

# EPA Specification Utilities Engineering Technician



## EPA Specification Section 2 – Mapping the Standard

### Contacts

This specification has been designed to provide all the advice and guidance you need to prepare yourself and your apprentices for end-point assessment. However, if you have any further questions please contact the EUIAS Help Desk using one of the following:

Help Desk email: [enquiries@euias.co.uk](mailto:enquiries@euias.co.uk)

Help Desk telephone: 0121 713 8310

## Purpose

The purpose of this section is to introduce the elements of the standard and the referencing system used by the EUIAS. It provides an 'at-a-glance' view of which parts of the standard are assessed by which assessment method.

### The Standard

The standard is divided into core Knowledge, Skills and Behaviours, plus specialist related skills.

- Core Knowledge (K)
- Core Skills (S)
- Core Behaviours (B)
- Specific Skills (E, M or I)

The Knowledge, Skills and Behaviours statements are assessed in the end-point assessment methods as follows:

Core Knowledge	The Technician will	Multiple-Choice Test	Observation	Interview
K1	Relevant industry health and safety standards and regulations, and environmental and regulatory requirements	✓		
K2	Maintenance practices, processes and procedures covering a range of waste and water systems, plant and equipment		✓	
K3	Relevant level of theory and principles that underpin the design and function of electro-mechanical and instrumentation systems and equipment	✓		
K4	Principles and processes that underpin the location, diagnosis and rectification of faults			✓
K5	Planned, reactive, and predictive maintenance processes, practices and procedures		✓	

Core Skill	The Technician will	Multiple-Choice Test	Observation	Interview
<b>S1</b>	Apply technical knowledge to carry out inspections, condition monitoring and reporting			✓
<b>S2</b>	Follow and comply with industry health and safety and environmental working practices and regulations		✓	
<b>S3</b>	Locate, diagnose and rectify faults on plant and equipment			✓
<b>S4</b>	Carry out maintenance activities on a range of waste and water systems, plant and equipment		✓	
<b>S5</b>	Use workshop machinery and equipment to create, repair and modify component and apparatus			✓
<b>S6</b>	Carry out and follow planned, reactive, and predictive plant and equipment maintenance procedures		✓	
<b>S7i</b>	Communicate with and provide information and guidance to colleagues in line with personal role and responsibilities		✓	
<b>S7ii</b>	Communicate with and provide information and guidance to contractors in line with personal role and responsibilities			✓
<b>S8</b>	Handover and confirm completion of engineering activities		✓	
<b>S9i</b>	Read, understand and interpret computer data and displays	✓		
<b>S9ii</b>	Work to technical specifications and supporting documentation		✓	

Core Skill	The Technician will	Multiple-Choice Test	Observation	Interview
<b>S10</b>	Adhere to safe working practices and procedures and carry out risk assessments		✓	
<b>S11</b>	Carry out safe isolation of equipment, using permit and lock-off systems as required		✓	
<b>S12</b>	Drive vehicles equipped with tools and materials to job sites			✓
<b>S13i</b>	Maintain equipment and components as required		✓	
<b>S13ii</b>	Install, replace and commission equipment and components as required			✓
<b>S14</b>	As required, undertake standby duties to provide 24 hour cover to remedy fault situations requiring diagnostic testing procedures			✓

Core Behaviours	The Technician will	Multiple-Choice Test	Observation	Interview
<b>B1</b>	Display a self-disciplined, self-motivated approach whilst recognising personal limitations and seeking advice from fact holders and specialists when required		✓	
<b>B2</b>	Accept responsibility for work of self or others		✓	
<b>B3</b>	Deliver a polite, courteous professional service to customers and members of the public			✓
<b>B4i</b>	Work effectively and safely when undertaking tasks to approved standards and safe working practices when working alone		✓	
<b>B4ii</b>	Work effectively and safely when undertaking tasks to approved standards and safe working practices as part of a team or with appropriate supervision			✓

<b>Core Behaviours</b>	<b>The Technician will</b>	<b>Multiple-Choice Test</b>	<b>Observation</b>	<b>Interview</b>
<b>B5</b>	Undertake and complete work in a way that contributes to sustainable development		✓	
<b>B6</b>	Be risk aware and minimise risks to life, property and the environment when undertaking work activities		✓	
<b>B7i</b>	Be quality focussed.		✓	
<b>B7ii</b>	Be professional in work and in personal standards			✓
<b>B8</b>	Identify, organise and use resources effectively to complete tasks, with consideration for cost, quality, safety, security and environmental impact		✓	
<b>B9</b>	Accept, allocate and supervise technical and other tasks			✓
<b>B10</b>	Be aware of the needs and concerns of others, especially where related to diversity and equality			✓
<b>B11</b>	Carry out and record CPD necessary to maintain and enhance competence			✓
<b>B12</b>	Exercise responsibilities in an ethical manner			✓

### Specific Skills - Electrical

Specific Skill	The Technician will	Multiple-Choice Test	Observation	Interview
E1	Inspect and monitor electrical systems, and inspect, monitor, maintain and repair electrical equipment			✓
E2	Test electrical equipment and systems and assist in installing electrical systems and equipment			✓
E3	Access a range of sites to install, maintain, test, repair and dismantle electrical equipment			✓
E4	Use electrical theories and principles to use test equipment for voltage, current and earth resistance testing to maintain the integrity of the electrical system		✓	
E5	Consult design specifications to analyse and calculate electrical system parameters and rectification procedures.			✓
E6	Interpret electrical drawings to install, position or re-locate electrical equipment and cabling.			✓
E7	Test, service and repair electrical equipment as part of planned preventative maintenance and/or reactive maintenance programmes			✓
E8	Install and connect electrical cables, switchgear, circuit breakers, motors, transformers and other associated equipment.			✓
E9	Carry out electrical procedures on industrial low voltage systems (up to 1000V AC) operating switchgear, fuses, motor control centres, transformers, manual & automatically controlled drives and motors.		✓	
E10	Carry out basic fault diagnostics on Programmable Logic Controllers (PLC) and Supervisory Control & Data Acquisition (SCADA) systems.			✓

### Specific Skills – Mechanical

Specific Skill	The Technician will	Multiple-Choice Test	Observation	Interview
<b>M1</b>	Apply mechanical theories and principles in order to carry out diagnostic fault finding procedures			✓
<b>M2i</b>	Inspect and monitor mechanical systems, and maintain mechanical equipment and components		✓	
<b>M2ii</b>	Inspect and monitor mechanical systems, and inspect, monitor, dismantle and repair mechanical equipment and components			✓
<b>M3</b>	Test mechanical equipment and systems and assist in installing mechanical systems and equipment			✓
<b>M4</b>	Basic Fabrication and welding of structures and components			✓
<b>M5</b>	Use mechanical knowledge and skills to install, maintain and dismantle a wide range of complex plant, machinery and components			✓
<b>M6</b>	Consult design specifications to analyse and calculate mechanical system parameters and rectification procedures.			✓
<b>M7</b>	Interpret plans and drawings to install, position or re-locate mechanical equipment and components.			✓
<b>M8i</b>	Test, service mechanical equipment as part of planned preventative maintenance and/or reactive maintenance programmes		✓	
<b>M8ii</b>	Repair mechanical equipment as part of planned preventative maintenance and/or reactive maintenance programmes			✓

Specific Skill	The Technician will	Multiple-Choice Test	Observation	Interview
<b>M9</b>	Install and maintain mechanical components including motors, pumps and gearboxes, maintaining and replacing lubricants.			✓
<b>M10</b>	Inspect and maintain condition monitoring equipment			✓

### Specific Skills – Instrumentation Control and Automation

Specific Skill	The Technician will	Multiple-Choice Test	Observation	Interview
<b>I1</b>	Apply theories and principles of electronics to use equipment to carry out diagnostic fault finding procedures			✓
<b>I2i</b>	Maintain instrumentation and control equipment and circuits		✓	
<b>I2ii</b>	Repair and overhaul instrumentation and control equipment			✓
<b>I3</b>	Test and Calibrate Instrumentation and control equipment and circuits, and assist in installing instrumentation and control equipment			✓
<b>I4i</b>	Use Instrumentation and Control Systems knowledge and skills to maintain instruments, controllers, probes, attachments, cabling, meters and display units		✓	
<b>I4ii</b>	Use Instrumentation and Control Systems knowledge and skills to install and dismantle instruments, controllers, probes, attachments, cabling, meters and display units			✓
<b>I5</b>	Carry out telemetry outstation and internal system configuration			✓
<b>I6</b>	Identify and resolve data quality and calibration issues			✓



Specific Skill	The Technician will	Multiple-Choice Test	Observation	Interview
I7	Test, calibrate and validate fixed and portable analogue and digital instrumentation using approved procedures and standards.		✓	
I8i	Maintain and calibrate field instrumentation, communication devices and associated equipment used in system and process control, such as Programmable Logic Controllers (PLC) and Supervisory Control & Data Acquisition (SCADA) systems		✓	
I8ii	Repair and configure field instrumentation, communication devices and associated equipment used in system and process control, such as Programmable Logic Controllers (PLC) and Supervisory Control & Data Acquisition (SCADA) systems			✓
I9	Use standards and specifications to improve the information gathered by telemetry data			✓
I10	Inspect and maintain security equipment, telecommunication devices and alarm systems			✓
I11	Carry out isolation procedures to ensure process or system stability and personnel safety when carrying out operations		✓	
I12	Provide support to day-to-day users of instrumentation and control systems			✓
I13	Complete data cleansing to ensure consistent and valid data is available for business and regulation purposes			✓