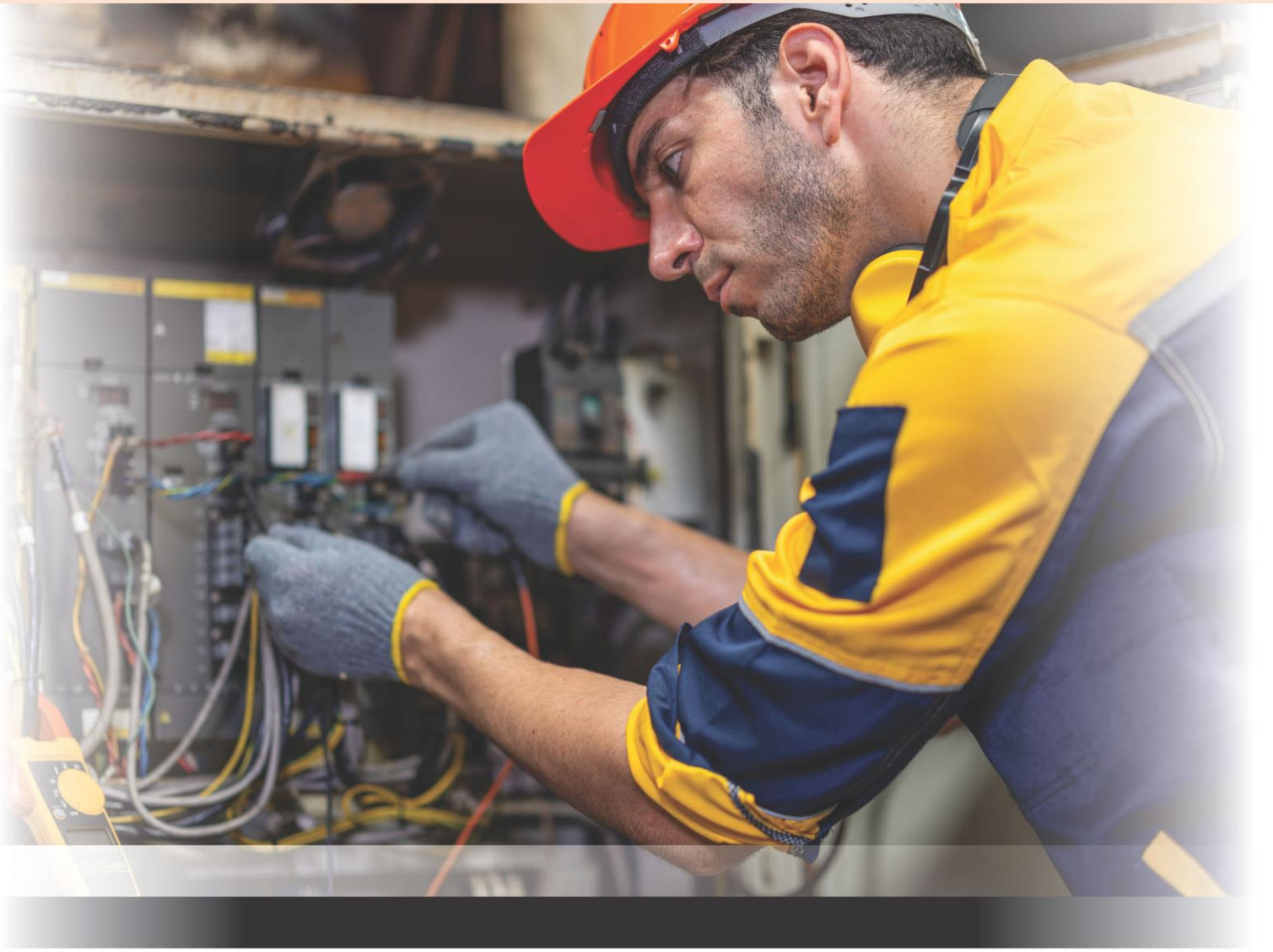
Highfield Level 3 End-Point Assessment for ST0973 Information Communications Technician

End-Point Assessment Kit



Pathway: Support Technician

Highfield Level 3 End-Point Assessment for ST0973 Information Communications Technician

EPA Kit

Contents

Please click on the headings below to navigate to the associated section of the EPA Kit.

Introduction 4

The Highfield approach 8

Gateway 9

The Information Communications Technician apprenticeship standard 11

Assessment summary 25

Assessing the professional discussion underpinned by portfolio 28

Assessing the project report with questioning 34

Versions:

ST0973 / v1.1

ICT ST v1.3

How to use this EPA Kit

Welcome to the Highfield End-Point Assessment Kit for the Information Communications Technician apprenticeship standard.

Highfield is an independent end-point assessment organisation that has been approved to offer and carry out the independent end-point assessments for the Level 3 Information Communications Technician apprenticeship standard. Highfield internally quality assures all end-point assessments in accordance with its IQA process, and additionally all end-point assessments are externally quality assured by the relevant EQA organisation.

The EPA Kit is designed to outline all you need to know about the end-point assessments for this standard and will also provide an overview of the on-programme delivery requirements. In addition, advice and guidance for trainers on how to prepare apprentices for the end-point assessment is included. The approaches suggested are not the only way in which an apprentice may be prepared for their assessments, but trainers may find them helpful as a starting point.

In this kit, you will find:

- an overview of the standard and any on-programme requirements
- a section focused on delivery, where the standard and assessment criteria are presented in a suggested format that is suitable for delivery
- guidance on how to prepare the apprentice for gateway
- detailed information on which part of the standard is assessed by which assessment method
- suggestions on how to prepare the apprentice for each part of the end-point assessment
- a section focused on the end-point assessment method where the assessment criteria are presented in a format suitable for carrying out 'mock' assessments

Introduction

Standard overview

The broad purpose of the ICT occupation is to deliver efficient operation and control of the IT and/or Telecommunications infrastructure (comprising physical or virtual hardware, software, network services and data storage) either on-premises or to end-users provisioned as cloud services that is required to deliver and support the information systems needs of an organisation.

The occupation includes contributing to the preparation for new or changed services; operation of the change process; the maintenance of regulatory, legal and professional standards; the building and management of systems and components in virtualised and cloud computing environments; and the monitoring of performance of systems and services in relation to their contribution to business performance, their security and their sustainability.

An information communications technician (ICT) provides support to internal and/or external customers, by using tools or systems to problem solve and trouble-shoot routine and non-routine problems. This occupation supports clients and customers with their systems. They achieve this through monitoring and maintaining the systems and/or platforms to maximise productivity and user experience.

The work of an information communications technician involves undertaking a vast array of specialist roles supporting business critical requirements and focus on customer solutions. Networking, server, IT essentials, secure communications, programming and databases are just an example of typical tasks and projects undertaken within the likely areas of employment.

An employee in this occupation will be responsible for prioritising systems, support tasks as they arise and for monitoring and maintaining system performance. They may work alone or as part of a team but will escalate problems in line with their organisation's policies and service level agreements.

The support technician role is desk-based, resolving system user queries and resolving faults in a helpdesk environment.

On-programme requirements

Although learning, development and on-programme assessment is flexible, and the process is not prescribed, the following is the recommended baseline expectation for an apprentice to achieve full competence in line with the Information Communications Technician apprenticeship standard.

The on-programme assessment approach will be agreed between the training provider and employer. The assessment will give an ongoing indication of an apprentice's performance against the final outcomes defined in the standard. The training provider will

need to prepare the apprentice for the end-point assessment, including preparation for the professional discussion and collation of the portfolio (such as a provision of recordings of professional discussions or workplace evidence).

The training programme leading to end-point assessment should cover the breadth and depth of the standard using suggested on-programme assessment methods that integrate the knowledge, skills and behaviour components, and which ensure that the apprentice is sufficiently prepared to undertake the end-point assessment. Training, development and ongoing review activities should include:

- achievement of level 2 English and maths. If the apprentice began their apprenticeship training before their 19th birthday, they will still be subject to the mandatory requirement to study towards and achieve English and maths. The requirements for English and maths are optional for apprentices aged 19+ at the start of their apprenticeship training.
- any qualifications specified by the employer.
- completion of a portfolio through which the apprentice gathers evidence of their progress.

At these reviews, evidence should be discussed and recorded by the apprentice. The maintenance of an on-programme record is important to support the apprentice, on-programme assessor and employer in monitoring the progress of learning and development. This will determine when the apprentice has achieved full competence in their job role and is therefore ready for end-point assessment.

Portfolio of evidence

The apprentice must compile a portfolio of evidence during their time on-programme that is mapped against the knowledge, skills and behaviours assessed in the professional discussion underpinned by portfolio.

It will typically contain **5 discrete pieces of evidence**. Evidence may be used to demonstrate more than **1 knowledge, skill or behaviour** as a qualitative approach is suggested as opposed to a quantitative approach.

Evidence sources for the portfolio may include:

- workplace documentation, for example, workplace policies/procedures, and records
- witness statements
- annotated photographs
- video clips (maximum total duration 10 minutes) and the apprentice must be in view and identifiable at all times

This is not a definitive list and other evidence sources are possible. Given the breadth of context and roles in which this occupation works, the apprentice will select the most appropriate evidence based on the context of their practice against the relevant knowledge, skills and behaviours.

The portfolio should **not** include any methods of self-assessment. Any employer contributions should focus on direct observation of performance (for example, witness statements) rather than opinions.

The portfolio **must** be accompanied by a Portfolio Matrix. This can be downloaded from our website. The Portfolio Matrix must be fully completed, including a declaration by the employer and the apprentice to confirm that the portfolio is valid and attributable to the apprentice.

The portfolio of evidence **must** be submitted to Highfield at gateway. It is **not** directly assessed but underpins the professional discussion.

Use of artificial intelligence (AI) in the EPA

Where AI has been used as part of the apprentice's day-to-day work and forms part of a project report, presentation or artefact, it should be referenced as such within the work. AI must not be used to produce the report or portfolio.

Where AI has been used as part of a portfolio that underpins an interview or professional discussion or any other assessment method, it should be fully referenced within the portfolio.

Readiness for end-point assessment

For an apprentice to be ready for the end-point assessments:

- the apprentice must have achieved level 2 English and maths. The requirements for English and maths are mandatory for all apprentices aged between 16-18 at the start of their apprenticeship training. The requirements for English and maths are optional for apprentices aged 19+ at the start of their apprenticeship training.
- the apprentice must have gathered a **portfolio of evidence** against the required elements to be put forward to be used as the basis for the professional discussion.
- the line manager (employer) must be confident that the apprentice has developed all the knowledge, skills and behaviours defined in the apprenticeship standard and that the apprentice is competent in performing their role. To ensure this, the apprentice must attend a formal meeting with their employer to complete the Gateway Readiness Report.
- the apprentice and the employer should then engage with Highfield to agree a plan and schedule for each assessment activity to ensure all components can be completed within a typical 4-month end-assessment window. Further information about the gateway process is covered later in this kit.

If you have any queries regarding the gateway requirements, please contact your EPA customer engagement manager at Highfield Assessment.

Order of end-point assessments

There is no stipulated order of assessment methods. This will be discussed with the apprentice, training provider and/or employer with our scheduling team when scheduling the assessments to ensure that the learner is provided with the best opportunity to attempt the assessment.

Click here to return to contents

The Highfield approach

This section describes the approach Highfield has adopted in the development of this end-point assessment in terms of its interpretation of the requirements of the end-point assessment plan and other relevant documents.

Documents used in developing this end-point assessment

Standard (2023)
https://skillsengland.education.gov.uk/apprenticeships/st0973-v1-1

End-point assessment plan (ST0973/v1.1)
https://skillsengland.education.gov.uk/media/uvdpailj/st0973_information-communication-technician_l3_ap-for-publication_24523.pdf

Specific considerations

Highfield's approach does not deviate from the assessment plan.

Click here to return to contents

Gateway

How to prepare for gateway

After apprentices have completed their on-programme learning, they should be ready to pass through 'gateway' to their end-point assessment.

Gateway is a meeting that should be arranged between the apprentice, their employer and training provider to determine that the apprentice is ready to undertake their end-point assessment. The apprentice should prepare for this meeting by bringing along work-based evidence, including:

- customer feedback
- recordings
- manager statements
- witness statements

As well as evidence from others, such as:

- mid and end-of-year performance reviews
- feedback to show how they have met the apprenticeship standards while on-programme

In advance of gateway, apprentices will need to have completed the following. The requirements for English and maths listed below are mandatory for all apprentices aged between 16-18 at the start of their apprenticeship training. The requirements for English and maths listed below are optional for apprentices aged 19+ at the start of their apprenticeship training.

- Achieved level 2 English
- Achieved level 2 maths
- Submitted a suitable portfolio of evidence to be used as the basis for the professional discussion (see the Portfolio Matrix)

Therefore, apprentices should be advised by employers and providers to gather this evidence and undertake these qualifications during their on-programme training. It is recommended that employers and providers complete regular checks and reviews of this evidence to ensure the apprentice is progressing and achieving the standards before the formal gateway meeting is arranged.

The gateway meeting

The gateway meeting should last around an hour and must be completed on or after the apprenticeship on-programme end date. It should be attended by the apprentice and the relevant people who have worked with the apprentice on-programme, such as the line manager/employer or mentor, the on-programme trainer/training provider and/or a senior manager (as appropriate to the business).

During the meeting, the apprentice, employer and training provider will discuss the apprentice's progress to date and confirm if the apprentice has met the full criteria of the apprenticeship standard during their on-programme training. The **Gateway Readiness Report** should be used to log the outcomes of the meeting and agreed by all 3 parties. This report is available to download from the Highfield Assessment website.

The report should then be submitted to Highfield to initiate the end-point assessment process. If you require any support completing the Gateway Readiness Report, please contact your EPA customer engagement manager at Highfield Assessment.

Please note: a copy of the standard should be available to all attendees during the gateway meeting.

Reasonable adjustments and special considerations
Highfield Assessment has measures in place for apprentices who require additional support. Please refer to the Highfield Assessment Reasonable Adjustments policy for further information/guidance.

ID requirements
Highfield Assessment will need to ensure that the person undertaking an assessment is indeed the person they are claiming to be. All employers are, therefore, required to ensure that each apprentice has their identification with them on the day of the assessment so the end-point assessor can check.

Highfield Assessment will accept the following as proof of an apprentice's identity:

- a valid passport (any nationality)
- a signed UK photocard driving licence
- a valid warrant card issued by HM forces or the police
- another photographic ID card, such as an employee ID card or travel card

Click here to return to contents

The Information Communications Technician apprenticeship standard

Below are the knowledge, skills and behaviours (KSBs) from the standard and related assessment criteria from the assessment plan. On-programme learning will be based upon the KSBs and the associated assessment criteria are used to assess and grade the apprentice within each assessment method.

Professional discussion underpinned by portfolio Core		
Knowledge	**Skills**	**Behaviours**
K1 Approaches to **back up and storage solutions**. **K2** Basic elements of **technical documentation** and its interpretation. **K3 Principles of root cause problem solving** using fault diagnostics for troubleshooting. **K4** Principles of basic **network addressing** for example **binary**. **K5** Basic awareness of the principles of cloud and **cloud-based services**. **K6** Fundamental principles of **virtual networks** and components. **K7 Principles of cultural awareness and how diversity impacts on delivery of support tasks**.	**S1 Interpret and prioritise** internal or external customer's requirements in line with organisation's policy. **S2** Apply the **appropriate tools and techniques to undertake fault finding and rectification**. **S3 Apply Continuous Professional Development** to support necessary business output and technical developments. **S4 Operate safely and securely** across platforms and responsibilities. **S5** Communicate with all levels of **stakeholders**, keeping them informed of progress and managing escalation. **S6 Develop and maintain effective working relationships** with colleagues, customers and other relevant stakeholders.	**B1 Works professionally**, taking initiative as appropriate. **B2 Communicates technical and non-technical information in a variety of situations** to support effective working with internal or external stakeholders. **B3** Demonstrates a **productive and organised approach** to their work. **B4** Self-motivated, for example **takes responsibility** to complete the job.

K8 Methods of communication including level of technical terminology to use to technical and non-technical stakeholders. **K9** Different types of maintenance and **preventative measures** to reduce the incidence of faults. **K10** Key principles of **security** including the role of People, Product and Process in secure systems for example access and encryption requirements. **K11** Fundamentals of **physical networks** and components. **K13** A basic awareness of legislation in relation to disposal of waste materials for example **Waste Electronic and Electrical regulations.**	**S7 Manage and prioritise the allocated workload effectively** making best use of time and resources. **S8 Complete documentation** relevant to the task and escalate where appropriate.	

Pass criteria	Distinction criteria
PD1 Explains the principles of system backup/storage. (K1) **PD2** Describes basic elements of **technical documentation**, its interpretation, completion and importance in escalation as appropriate. (K2, S8) **PD3** Identifies and applies the **principles of root cause problem solving** using fault diagnostic tools and techniques for troubleshooting and rectification. (K3, S2) **PD4** Outlines the principles of basic **network addressing** for example: **binary**. (K4)	***PD18*** *Reviews the success of root cause problem solving where they have applied fault diagnostics for troubleshooting'. (K3)* ***PD19*** *Evaluates the impact of People, Product and Process on secure systems within their 'organisation'. (K10)* ***PD20*** *Critically analyses their use of tools and techniques to undertake tasks such as installation, maintenance or fault rectification. (S2)*

PD5 Describes the key principles of cloud and **cloud-based services**. (K5) **PD6** Analyses the fundamentals and principles of networks and components. (K6, K11) **PD7** Explains how they **interpret and prioritise** internal or external customer's requirements in line with organisation's policy. (S1) **PD8** Outlines the **principles of cultural awareness** and describes how diversity impacts on delivery of support tasks. (K7) **PD9** Describes how they apply principles of **Continuous Professional Development** to support their contribution to delivery of necessary business output and technical developments. (S3) **PD10** Identifies and applies **methods of communication** with **stakeholders**, selecting technical and/or nontechnical language in reflection of the audience to inform progress and escalation and **develop and maintain effective working relationships** with them. (K8, S5, S6, B2) **PD11** Describes different types of maintenance and **preventative measures** to reduce the incidence of faults. (K9) **PD12** Explains how they ensure that they **operate safely and securely** across platforms and responsibilities applying the key principles of **security** including the role of People, Product and Process in secure systems. (K10, S4) **PD13** Outlines how they have a basic awareness of legislation in relation to disposal of waste materials for example **Waste Electronic and Electrical regulations**. (K13) **PD14** Explains how they **manage and prioritise the allocated workload effectively** making best use of time and resources. (S7)	

PD15 Explains their approach to work tasks which reflects their own professionalism and use of independent initiative. (B1) **PD16** Explains how they take a **productive and organised approach** to their work. (B3) **PD17** Discusses how they take a self-motivated approach to their work, for example how they manage their own time effectively and take responsibility to complete the job. (B4)	
Option 1: Support Technician	
Knowledge	**Skills**
K14 Fundamental principles of **operating systems**, hardware system architectures and devices. **K15** Principles of remote operation of devices including how to **deploy and securely integrate mobile devices into a network**. **K16 Fundamental principles of peripherals** for example: printers and scanners. **K17** Principles of **virtualisation of servers**, applications and networks. **K18** Principles of disaster recovery, how a **disaster recovery plan** works and their role within it. **K19** Principles of **Test Plans**, their role and significance. **K20** Fundamentals of purpose, creation and maintenance of **asset registers**. **K23 Basic elements of network infrastructure architectures** including Wi-Fi and wired networks.	**S15 Escalate non routine problems** in line with procedures. **S16** Use **basic scripting** to execute the relevant tasks.
Pass criteria	**Distinction criteria**

PDS1 Defines the principles of **operating systems** and describes the architecture of hardware systems and devices. (K14) **PDS2** Describes the principles of remote operation of devices including how to **deploy and securely integrate mobile devices into a network**. (K15) **PDS3** Outlines the **principles of peripherals** for example printers and scanners. (K16) **PDS4** Explains the principles of **virtualisation of servers**, applications, and networks. (K17) **PDS5** Explains disaster recovery, and outlines how disaster recovery plans work with reference to a role they have played within one'. (K18) **PDS6** Explains the principles of **Test Plans** by reference to their role and significance. (K19) **PDS7** Outlines purpose, creation, and maintenance of **asset registers**. (K20) **PDS8** Outlines the basic elements of infrastructure architectures including Wi-Fi and wired networks. (K23) **PDS9** Explains how they **escalate non routine problems** in line with procedures. (S15) **PDS10** Explains the use of **basic scripting** to execute relevant tasks. (S16)	***PDS11*** *Evaluate and assess the organisations Asset Register and their role in updating it. (K20)*
Amplification and guidance	
• **Back up and storage solutions** could include the various storage solutions available, physical and cloud-based technology. Physical security arrangements, access and encryption and also classifications of data storage.	

- **Technical documentation** such as:
  - architecture documents
  - system design document
  - manuals
  - datasheets
  - database schematics
  - metadata and diagrams
  - setting to work procedures including addition of network IP based hardware onto an existing local area network (LAN)

- **Principles of root cause problem solving** could include:
  - identifying any negative events occurring
  - analysing the complex systems related to these problems and pinpointing the key points of failure using techniques such as the 5 Whys
  - developing corrective and preventative solutions to address these critical points or root causes

- **Network addressing** such as the unique identifiers given to devices on a network.

- **Binary** or binary digits (BITS) uses ones and zeroes to allow devices to store and access information.

- **Cloud-based services** enable collaboration and expansion of workforce accessibility without the need to purchase hardware and/or software. Cloud-based services could include G-suite, Microsoft 365, and Dropbox.

- **Virtual networks** use software management to connect servers to the internet.

- **Principles of cultural awareness and how diversity impacts on delivery of support tasks**, includes having respect for the equality and the beliefs, and values and customs of individuals from diverse backgrounds. This is essential for effective communication, collaboration and relationship building in the workplace.

- **Methods of communication** such as email, in person, Teams/Skype to discuss network particulars with stakeholders and using network terminology while utilising these methods. Network terminology includes:
    - protocol
    - local area network (LAN)
    - transmission control protocol (TCP)
    - simple mail transfer protocol (SMTP)

- **Preventative measures** is the regular and routine maintenance of equipment to keep them running. It prevents any unplanned downtime from any unexpected failure and can include the use of fault logs, reporting procedures and allocation/assignment of priority codes.

- **Security** refers to prevention by installing software such as antivirus and providing access to only people who require it, assigning of and reviewing of access rights and monitoring of file systems to ensure access and restrictions remain consistent.

- **Physical network** is connected via cables. The benefits of this include all components being on-site and admin can easily replace any broken cables. A disadvantage of this is that it requires a lot of space and power.

- **Waste Electronic and Electrical regulations** (WEEE) ensure organisations are disposing of waste sensibly, such as harmful chemicals that can negatively impact the environment. Harmful chemicals could include mercury, cadmium and lead.

- **Interpret and prioritise** customer requirements by establishing clear communications with both internal and external customers, ensure their requirements are in line with the organisation's policies, and prioritise which will lead to improved business performance and build long-term relationships.

- **Appropriate tools and techniques to undertake fault finding and rectification** could include:
    - multi-meters
    - oscilloscopes and signal generators
    - visual inspections
    - software tools and computer systems

- software related fault-finding software
- trouble-shooting guides

- **Continuous professional development** allows for organisations/employees to remain current with the industry by enhancing skills and knowledge, supporting necessary business output and technical developments, identifying own learning needs, setting smart goals, attending training courses and staying informed to support output and technical developments. It provides opportunities to build strengths and identify gaps in technical and softer skills.

- **Operate safely and securely** could include:
  - an awareness of cybersecurity threats and data breaches
  - use of strong passwords
  - two/multi-factor authentications and keeping software up to date
  - securing all devices with encryption and lock screens to prevent unwanted access
  - introduction of an education system for personnel within an area of responsibility

- **Stakeholders** could include anyone, and everyone, involved in the network from a line manager to a service provider should it be cloud based and/or a network engineer for a service company.

- **Develop and maintain effective working relationships** with people such as colleagues, customers and other relevant stakeholders. This will help to foster collaborations, create a positive work environment and a culture of respect, empathy and trust.

- **Manage and prioritise the allocated workload effectively,** could include using planning and workforce management tools such as a to-do list, resource management techniques and tools, and reviewing the workload regularly and using available resources such as technology to avoid multitasking.

- **Complete documentation** includes providing all relevant details, the steps taken and the outcomes. All documentation should be thorough and easy to understand for others who may need to reference it in the future.

- **Works professionally** includes:
    - punctuality
    - code of conduct compliance
    - respect and supporting co-workers
    - working individually when needed, while knowing who and where to seek help from when necessary

- **Communicates technical and non-technical information in a variety of situations** considering the use of diagrams/visuals, glossary, plain language and analogies, and could include external collaboration and engagement with third party engineers, contractors and personnel outside of an organisation. Participation in meetings and forums within an organisation to support improvements and effective team working.

- **Productive and organised approach** could include working within a team, proactively setting and completing work, and striving to achieve targets with the use of prioritisation and planning tools and techniques.

- **Takes responsibility** could include:
    - proactively sharing information, openly and honestly
    - managing own time and workload
    - showing a desire to succeed
    - adjusting to change
    - actively leading own career path
    - owning tasks until a successful conclusion

- **Operating systems** can be impacted by factors such as, the number of users, the tasks required, the environment in which they operate and how a computer's components enable input/output and processing to be conducted.

- **Deploy and securely integrate mobile devices into a network** includes the use of mobile device management (MDM), which enables IT admins to securely monitor and manage devices that access sensitive business data. This can be done using encrypted connections between devices.

- **Fundamental principles of peripherals** such as webcams, scanners and printers provide convenience for location, space and productivity.

- **Virtualisation of servers** such as VMW are run simultaneously. This simplifies data and there are less physical servers to maintain.

- **Disaster recovery plan** checklists could include establishing the range or extent of necessary treatment and activity, the scope of recovery, gathering relevant network infrastructure documents, and identifying the most serious threats and vulnerabilities as well as most critical assets.

- **Test Plans** are regularly reviewed and should be distributed to all members of the team and include information such as test sites, test cases and results, and environments.

- **Asset registers** help the administrator keep track of their assets, the locations they are signed out too, keeping costs down to the company, which means they are less losses for the organisation, and they can keep track of when assets need replacing or upgrading.

- **Basic elements of infrastructure architectures** include hardware, switch routers, servers and firewalls as they filter data in network traffic from malicious attacks and malware, and helps to block cyber threats and unauthorised access.

- **Escalate non routine problems** includes identifying issues and determining the nature/severity of non-routine problems. Non-routine problems could include:
    - software bugs
    - system failures
    - critical errors
    - hardware failures
    - power failures resulting in system downtime

- **Basic scripting** could include the use of a graphical user interface (GUI) editor, such as text wrangler, notepad and sublime, or scripting command line shell to automate repetitive tasks, manage systems and perform various operations using scripting.

Project report with questioning	
Core	
Knowledge	**Skills**
K12 Approaches to documenting tasks, findings, actions taken and outcome for example, use of **task tracking** and **ticketing systems**.	**S10 Establish and diagnose the extent of the IT support task**, in line with the organisation's policies and SLAs. **S11 Provide remote/face to face support** to resolve customer requirements. **S12 Maintain a safe working environment** for own personal safety and others in line with Health & Safety appropriate to the task.
Pass criteria	**Distinction criteria**
PR1 Identifies and applies valid approaches to documenting tasks, findings, actions and outcomes. (K12) **PR2** Demonstrates how they establish and **diagnose the extent of the IT support task**, in line with the organisation's policies and SLA's. (S10) **PR3** Evidence how they **provide remote/face-to-face support** to resolve customer requirements. (S11) **PR4** Demonstrates an approach to their own work and that of coworkers which reflects the HSE policies of the industry and organisation. (S12)	*No distinction criteria.*
Option 1: Support Technician	
Knowledge	**Skills**
K21 Approaches to **system upgrades and updates** and their significance. **K22** Approaches to interpretation of log files, **event viewer** and system	**S9 Install or undertake basic software and hardware upgrades**, either physically or remotely. **S13 Identify and scope the best solution** informed by the system data

tools.	associated with the task. **S14 Test and evaluate the system's performance** and compliance with customer requirements. **S17 Carry out routine maintenance** across systems, (such as IT, Communications), ensuring organisational compliance at all times. **S18 Apply the necessary security**, in line with access and/or encryption requirements.
Pass criteria	**Distinction criteria**
PRS1 Demonstrates how they install or undertake basic upgrades, either physically or remotely and apply approaches to system updates, recognising their significance. (K21, S9) **PRS2** Evaluates the interpretation of log files, **event viewer** and system tools. (K22) **PRS3** Illustrates how they **identify and scope the best solution** informed by the system data associated with the task. (S13) **PRS4** Demonstrates how they test and, evaluate the system's performance and compliance with customer requirements. (S14) **PRS5** Demonstrate how they **carry out routine maintenance** across systems, (such as IT, Communications), ensuring organisational compliance at all times. (S17) **PRS6** Explain how they **apply the necessary security**, in line with access and/or encryption requirements. (S18)	***PRS7*** *Critically analyses their optimisation of system performance to validate compliance with customer requirements. (S14)*
Amplification and guidance	

- **Task tracking** are systems designed to manage and monitor the progress of various tasks and projects. They help teams to organise their work, assign tasks, set deadlines, and track the status of each task.

- **Ticketing systems**, also known as issue tracking systems, handle incoming support requests (tickets), track their resolution, and ensure that issues are addressed promptly.

- **Establish and diagnose the extent of the IT support task** could include:
    - identify the problem
    - document in line with service standards
    - establish a theory of the probable cause, such as the root cause
    - test that theory to determine the cause
    - establish a plan of action to resolve the problem such as preventative versus corrective

- **Provide remote/face to face support** includes using effective communication, technical expertise and a customer-centric approach. Confirm purpose of support with the customer, understand their requirements, troubleshoot and diagnose, use screen-sharing and remote control tools such as:
    - Microsoft Remote Desktop
    - TeamViewer
    - AnyDesk
    - Splashtop

- **Maintain a safe working environment** in line with health and safety guidelines appropriate to a task, identifying hazards, completing risk assessments and consideration of equipment, materials and electrical hazards such as:
    - personal protective equipment (PPE)
    - lockout - tagout (LOTO)

- **System upgrades and updates** protects a system against vulnerabilities and reduces the risk of attack, therefore, keeping the system online.

- **Event viewer** is a Microsoft tool for a windows operating system that provides a log of system events to offer the administrator the information required for system upkeep.

- **Install or undertake basic software and or hardware upgrades** includes evidencing a systematic approach to ensure a successful outcome when identifying any specific upgrades and software/hardware components such as memory and storage, including testing and validation steps taken to ensure success as expected.

- **Identify and scope the best solution** includes interpreting system data and interrogating system data, cost benefit analysis and risk analysis to ascertain the best solution to fulfil customer requirements.

- **Test and evaluate the system's performance** includes conducting various performance tests to assess the systems performance, speed, scalability and stability under different load conditions, such as downloading a large number of files, or a large group of users trying to print a file at the same time. This can also include load testing, stress testing (to ensure the system can handle expected user traffic and data volume), along with functional and security testing to complete at users' acceptance.

- **Carry out routine maintenance** to ensure organisational compliance could include evidencing maintenance schedules outlining the frequency of maintenance tasks such as:
    - performing software updates on operating systems
    - backups and monitoring performance
    - antivirus software updates

- **Apply the necessary security** could include implementing access controls to limit access to those that require access based on permissions for job functions, use of authentications, encryption techniques and protocols to protect data such as secure sockets layer (SSL) and transport layer security (TLS) for secure communications.

Click here to return to contents

Assessment summary

The end-point assessment for the Information Communications Technician apprenticeship standard is made up of 2 assessment methods:

1. A 60-minute professional discussion underpinned by portfolio
2. A 1,500-word project report with 30-minute questioning

As an employer/training provider, you should agree a plan and schedule with the apprentice to ensure all assessment components can be completed effectively.

Each component of the end-point assessment will be assessed against the appropriate criteria laid out in this kit, which will be used to determine a grade for each individual. The grade will be determined using the combined grades.

Professional discussion underpinned by portfolio

All assessment methods are weighted equally. Apprentices will be marked against the pass and distinction criteria outlined in this kit.

- To achieve a **pass**, apprentices must achieve all of the pass criteria
- To achieve a **distinction**, apprentices must achieve all of the pass criteria **and** all of the distinction criteria
- **Unsuccessful** apprentices will not have achieved all of the pass criteria

The professional discussion may be conducted using technology such as video link, as long as fair assessment conditions can be maintained.

Project report with questioning

All assessment methods are weighted equally. Apprentices will be marked against the pass and distinction criteria outlined in this kit.

- To achieve a **pass**, apprentices must achieve all of the pass criteria
- To achieve a **distinction**, apprentices must achieve all of the pass criteria **and** all of the distinction criteria
- **Unsuccessful** apprentices will not have achieved all of the pass criteria

The project report with questioning should be conducted in a suitable location such as an employer's or training provider's premises.

Grading

The apprenticeship includes pass, merit and distinction grades, with the final grade based on the apprentice's combined performance in each assessment method.

To achieve a pass, the apprentice is required to pass each of the 2 assessment methods.

To achieve a merit, the apprentice is required to pass 1 assessment method and gain a distinction in the other.

To achieve a distinction, the apprentice is required to have achieved all of the pass criteria and all of the distinction criteria in each of the 2 assessment methods.

The overall grade for the apprentice is determined using the matrix below:

Professional discussion underpinned by portfolio	Project report with questioning	Overall grade awarded
Fail any of the 2 assessment methods		**Fail**
Pass	Pass	**Pass**
Distinction	Pass	**Merit**
Pass	Distinction	**Merit**
Distinction	Distinction	**Distinction**

Retake and resit information

Apprentices who fail 1 or more assessment method will be offered the opportunity to take a resit or a retake at the employer's discretion. The apprentice's employer will need to agree that either a resit or retake is an appropriate course of action. A resit does not require further learning, whereas a retake does. Apprentices should have a supportive action plan to prepare for a resit or a retake and a retake checklist will need to be submitted to Highfield.

An apprentice who fails 1 or more assessment methods, and therefore the EPA in the first instance, will be required to resit or retake the failed assessment method(s) only. The timescales for a resit/retake is agreed between the employer and Highfield.

When undertaking a resit or retake, the assessment method(s) will need to be reattempted in full, regardless of any individual assessment criteria that were passed on any prior attempt. The EPA Report will contain feedback on areas for development and resit or retake guidance.

A resit is typically taken within 2 months of the EPA outcome notification. The timescale for a retake is dependent on how much retraining is required and is typically taken within 4 months of the EPA outcome notification. All assessment methods must be taken within a 6-month period, otherwise the entire EPA will need to be resat/retaken.

Resits and retakes are not offered to apprentices wishing to move from pass to a higher grade. Where any assessment method must be resat or retaken, the apprentice will be awarded a maximum EPA grade of pass, unless Highfield determines there are exceptional circumstances requiring a resit or retake.

Click here to return to contents

Assessing the professional discussion underpinned by portfolio

In the professional discussion underpinned by a portfolio of evidence, the assessor and the apprentice will have a formal two-way conversation. It will consist of the independent assessor asking the apprentice questions to assess their competence against the relevant criteria outlined in this kit.

The apprentice will be given at least a week's notice of the date and time of the professional discussion. The portfolio must be available to the apprentice during the professional discussion.

The professional discussion should take place in a quiet room, free from distractions and influence, and can be conducted by video conferencing. It will last for **60 minutes**. The independent assessor can increase the time of the professional discussion by up to 10%.

The assessor will ask **at least 10 open questions**.

Before the assessment

Employers/training providers should:

- ensure the apprentice knows the date, time and location of the assessment
- ensure the apprentice knows which criteria will be assessed (outlined on the following pages)
- encourage the apprentice to reflect on their experience and learning on-programme to understand what is required to meet the standard
- be prepared to provide clarification to the apprentice, and signpost them to relevant parts of their on-programme experience as preparation for this assessment

Grading the professional discussion underpinned by portfolio

All assessment methods are weighted equally. Apprentices will be marked against the pass and distinction criteria outlined in this kit.

- To achieve a **pass**, apprentices must achieve all of the pass criteria
- To achieve a **distinction**, apprentices must achieve all of the pass criteria **and** all of the distinction criteria
- **Unsuccessful** apprentices will have not achieved all of the pass criteria

Professional discussion underpinned by portfolio mock assessment

It is the employer/training provider's responsibility to prepare apprentices for their end-point assessment. Highfield recommends that the apprentice experiences a mock professional discussion underpinned by portfolio in preparation for the real thing. The most appropriate form of mock professional discussion underpinned by portfolio will depend on the apprentice's setting and the resources available at the time.

In designing a mock assessment, the employer/training provider should include the following elements in its planning:

- the mock professional discussion underpinned by portfolio should take place in a suitable location.
- a 60-minute time slot should be available to complete the professional discussion underpinned by portfolio, if it is intended to be a complete discussion covering all relevant standards. However, this time may be split up to allow for progressive learning.
- consider a video or audio recording of the mock professional discussion underpinned by portfolio and allow it to be available to other apprentices, especially if it is not practicable for the employer/training provider to carry out a separate mock assessment with each apprentice.
- ensure that the apprentice's performance is assessed by a competent trainer/assessor, and that feedback is shared with the apprentice to complete the learning experience. Mock assessment sheets are available to download from the Highfield Assessment website and may be used for this purpose.
- use structured, 'open' questions that do not lead the apprentice but allows them to express their knowledge and experience in a calm and comfortable manner. For example:
    - describe some of the basic elements of the technical documentation you use daily
    - provide examples of some of the diagnostic tools and techniques you use for troubleshooting within your role
    - explain how you prioritise internal/external customer requirements.
    - explain how you ensure that you operate safely and securely across the platforms you use in your role
    - provide examples where you have had to manage your own time and take responsibility for the completion of tasks
    - provide an example of a time where you have critically analysed your own use of the tools and techniques for undertaking installation and maintenance tasks
    - describe the principles of deploying and integrating mobile devices into a network

- provide an example of a time when you have had to undertake disaster recovery and the role you played within that
- describe some of the basic elements of infrastructure architectures.
- explain what your role is in your organisations asset register

Professional discussion underpinned by portfolio criteria

Throughout the **60-minute** professional discussion underpinned by portfolio, the assessor will review the apprentice's competence in the criteria outlined below.

Apprentices should prepare for the professional discussion underpinned by portfolio by considering how the criteria can be met.

Professional discussion underpinned by portfolio Core
To pass, the following must be evidenced.
PD1 Explains the principles of system backup/storage. (K1)
PD2 Describes basic elements of technical documentation, its interpretation, completion and importance in escalation as appropriate. (K2, S8)
PD3 Identifies and applies the principles of root cause problem solving using fault diagnostic tools and techniques for troubleshooting and rectification'. (K3, S2)
PD4 Outlines the principles of basic network addressing for example: binary. (K4)
PD5 Describes the key principles of cloud and cloud-based services. (K5)
PD6 Analyses the fundamentals and principles of networks and components. (K6, K11)
PD7 Explains how they interpret and prioritise internal or external customer's requirements in line with organisation's policy. (S1)
PD8 Outlines the principles of cultural awareness and describes how diversity impacts on delivery of support tasks. (K7)
PD9 Describes how they apply principles of Continuous Professional Development to support their contribution to delivery of necessary business output and technical developments. (S3)
PD10 Identifies and applies methods of communication with stakeholders, selecting technical and/or nontechnical language in reflection of the audience to inform progress and escalation and develop and maintain effective working relationships with them'. (K8, S5, S6, B2)
PD11 Describes different types of maintenance and preventative measures to reduce the incidence of faults. (K9)
PD12 Explains how they ensure that they operate safely and securely across platforms and responsibilities applying the key principles of security including the role of People, Product and Process in secure systems. (K10, S4)
PD13 Outlines how they have a basic awareness of legislation in relation to disposal of waste materials for example Waste Electronic and Electrical regulations. (K13)
PD14 Explains how they manage and prioritise the allocated workload effectively making best use of time and resources. (S7)

Professional discussion underpinned by portfolio Core
To pass, the following must be evidenced.
PD15 Explains their approach to work tasks which reflects their own professionalism and use of independent initiative. (B1) **PD16** Explains how they take a productive and organised approach to their work. (B3) **PD17** Discusses how they take a self-motivated approach to their work, for example how they manage their own time effectively and take responsibility to complete the job. (B4)
To gain a distinction, the following must be evidenced.
PD18 *Reviews the success of root cause problem solving where they have applied fault diagnostics for troubleshooting'. (K3)* ***PD19*** *Evaluates the impact of People, Product and Process on secure systems within their 'organisation'. (K10)* ***PD20*** *Critically analyses their use of tools and techniques to undertake tasks such as installation, maintenance or fault rectification. (S2)*

Professional discussion underpinned by portfolio Option 1: Support Technician
To pass, the following must be evidenced.
PDS1 Defines the principles of operating systems and describes the architecture of hardware systems and devices. (K14) **PDS2** Describes the principles of remote operation of devices including how to deploy and securely integrate mobile devices into a network. (K15) **PDS3** Outlines the principles of peripherals for example printers and scanners. (K16) **PDS4** Explains the principles of virtualisation of servers, applications, and networks. (K17) **PDS5** Explains disaster recovery, and outlines how disaster recovery plans work with reference to a role they have played within one'. (K18) **PDS6** Explains the principles of Test Plans by reference to their role and significance. (K19) **PDS7** Outlines purpose, creation, and maintenance of asset registers. (K20) **PDS8** Outlines the basic elements of infrastructure architectures including Wi-Fi and wired networks. (K23)

Professional discussion underpinned by portfolio Option 1: Support Technician
To pass, the following must be evidenced.
PDS9 Explains how they escalate non routine problems in line with procedures. (S15) **PDS10** Explains the use of basic scripting to execute relevant tasks. (S16)
To gain a distinction, the following must be evidenced.
PDS11 *Evaluate and assess the organisations Asset Register and their role in updating it. (K20)*

Click here to return to contents

Assessing the project report with questioning

This end-point assessment method consists of 2 components:

- project report
- questioning

Component 1: project report

The project starts after the apprentice has gone through gateway. The apprentice will conduct their project and submit their report to Highfield after a maximum duration of 4 weeks of the EPA start date. The employer will ensure that the apprentice has sufficient time and the necessary resources, within this period to plan and undertake the project.

The work-based project should be designed to ensure that the apprentice's work meets the needs of the business, is relevant to their role and allows the relevant KSBs.

The project outcome should be in the form of an electronic based report.

The project may be based on any of the following:

- a specific problem
- a recurring issue
- an idea/opportunity
- providing a service

As a minimum, the project report must include:

- an introduction
- the scope of the project (including key performance indicators)
- how the outcomes were achieved
- research and findings
- project outcomes
- conclusions and potential areas for improvement

The report has a maximum word limit of **1,500 words** (+/-10%) and appendices, references, diagrams and/or video clips of up to 10 minutes in length will not be included in this total. End-point assessors will only mark reports up to **1,650 words**, at which point, assessors will stop marking and only credit the criteria covered to that point. Reports that fall short of the word count will be marked in full, against all criteria. The assessor will review and assess the project report in advance of the questioning.

Suitable project ideas may be along the following lines:

- maintenance or repair of systems faults. This can either include the rectification of a fault which was causing full or partial loss of service to a customer or carry out either routine or proactive maintenance on a system to increase its capability or reliability. For either of these the apprentice should include an overview of the information they have gathered to confirm performance of the solution. Their approach to the task including logical approach, confirmation of the solution performance after including the capture of information to support this.
- support for the roll-out of installation and commission of new systems or upgrades. This can either be new equipment as part of the expansion of a system, or an upgrade which will add additional capability or functionality to a system. The project may include any of the preinstallation activity as well as the installation process and the post installation commission tasks (for example, configuration, testing, handover and updating records).

The project report should be completed by the apprentice unaided. The report must be uploaded in PDF format and must be accompanied by the **written submission sheet** which is available to download from the Highfield Assessment website. On the written submission sheet, the apprentice and their employer must verify that the submitted report is the apprentice's own work.

The project report must be mapped, in an appendix, how the relevant KSBs for this assessment method are mapped. This is available to download from the Highfield Assessment website.

Component 2: questioning

The questioning will be based on the project report and activities.

The questioning will last for **30 minutes**, where the end-point assessor will ask a minimum of **5 questions**. The assessor has the discretion to increase the time of the questioning by up to 10% to allow the apprentice to complete their last answer.

The apprentice will have access to their report during the questioning component and will have at least a week's notice of the assessment date. The questioning component should take place in a quiet room, free from distractions and influence, and video conferencing can be used.

Before the assessment

Employers/training providers should:

- give the apprentice time to work on their project and report during the end-point assessment window

- ensure the apprentice knows the date, time and location of the assessment
- ensure the apprentice knows which information communications technician criteria will be assessed (outlined on the following pages)
- encourage the apprentice to reflect on their experience and learning on-programme to understand what is required to meet the standard and identify real-life examples
- be prepared to provide clarification to the apprentice, and signpost them to relevant parts of their on-programme experience as preparation for this assessment

Grading the project report with questioning

All assessment methods are weighted equally. Apprentices will be marked against the pass and distinction criteria outlined in this kit.

- To achieve a **pass**, apprentices must achieve all of the pass criteria
- To achieve a **distinction**, apprentices must achieve all of the pass criteria **and** all of the distinction criteria
- **Unsuccessful** apprentices will have not achieved all of the pass criteria

Project report with questioning mock assessment

It is suggested that a mock assessment is carried out by the apprentice in advance of the end-point assessment with the training provider/employer giving feedback on any areas for improvement. It is the employer/training provider's responsibility to prepare apprentices for their end-point assessment and Highfield recommend that the apprentice experiences a mock questioning session in preparation for the real thing. The most appropriate form of mock assessment will depend on the apprentice's setting and the resources available at the time.

When planning a mock assessment, the employer/training provider should include the following elements:

- mock questioning sessions should be **30 minutes**
- consider a recording of the mock assessment and allow it to be played back to other apprentices, especially if it is not practicable for the employer/training provider to carry out a separate mock assessment with each apprentice
- ensure that the apprentice's performance is assessed by a competent trainer/assessor, and that feedback is shared with the apprentice to complete the learning experience
- mock assessment sheets are available to download from the Highfield Assessment website and may be used for this purpose

- a minimum of 5 structured, 'open' questions should be used as part of the questioning session that do not lead the candidate but allow them to express their knowledge in a calm and comfortable manner. Some examples of this may include the following:
    - provide an example of an approach you took to document the tasks within your project
    - provide an example of when you provided customer support to resolve a requirement when undertaking your project
    - explain the approach you took to your project that reflects the HSE policies within your organisation
    - explain how you identified the best solution which was informed by system data associated with a task in your project
    - explain how you critically analysed the optimisation of a system performance within your project that was compliant with a customer requirement

Project report with questioning criteria

Throughout the project report with questioning, the assessor will review the apprentice's competence in the criteria outlined below.

Apprentices should prepare for the project report with questioning by considering how the criteria can be met and reflecting on their past experiences.

Project report with questioning
To pass, the following must be evidenced
PR1 Identifies and applies valid approaches to documenting tasks, findings, actions and outcomes. (K12) **PR2** Demonstrates how they establish and diagnose the extent of the IT support task, in line with the organisation's policies and SLA's. (S10) **PR3** Evidence how they provide remote/face-to-face support to resolve customer requirements. (S11) **PR4** Demonstrates an approach to their own work and that of coworkers which reflects the HSE policies of the industry and organisation. (S12)
To gain a distinction, the following must be evidenced.
No distinction criteria.

Project report with questioning Option 1: Support Technician
To pass, the following must be evidenced.
PRS1 Demonstrates how they install or undertake basic upgrades, either physically or remotely and apply approaches to system updates, recognising their significance. (K21, S9) **PRS2** Evaluates the interpretation of log files, event viewer and system tools. (K22) **PRS3** Illustrates how they identify and scope the best solution informed by the system data associated with the task. (S13) **PRS4** Demonstrates how they test and, evaluate the system's performance and compliance with customer requirements. (S14) **PRS5** Demonstrate how they carry out routine maintenance across systems, (such as IT, Communications), ensuring organisational compliance at all times. (S17) **PRS6** Explain how they apply the necessary security, in line with access and/or encryption requirements. (S18)
To gain a distinction, the following must be evidenced.
PRS7 *Critically analyses their optimisation of system performance to validate compliance with customer requirements. (S14)*

Click here to return to contents