteria The learner can…
		Describe protocols related to SIP. • SDP; • UDP; • TCP; • SCTP; • RTP; • SRTP; • TLS.
		Demonstrate the ability to capture and record SIP traffic using a suitable packet analysis tool.
	Describe and explain domain services including administration, user and service accounts, and group policy	Describe tools used to administer domain services. • Active Directory Domain Services (AD DS); • Active Directory Lightweight Domain Services (AD LDS); • Remote Server Administration Tools (RSAT) for locally managed domains; • Remote Server Administration Tools (RSAT) for Azure Active Directory Domain Services (AAD DS) managed domain; • Third party domain services management tools; • HP CloudSystem Matrix; • SolarWinds Server and Application Monitor; • IBM Cloud tools; • Amazon Web Services (AWS) cloud management tools.

Qualification Name	Learning outcomes The learner will….	Assessment Criteria The learner can…

		Explain the purpose of a DNS server.
		• name resolution;
		• storage of network records;
		  ○ A and AAAA;
		  ○ CNAME;
		  ○ PTR;
		  ○ MX;
		  ○ SOA.

		Describe how to configure and support networks by editing key settings.
		• IP address / netmask / default gateway;
		• primary and secondary DNS;
		• firewall;
		  ○ enabling / disabling the entire firewall;
		  ○ enabling / disabling ports;
		  ▪ dhcp;
		  ▪ dns;
		  ▪ ftp;
		  ▪ http;
		  ▪ https;
		  ▪ imap;
		  ▪ pop3;
		  ▪ RDP;
		  ▪ smtp;
		  ▪ ssh;
		  ▪ telnet;
		  ○ restricting internet access to specific applications.

Qualification Name	Learning outcomes The learner will….	Assessment Criteria The learner can…
		Describe the key purposes of domain controllers. • centralise the management of directory services; • centralise the management of security policies.

		Explain the main configuration tools, what their functions are and how they are used to maintain security.
		• personal firewall;
		• perimeter firewall;
		• directory services (Active Directory);
		  ○ users;
		  ○ groups;
		• policies (group policy);
		  ○ password policies;
		  ○ hardware restrictions;
		  ○ application and utility restrictions;
		  ○ remediation.

		Describe the purpose of creating and managing users and computer records within Active Directory. • users – centralised management of user access to organisational network; • computers – centralised management of which computer can access a domain and domain resources.
		Describe how to create, update and delete within Active Directory. • organisational unit (OU); • users; • computers.

Qualification Name	Learning outcomes The learner will….	Assessment Criteria The learner can…
BCS Level 4 Award in Voice and Data Solutions	Recognise voice solutions and describe their features.	Describe the purpose of different voice solutions. • PSTN / POTS; • PABX; • IP PBX; • VOIP; • Online conferencing.

		Describe features of voice solutions.
		• common;
		  ○ voice and data;
		  ○ caller display;
		  ○ call divert;
		  ○ voicemail;
		• PABX and IP PBX;
		  ○ group pickup;
		  ○ conference calls;
		  ○ hunt groups;
		• VOIP;
		  ○ softphones;
		  ▪ find me / follow me call routing to a list of different destinations;
		  ○ email system integration;
		  ○ voice to email or SMS transcription;
		  ○ bandwidth utilization and inbound / outbound call detail reports;
		  ○ smart forwarding;
		  ○ virtual receptionist.

Qualification Name	Learning outcomes The learner will….	Assessment Criteria The learner can…

		Describe common terminology and components of VOIP solutions.
		• frontend server;
		  ○ translation service;
		  ▪ E.164 format for dial strings;
		  ○ inbound routing;
		  ○ outbound routing;
		  ○ intercluster routing;
		  ○ user services;
		  ○ user replicator;
		  ○ address book.
		• trunks;
		  ○ mediation servers;
		  ○ PSTN gateway;
		  ○ IP-PBXs;
		  ○ session border controllers (SBCs);
		• least cost routing.

		Describe PSTN records.
		• description of a PSTN record (list of permissions placed on the call);
		• associations to PSTN records that are needed;
		  ○ voice policies (assigned to users);
		  ○ routes (assigned to 'phone numbers).

		Describe how VOIP solutions comply with section 48(1) of the Communications Act 2003 modifying General Condition 4 (Access to Emergency Services) by routing all calls to 999 and 112 numbers to the emergency services.

Qualification Name	Learning outcomes The learner will….	Assessment Criteria The learner can…

		Define quality of service (QoS) and the related factors that can contribute to QoS.
		• network traffic prioritisation rules;
		  ○ Differentiated Services Code Point (DSCP);
		  ○ IP Precedence;
		• congestion management methods;
		  ○ queuing (FIFO);
		  ○ priority queuing (PQ);
		  ○ custom queuing (CQ);
		  ○ weighted fair queuing (WFQ);
		  ○ class-based weighted fair queuing (CBWFQ);
		  ○ low latency queuing (LLQ);
		• bandwidth availability;
		• low throughput;
		• dropped packets;
		• errors;
		• latency;
		• jitter;
		• out-of-order delivery.

		Demonstrate how QoS logs relating to voice and data solutions are reviewed.

Qualification Name	Learning outcomes The learner will….	Assessment Criteria The learner can…

		Describe how different client symptoms can assist with the troubleshooting of VOIP outage (or reduces QoS) issues.
		• loss of incoming calls;
		  o loss of power;
		  o loss of internet connectivity;
		  o firewall related issues;
		• internet access but no dial tone;
		  o infrastructure issues;
		  o interference from another device;
		• 'choppy' audio;
		  o bandwidth issues.
		• echo;
		  o physical issues;
		  o poor quality cabling;
		  o interference from another device;
		• only able to access a limited set of destinations;
		  o routing or firewall issues;
		• static or similar noise on the line;
		  o electrical voltage being added into the lines by an alarm system, separate caller ID or faulty wiring;
		  o wireless interference;
		  o weak signals due to environment or distance from WAP.

	Understand how to configure Domain Name Servers (DNS).	Explain the purpose of name resolution.
		• domain names;
		  o domain name resolution;
		  o requirements of DNS servers;
		  o host name resolution (7 step sequence);
		  o NetBIOS name resolution (6 step sequence).

Qualification Name	Learning outcomes The learner will….	Assessment Criteria The learner can…
		Describe the purpose of the following DNS record types. • start of authority (SOA); • name servers (NS); • host (A and AAAA); • Pointer (PTR); • Canonical Name (CNAME) or Alias; • mail exchanger (MX) record.
		Describe different types of DNS zones, characteristics, features and benefits. • primary DNS zone; • secondary DNS zone; • stub zones; • Active Directory integrated DNS zone; • forward lookup zones; • reverse lookup zones.

Qualification Name	Learning outcomes The learner will….	Assessment Criteria The learner can…

	Describe and explain data solutions.	Describe different server roles found as part of a client-server architecture.
		• domain server - authenticates and authorises access to domain resources by users and computers;
		• name servers;
		  o DNS;
		  o WINS;
		• DHCP server – provides dynamic allocation of IP addresses;
		• file server – provides a network-based data storage location;
		• print server – manages network linked print devices;
		• communications server - handles common communication functions for the network;
		  o email;
		  o fax;
		  o remote access;
		  o firewalls;
		  o internet services;
		• application server – provides access to network-enabled versions of application software;
		• database server - provides network access to a database, handling data storage, manipulation and management.

Qualification Name	Learning outcomes The learner will….	Assessment Criteria The learner can…

		Describe how to configure and support networks by editing key device settings related to VOIP.
		• DNS;
		  ○ SRV records for SIP;
		• firewall;
		  ○ enabling / disabling the entire firewall;
		  ○ enabling / disabling ports;
		  ▪ SIP ports 5060/61 (TCP/UDP);
		  ▪ RTP orts 16384 - 32767 (UDP);
		• enabling internet access to specific applications.

		Describe the differences between sites, domains and organisational units, and relate them to the geographical differences between LAN, WAN and MAN.
		Explain how Windows Servers use Active Directory sites for: • routing replication; • client affinity; • SYSVOL replication; • location of services.
		Explain the role of protocols in facilitating interoperability in network communications. • RIPv1; • RIPv2; • OSPF; • EIGRP; • RIPng; • OSPFV3; • EIGRP for IPv6.
		Define what is meant by a reliable route.

Qualification Name	Learning outcomes The learner will….	Assessment Criteria The learner can…

		Explain what an algorithm is and give examples of their use in computer networking.
		• DUAL.
		  ○ which routing protocol uses it.
		  ○ how it determines the correct path.
		• Dijkstra.
		  ○ which routing protocol uses it.
		  ○ how it determines the correct path.

		Describe the capabilities of conferencing systems. • voice; • video; • shared presentations; • instant messaging (IM) • share of delegate screen; • voting / polling systems; • voice to text transcription; • text to voice transcription; • recording, archive and sharing of meetings.

5 Assessment

5.1 Summary of assessment methods

The qualification is assessed in controlled exam conditions.

The following modules are assessed using a one-hour multiple-choice examination consisting of 40 questions:

- BCS Level 4 Award in Server
- BCS Level 4 Certificate in Network Services
- BCS Level 4 Award in Voice and Data Solutions

The following module is assessed using a 30-minute multiple-choice examination consisting of 20 questions:

- BCS Level 4 Award in Security Principles

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 exams have 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 specimen 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
Specimen 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 Qualifications Client 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.

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