

EPA Supporting Documents for

Level 3
Maintenance and Operations Engineering Technician
(Control and Instrumentation)
QAN 603/7266/7













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Updates to the supporting documents

Since the first publication of the EUIAS Maintenance and Operations Engineering Technician Supporting Documents Control and Instrumentation, the following updates have been made.

Version	Date first published	Section updated	Page(s)
		Appendix C: Sample Answer Sheet	26
v3.0	2023	Appendix G: Replaced (Assessor Use Only) with (Apprentice Input)	85 - 88
		Footer for V2.0 below stated V3.0 this has been removed. This version is v3.0	All
V2.0	2023	New template and rebranded	All
V1.0	2020	First published	All



Appendix A: Glossary

Amplification – provides more detail on how individual knowledge, skills or behaviours statements should be interpreted. Where the KSB statements, themselves are deemed self-explanatory, no amplification is provided. Assessment may include questions on anything identified in the amplification

Behaviours (as part of KSBs) – specific mindsets, attitudes or approaches identified as part of the apprenticeship standard that must be evidenced during endpoint assessment

Elements – are the knowledge, skills and behaviours and what is needed to competently undertake the duties required for an occupational standard

Gateway - the stage of the apprenticeship where the apprentice, employer and training provider determine whether the apprentice is ready to undertake end-point assessment

Guidance – is only provided where it is required to support interpretation of the KSB statements

Knowledge (as part of KSBs) – specific information, technical detail, and 'knowhow' identified as part of the apprenticeship standard that must be evidenced during end-point assessment

Pathways – a specialist route within an apprenticeship standard that builds on the occupational competence for a new entrant to the occupation

Skills (as part of KSBs) – the practical application of knowledge identified as part of the apprenticeship standard that must be evidenced during end-point assessment

Standard – An occupational standard is a description of an occupation. It contains occupational profile, and describes KSBs needed for someone to be competent in the occupation's duties. Occupational standards are developed by employers for occupations that meet the Institute for Apprenticeships and Technical Education current occupation criteria

Topic - is a collection of elements grouped into a theme e.g. Health and Safety



Appendix B: Gateway Eligibility Form

(Standard Version: ST0154 version 1.2; Assessment Plan Version: ST0154/AP02)

Apprentice's name:	Apprentice's job title:
Name of Employer:	Name of Training provider:
Employer representatives present:	Training provider representatives present:
Apprenticeship start date:	Apprenticeship on-programme end date:
Gateway meeting date:	
Has the apprentice taken any part of the end-point assessment for this apprenticeship standard with any other End Point Assessment Organisation?	Y/N
If "Yes" please give details:	

Apprentice's details

Eligibility requirements:

The apprentice must confirm their achievement of the following:

Eligibility requirement	Achieved by the apprentice? Y/N	Evidence (Scans of certificates MUST be included)
Achieved Level 2 English		
Achieved Level 2 Maths		



Satisfactory completion of the formal training plan agreed with apprentice by the employer	
Compiled and submitted a portfolio of evidence, on which the technical interview will be based on	

Gateway Eligibility Declaration

The apprentice, the employer and the training provider must sign this form to confirm that they understand and agree to the following:

- 1. The apprentice has completed the required on-programme elements of the apprenticeship and is ready for end-point assessment with EUIAS.
- 2. The apprentice will only submit their own work as part of end-point assessment.
- 3. All parties agree that end-point assessment evidence may be recorded and stored by EUIAS for quality assurance purposes.
- 4. The apprentice has been on-programme for a minimum duration of 365 days.
- 5. The apprentice has achieved English and maths Level 2 as detailed in this document.
- 6. The apprentice satisfactorily completed a formal training plan agreed by the employer.
- 7. The apprentice has produced compiled and submitted a portfolio of evidence, on which the technical interview will be based on.
- 8. The apprentice, if successful, gives permission for EUIAS to request the apprenticeship. certificate from the ESFA who issue the certificate on behalf of the Secretary of State.
- 9. The apprentice has been directed to the EUIAS Appeals Policy and Complaints Policy.
- 10. The employer/training provider has given the EUIAS at least three months' notice of requesting this EPA for this apprentice.
- 11. If the Gateway Eligibility Report is not completed in full, meeting all requirements, and submitted to EUIAS, the end-point assessment cannot take place.

Signed on beha employer (print i	Signature:	Date:	



Signed on behalf of the training provider (print name):	Signature:	Date:
Apprentice's name (print):	Signature:	Date:
EUIAS use only:		
EUIAS Sign off:		
Comments/actions:		



Appendix C: Practice Knowledge Assessments: Control and Instrumentation



Level: 3

Maintenance and Operations Engineering Technician

Pathway: Control and Instrumentation

Paper Code: Practice Paper

This examination consists of 30 multiple-choice questions.

The Pass mark is 18 correct answers.

The Merit mark is 23 correct answers.

A merk of 26 or more is a Distinction.

The duration of this examination is 45 minutes.

You must use a **pencil** to complete the answer sheet - pens must NOT be used.

When completed, please leave the examination answer sheet and question paper on the desk.

For this paper the use of a scientific calculator (non-programmable) is permitted.

For each question, fill in ONE answer ONLY.

If you make a mistake, ensure you erase it thoroughly.

You must mark your choice of answer by shading in ONE answer circle only. Please mark each choice like this:

ANSWER COMPLETED CORRECTLY

Examples of how NOT to mark your examination answer sheet. These will not be recorded.

DO NOT partially shade the answer circle
ANSWER COMPLETED INCORRECTLY

DO NOT use ticks or crosses
ANSWER COMPLETED INCORRECTLY

DO NOT use circles
ANSWER COMPLETED INCORRECTLY

DO NOT use circles
ANSWER COMPLETED INCORRECTLY

DO NOT shade over more than one answer circle

This paper must be returned to EUIAS with the apprentice answer sheets.

ANSWER COMPLETED INCORRECTLY



You may use this page for rough work. This page must not be removed.



On what type of installation would a technician fit this design of washer?

Possible answers		
a)	High corrosion	
b)	High temperature	
c)	High vibration	
d)	High pressure	



Question 2

When checking the pressure of a system the maintenance schedule stipulates that the system pressure should be 10 bar with a tolerance of +/- 0.05 bar, what are the minimum and maximum acceptable pressures?

Possibl	e answers	
a)	9.95 to 10.05 bar	
b)	9.5 to 10.5 bar	
c)	9.05 to 10.5 bar	
d)	9.005 to 10.005 bar	

Question 3

Complete the following statement:

Safety critical equipment should be maintained

Possibl	Possible answers		
a)	every twelve months		
b)	more frequently than non-safety critical equipment		
c)	less frequently than non-safety critical equipment		
d)	at the same period as safety non-critical equipment		



Question 4		
Which s	tatement best describes what is meant by the terminology "specification"?	
Possible	e answers	
a)	The capacity to endure continuous force	
b)	The standard when measured against another object of similar design	
c)	Detailed description of the design and materials of an object	
d)	The specified point beyond which certification is invalid	

Questio	Question 5		
What type of maintenance is applied when something stops working?			
Possible	e answers		
a)	Planned		
b)	Preventative		
c)	Corrective		
d)	Shutdown		

Questio	Question 6	
What do	What do the initials IP followed by 2 numbers refer to when seen on a piece of	
equipme	equipment?	
Possible answers		
a)	Internal pressure	
b)	Integrity protection	
c)	Ingress protection	
d)	Increased pressure	



Question 7	
Which of the following is commonly classed as safety critical?	
Possible answers	
a)	Control valve
b)	Fuse
c)	Steam trap
d)	Drain valve

Question 8		
What do	What does the coloured tag on a piece of rigging equipment mean?	
Possible answers		
a)	Certification period	
b)	Safe working load	
c)	Maximum working load	
d)	Safe to use	

Question 9	
When seen on site, what does a green safety sign signify?	
Possible answers	
a)	Mandatory
b)	Prohibited
c)	Information
d)	Warning



Question 10	
What document should be fixed to a scaffold before a technician uses it?	
Possible answers	
a)	Risk assessment
b)	Safety certificate
c)	Approved Scafftag
d)	Permit to work

Looking at the image provided and taking into consideration risk, which task would a technician say is low probability and low in impact?

a toolimotali day to low probability and low in impact.			
Possibl	e answers	A.	B.
a)	A		
b)	В	C.	Δ <u>Α</u> Δ ΔΛΑΔΔΔΔΔΔΔΔΔΔΔΔΔΔΔΔΔΔΔΔΔΔΔΔΔΔΔΔΔΔΔΔΔ
c)	С	<u>*</u>	
d)	D		ΔΔΛ



Questic	Question 12	
When p	ersonal protection equipment is identified on the work control document,	
which o	which of the following statements is correct?	
Possible answers		
a)	PPE is recommended	
b)	PPE is available	
c)	PPE is good practice	
d)	PPE is mandatory	

Question 13	
In accord	dance with HSE regulations, how would a technician know if a substance
was rega	arded as hazardous?
Possible answers	
a)	The container will be coloured red
b)	It will be contained in a glass receptacle
c)	It will have a label identifying the hazard
d)	It will give off a strong odour

Question 14	
According to the Confined Space Regulations 1997, which of the following locations is not regarded as a confined space?	
Possible answers	
a)	Storage tank
b)	Termination cabinet
c)	Floor void
d)	Pipe trench



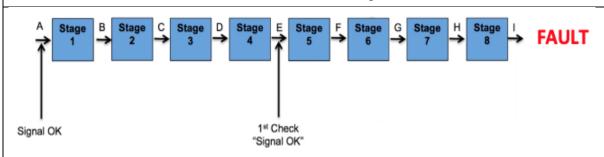
Question 15	
In accordance with HSE guidelines, isolations can only be applied by:	
Possible answers	
a)	competent people
b)	training and authorised people
c)	skilled people
d)	experienced people

Question 16	
Which manual handling statement is true?	
Possible answers	
a)	Correct manual handling prevents all accidents
b)	Correct manual handling prevents damage to equipment
c)	Correct manual handling reduces the risk of human injury
d)	Correct manual handling should only be applied in the workplace

[Turn to the next page for question 17]



Using the half split principle and referring to image below, at which position should a technician make the next check when fault finding?



Possible answers a) Point C b) Point F c) Point G d) Point I

Question 18	
What regulation provides guidance on the use of handheld tools?	
Possible answers	
a)	PUWER
b)	COMAR
c)	LOLER
d)	соѕнн



Question 19 What is being measured in this image? Possible answers a) Temperature

a)	Temperature
b)	Vibration
c)	Pressure
d)	Speed

Question 20					
When seen on a British Standard Piping and Instrumentation drawing, what does					
this sign	al represent?				
Possible answers					
a)	Electrical signal				
b)	Pneumatic signal	-#	#	#	#
c)	Hydraulic signal				
d)	Instrument signal				

[Turn to the next page for question 21]



What type of maintenance can be applied to check the long-term performance of equipment to identify problems before they occur?

Possibl	Possible answers		
a)	Preventative		
b)	Risk based		
c)	Condition based		
d)	Corrective		

Question 22

Assume a signal range of 4-20 mA. A pressure transmitter with a range of 0-200 mbar is showing a feedback signal of 16mA.

Assuming that the transmitter is calibrated correctly what is the actual line pressure?

Possibl	Possible answers				
a)	100 mbar				
b)	120 mbar				
c)	150 mbar				
d)	160 mbar				

[Turn to the next page for question 23]

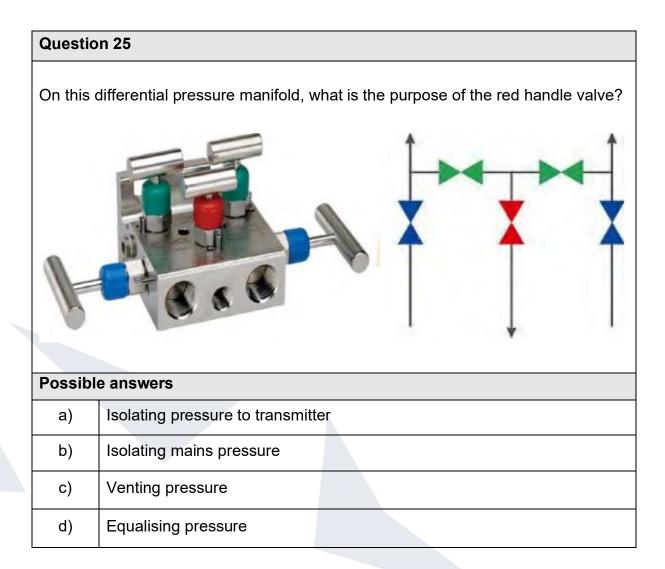


Question 23				
Complet	Complete the sentence.			
Α	measurers a change in process conditions.			
Possible answers				
a)	Sensor			
b)	Microprocessor			
c)	PLC			
d)	Convertor			

Question 24			
What is the most common output range of a pneumatic transmitter?			
Possible answers			
a)	0 to 1.9 bar		
b)	0.2 to 1.0 bar		
c)	0 to 15 bar		
d)	2 to 20 bar		

[Turn to the next page for question 25]





[Turn to the next page for question 26]



What does the third wire on a 3 wire Resistance Temperature Device do?

Possible answers

a)	Compensates field wire resistance
b)	It acts as a spare sensor wire
c)	It is the power supply wire
d)	Increases lifespan of device



Question 27

What effect would a loose connection have on a 3 wire Resistance Temperature Device temperature loop?

Possible answers

a)	Fluctuating signal
b)	Low reading
c)	Static signal
d)	No effect





Question 28			
What principle of level measurement is depicted in this image?			
Possible answers			
a)	Capacitance Probe (RF)		
b)	Displacement		
c)	Ultrasonic		
d)	Differential pressure		

Question 29			
A Manometer consists of a:			
Possible answers			
a)	"U" shaped tube, open to atmosphere on one side and open to the fluid to be measured on the other side		
b)	Metal tube open to atmosphere that extends as pressure builds up		
c)	A vertical tube, filled with mercury and open to the atmosphere		
d)	A series of bourdon tubes connected in series within the pressure gauge		

[Turn to the next page for question 30]



What type of sensing device is used on this flow installation?



Possible answers			
a)	RF probe		
b)	Orifice plate		
c)	Venturi tube		
d)	Turbine meter		

End of Questions



Practice Knowledge Assessment

Control and Instrumentation - Answer scheme

Question	Answer
1	С
2	Α
3	В
4	С
5	С
6	С
7	В
8	Α
9	С
10	С
11	Α
12	D
13	С
14	В
15	В

Question	Answer
16	С
17	С
18	Α
19	В
20	В
21	С
22	С
23	Α
24	В
25	С
26	Α
27	С
28	В
29	Α
30	В



SAMPLE ANSWER SHEET



Candidate ID	Attempt
Last Name	
AUCTION CONTRACTOR CON	
Exam Date	Paper
Centre Name	
Centre Number	
MARKING INSTRUCTIONS	
Answers should be completed us	sing a HB pencil.
○ ○ ○ • ANSWER COMPL	ETED CORRECTLY
	r examination sheet. These will not be recorded
O O O DO NOT partially s	
③ ⑤ ◎ ⊗ DO NOT use ticks	
O O O DO NOT use circle	
	ver more than one circle.
1 0 0 0 0	21 🛇 🗇 🔘 🔘
2 0 0 0 0	22 🔿 🗇 🔘 🗇
3 0 0 0 0	23 ③ ⑤ ⑤ ⑤
4 0 0 0 0	24 ③ ⑤ ⑤ ⑤
5 0 0 0 0	25 🚳 🚳 🔘 🔘
6 0 0 0 0	26 🔿 🗇 🔘
7 0 0 0 0	27 🛇 🗇 🛇 🔿
8 0 0 0 0	28 🛇 🔘 🔘 🔘
9 0 0 0 0	29 🛇 🗇 🔘
10 0 0 0 0	30 🛇 🗇 🔘 🔘
11 0 0 0 0	
12 0 0 0 0	
13 0 0 0 0	
14 0 0 0 0	
15 ③ ⑤ ⑤ ⑤ 16 ② ⑥ ◎ ◎	
17 0 0 0 0	
18 0 0 0 0	
19 0 0 0 0	
20 0 0 0 0	



Appendix D - Practical Observation and Planning Form

The practical observation must be designed to meet the requirements of the Maintenance and Operations Engineering Technician standard.

- The apprentice will complete a practical observation during which they will be asked questions by the assessor to confirm their understanding of the rationale for actions taken and choices made during the practical observation
- The content of this practical observation will relate to the specific role they are working towards
- The duration of this activity will typically be no longer than one day and the actual time allowed will be based on the comparable time that an industry competent worker would take to achieve successful task(s) completion
- The employer/training provider must devise a practical observation task(s) sufficiently complex to allow the apprentice to demonstrate the required knowledge and skills

Note that the apprentice is only required to demonstrate the main specialist specific skill covered, and the observation task must be chosen carefully to ensure that the apprentice has opportunity to cover all aspects of the skill.

The activities will need to be able to provide the evidence identified in the checklist in the form below.

The EUIAS offer an optional service to review the employer/training provider's practical assessment design. To do this complete the 'Level 3 Practical Observation and Planning Form' and submit to the Service Delivery team, for review 1 month before the start of the end-point assessment.



Level 3 Practical Observation and Planning Form

Employer name and site					
address					
Training provider (if					
applicable)					
Standard	Maintenance and Operations Engineering				
Staridard	Technician				
D. II.					
Pathway	Control and Instrumentation				
Level	3				
Location of practical					
Contact Details:					
Employer/training provider					
representative, email address and					
contact number overseeing the					
setup of the practical (documents					
and site).					
EUIAS Date of review:					
Description of the proposed complex task(s):					
Special requirements (for exa	mple: access arrangements/PPE):				
Equipment/tools required:	Resources required:				



Practical Observation Checklist

This checklist will assist the employer and/or training provider with planning the activity. Please confirm all required elements are covered:

Core Skills	Covered on activity
S1 Comply with industry health, safety and environmental working practices and regulations	
S2 Communicate with and provide information to stakeholders in line with personal role and responsibilities	
S3 Prepare work areas to undertake work related activities and reinstate those areas after the completion of the work-related activities	
S4 Assess and test the performance and condition of plant and equipment	
S5 Locate, and rectify faults on plant and equipment	
S6 Read, understand and interpret information and work in compliance with technical specifications and supporting documentation	
S7 Inspect and maintain appropriate plant and equipment to meet operational requirements	
S8 Communicate, handover and confirm that the appropriate engineering process has been completed to specification	
Core Behaviours	Covered on activity
B1 Health and Safety - Follows health and safety policies and procedures and be prepared to challenge unsafe behaviour using appropriate techniques to ensure the protection of people and property when working alone and/or with appropriate supervision	
B2 Quality focused - Ensures that work achieves quality standard both occupationally and personally	
B3 Working with others - Has the ability to work well with people from different disciplines, backgrounds and expertise to accomplish an activity safely and on time	
B4 Interpersonal skills - Gets along well with others and takes into account their needs and concerns	



B6 Sustainability and ethical behaviour - Behaves ethically and undertakes work in a way that contributes to sustainable development	
B7 Risk awareness - Demonstrates high concentration, the desire to reduce risks, ability to be compliant and awareness of change, through regular monitoring and checking of information	
PLUS select the MAIN Specialist Skill covered by the practical	Covered on activity
Pathway: Control and Instrumentation Specialist Skills	
CI1 Position, assemble, install and dismantle plant and equipment to agreed specifications	
CI2 Carry out planned, unplanned and preventative maintenance procedures on plant and equipment	
CI3 Replace, repair and/or remove components in plant and equipment and ensure its return to operational condition	
CI4 Diagnose and determine the cause of faults in electrical plant and equipment	
CI5 Calibrate and configure instrument and control systems	
Estimated total duration of practical (must be a minimum of 4 hours)	
Remember:	
 The specific detail of the tasks to be undertaken should be from the apprentices 	e kept confidential
 You will require differing tasks where you have more than be assessed 	one apprentice to
Practical Task: Include relevant photographs to illustrate task(s)	



EUIAS Office use only	
Date received	
Date signed off	



Appendix E: Practice Practical Observation Template

This document is for use by the person from the employer/training provider playing the role of the assessor during the practice practical observation. It is designed to help replicate the live assessment experience and to enable feedback to be provided to the apprentice.

Full Name of Apprentice	
Location(s) of Practice Practical Observation	
Full Name of Assessor	
Date of Practice Practical Observation	
Start Time	
End Time	
Assessor - Additional comments:	

			Grade
Please indicate the apprentice's practic	e practic	cal observation	
grade (F/P/M/D):			

Please Note:

Pass: Each criteria must be met to achieve a pass.

Merit or Distinction: All Pass criteria must be achieved PLUS a minimum number of merit and distinction as described in Section 3 in this specification.

Fail: The apprentice does not demonstrate the pass criteria.



Pass Criteria – All to be met Merit Criteria – Minimum two to be Distinction Criteria – Minimum two to						
		met		be met		
 Demonstrate a clear understanding of their own health, safety and environmental responsibilities and that of others Comply with the required health, safety and environmental working practices and regulations Conduct a suitable risk assessment and proactively identify workplace hazards Inspect and wear the correct personal protective equipment (PPE) required to carry out the activity Inform other relevant parties of matters affecting them where required 		 Demonstrate a deeper understanding of the health, safety and environmental implications of the work e.g. potential effect of failure to comply, environmental, social, financial, company impact Take a lead role in managing the site safety of self and others Consistently demonstrate compliance with safety requirements and make suggestions to reduce risks Identify poor/bad practice in relation to work activities and address the situation 		 Demonstrate exemplary health, safety and environmental knowledge and performance throughout the activity Identify health, safety and environmental deficiencies and implement appropriate solutions Challenge unsafe behaviour/ practices using appropriate techniques Pre-empt risks prior to task commencement and puts actions in place to prevent them occurring Demonstrate the ability to take a lead in accepting additional responsibility and autonomy to improve safety standards 		





Develop some open ended question	าร			
Questions				
Assessor must ask the following standardised questions.		Assessor must record all additional questions for clarification and the responses provided b apprentice including examples.	Recording timeline.	Mark awarded.
 Check to ensure the site is left in a safe/secure condition for others 				
 Regularly re-assess the site conditions and take action when necessary to maintain site safety 				
 a safe working environment Inspect and use the appropriate tools and equipment 				
 Comply with and apply safe systems of work and maintain 				





S2 Communicate with and provide information to stakeholders in line with personal role and responsibilities						
Pass Criteria – All to be met		Merit Criteria – Minimum two to be		Distinction Criteria – Minimum two to		
		met		be met		
Read and correctly interpret a		Demonstrate a detailed		Demonstrate their ability to		
range of technical information		knowledge of the range and		effectively communicate		
provided to plan and conduct		purpose of the technical		technical information across a		
the work		information available		wide range of stakeholders e.g.		
Demonstrate a clear		Identify inaccuracies/deficiencies		colleagues, management,		
understanding of the purpose	Ш	in the technical information		briefings/meetings, external		
and use of the technical		provided and resolve/report the		clients		
information provided for the		situation		Consult and involve team		
work		Challenge in a professional		members and/or other relevant ☐		
Use and refer to the technical		manner any areas of concern to		persons to achieve greater		
information provided to		clarify understanding		understanding and improved		
check/confirm the work		Identify/suggest methods of		performance		
conducted meets the required		improving the system/use of		Demonstrate the ability to build		
company		information		positive relationships and		
standards/specifications				actively address conflict with		
Where necessary,				positive outcomes		
question/clarify any						
information which is not clearly						
understood						
Complete any technical or						
supporting documentation in						





line with company policies/procedures			
Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.	Recording timeline.	Mark awarded.
Questions			
Develop some open ended questions			

S3 Prepare work areas to undertake work related activities and reinstate those areas after the completion of the work-related activities							
Pass Criteria – All to be met		Merit Criteria – Minimum two to be		Distinction Criteria – Minimum two to			
		met		be met			
Demonstrate an		Take a lead role in the		Demonstrate a deeper			
understanding of the		preparation of the work area		understanding of the			
importance of good		proactively informing others on		implications of good and poor			
preparation and the potential		matters which affect them		work preparation. e.g. In terms			
outcomes of poor preparation		Produce a detailed work plan to		of cost, time, value, company			
Inspect and prepare the work		support the organisation of the	Ш	reputation etc			
area and equipment to be		work, including measures to deal		Demonstrate the ability to take a			
worked on in line with		with contingencies	_	lead in accepting additional			
company policies/procedures		Demonstrate their ability to	Ш	responsibility and autonomy to			
		develop positive professional					





•	Identify and implement any		relationships with individuals to		achieve/impro	ove the work b	eing	
	special precautions required		support the work activity		undertaken			
	by the work activity or		Make valid suggestions/					
	environment, where required		recommendations to improve the					
•	Maintain good housekeeping		planning/preparation of the work					
	practices and a safe working		activity					
	environment throughout the		-					
	activity							
•	Store tools, equipment,							
	materials in a suitable/secure							
	position and dispose of waste							
	products in line with company							
	policies and Health Safety and							
	Environmental regulations							
•	Reinstate the work area to							
	ensure it is left in a safe and							
	secure condition e.g. locks,							
	notices, documentation							
٨	ssessor must ask the following		Assessor must record all additiona	ו מיי	netions asked	Recording	Mark	
	andardised questions.		for clarification and the responses	-		timeline.	award	ed.
	anaa aloou quoononoi		apprentice including examples.	۷.٥	riada by tilo		anaid	- u ·





Questions
Develop some open ended questions





S4 Assess and test the performance an	d condition of plant and equipment			
Pass Criteria – All to be met	Merit Criteria – Minimum two to be	Distinction Criteria – Minimum two to		
	met	be met		
Demonstrate a clear understanding of the company polices/procedures for the	Demonstrate a detailed technical knowledge of the range of tests available and their specific	procedures and the analysis of		
assessment and testing of plant and equipment to be worked on • Demonstrate a clear understanding of the types and purpose of testing procedures for the plant and equipment to be worked on • Assess and test the plant/	 purpose Take a pro-active, leading role in the testing activity providing clear guidance on the results obtained Make recommendations/ suggestions to improve testing efficiencies Demonstrate a detailed technical 	Demonstrate the ability to take a lead in accepting additional responsibility and autonomy to		
equipment to be worked on in line with company procedures • Use the correct tools, equipment and techniques to conduct testing in line with company procedures • Accurately interpret the results of the tests conducted	knowledge of the outcome of testing procedures and the implications of results obtained			





Record/report the results of			
the testing in line with			
company procedures			
Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.	Recording timeline.	Mark awarded.
Questions			
Develop some open ended questions			

S5 Locate, and rectify faults on plar	nt and	l equipment			
Pass Criteria – All to be met		Merit Criteria – Minimum two to be		Distinction Criteria – Minimum two	to
		met		be met	
Demonstrate a clear		Demonstrate a detailed		Demonstrate deeper technical	
understanding of their role and		understanding of the theory and		knowledge of fault location and	
responsibilities for the fault		principles of fault location and		fault prevention e.g. costs, lost	
location and rectification		rectification operations		time, sustainability of equipment,	
activity to be undertaken		Demonstrate a detailed		company reputation	
Provide an accurate technical		understanding of cause and	Ш	Identify and implement tangible	
explanation of the company's	Ш	effect of faults and preventative		changes that improve the	
fault location methods,		measures		efficiency of the work being	
processes and/or procedures				conducted	





•	Competently use the correct tools, equipment and methods to locate the rectify the fault/s in a timely manner Conduct the work in compliance with all relevant regulatory requirements and company policies and procedures Complete the required tests/checks to confirm the fault rectification has been successful Record the results/outcomes of rectification work in line with company requirements		 Pro-actively works with others to identify areas for improvement and follows through on agreed implementation Make recommendations/ suggestions to improve the location/rectification work activity 		 Identify and tall or deal with is nonconformity Demonstrate the lead in acceptor responsibility achieve/improundertaken 	sues of //compliance the ability to taing additional and autonomy	ake a	
	ssessor must ask the following andardised questions.		Assessor must record all additional for clarification and the responses apprentice including examples.	_		Recording timeline.	Mark awar	
	uestions evelop some open ended question	ns						





S6 Read, understand and interpret information and work in compliance with technical specifications and supporting documentation Pass Criteria - All to be met Merit Criteria - Minimum two to be Distinction Criteria - Minimum two to met be met Read and correctly interpret a Demonstrate a detailed knowledge of the range and range of technical information provided to plan and conduct purpose of the technical information available the work Demonstrate a clear Identify inaccuracies/deficiencies understanding of the purpose in the technical information and use of the technical provided and resolve/report the information provided for the situation work Challenge in a professional manner any areas of concern to Use and refer to the technical clarify understanding information provided to check/confirm the work Identify/suggest methods of conducted meets the required improving the system/use of information company standards/specifications Where necessary, question/clarify any information which is not clearly understood





Complete any technical or supporting documentation in line with company policies/procedures			
Assessor must ask the following standardised questions.	Assessor must record all additional quest for clarification and the responses provide apprentice including examples.	Recording timeline.	Mark awarded.
Questions			
Develop some open ended questions			

Pass Criteria – All to be met	Merit Criteria – Minimum two to be	Distinction Criteria – Minimum two	to
	met	be met	
Demonstrate a clear understanding of the company polices/procedures for the	Demonstrate a detailed technical knowledge of the range of required inspections and	Demonstrate a deeper technical understanding of inspection/maintenance	
inspection of plant and equipment to be worked on • Demonstrate a clear understanding of the company polices/procedures in relation	maintenance procedures and their specific purpose Pro-actively works with others to identify areas for improvement	 operations. e.g. In terms of cost, time, environmental impact, sustainability etc Demonstrate the ability to take a lead in accepting additional 	





Assessor must ask the following standardised questions.	Assessor must record all additional for clarification and the responses apprentice including examples.	_		Recording timeline.	Mark award	led.
the inspection in line with company procedures						
 activity Record/report the results of 						
application of policies and procedures during the work						
company policies/proceduresDemonstrate consistent						
quality standards required by	efficiencies					
and techniques to achieve the	actions to improve work					
 Correctly use tools, equipment 	improvement and implement					
on in line with company procedures	support the work activityIdentify areas for work					
plant/equipment to be worked	relationships with individuals to					
Identify and inspect the	develop positive professional					
sources of energy	Demonstrate the ability to		undertaken		- Cg	
to achieving the safe isolation of equipment from relevant	and follows through on agreed implementation			and autonomy ove the work b		





Questions
Develop some open ended questions





S8 Communicate, handover and confirm that the appropriate engineering process has been completed to specification						
Pass Criteria – All to be met		Merit Criteria – Minimum two to be		Distinction Criteria – Minimum two to		
		met		be met		
Demonstrate a clear		Demonstrate a detailed		Demonstrate the ability to take a		
understanding of their role and		understanding of the factors		lead in accepting additional		
responsibilities in returning the		which can support and influence		responsibility and autonomy to		
system/equipment back to		a smooth handover of		achieve/improve the handover		
operational service		equipment		process		
Provide an accurate technical		Take a pro-active lead in		Consult and involve team		
explanation of the company's		effectively communicating the		members and/or other relevant		
handover procedure		detail of handover arrangements		persons to achieve greater	Ш	
Complete the required		with stakeholders		understanding and improved		
checks/tests to confirm the		Demonstrate their ability to		performance		
equipment meets the company		develop positive professional		Demonstrate the ability to build		
operational requirements for		relationships with individuals to		positive relationships and		
handover		support handover process		actively address conflict/resolve		
Conduct the handover in		Confidently lead the handover		problems with positive outcomes		
compliance with all relevant		process taking charge of the		Demonstrate their ability to		
policies and procedures		operation and resolving any		effectively communicate		
Clearly communicate the	П	issues within their role		technical information across a	П	
details of the handover		responsibility		wide range of stakeholders e.g.		
including any additional		Adapts the method and style of		colleagues, management,		
requirements to the relevant		communications to changing		briefings/meetings, external		
parties		circumstances and need		clients		





•		Mark awarded.
İ	ication and the responses provided by th	

Pass Criteria – All to be met	Merit Criteria – Minimum two to be	Distinction Criteria – Minimum two to
	met	be met
Follows health and safety		
policies and procedures and		
be prepared to challenge		
unsafe behaviour using		
appropriate techniques to		





ensure the protection of people and property when working alone and/or with appropriate supervision			
Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.	Recording timeline.	Mark awarded.
Questions Develop some open ended questions			
Boveler deline open enada questione			

B2 Quality focused					
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met	Distinction Crite be met	eria – Minimu	m two to
Ensures that work achieves quality standard both occupationally and personally					
standardised questions.		Assessor must record all additional que for clarification and the responses pro apprentice including examples.		Recording timeline.	Mark awarded.





Questions
Develop some open ended questions

Pass Criteria – All to be met		Merit Criteria – Minimum two to be met	Distinction Crit be met	eria – Minimu	m two to
 Has the ability to work well with people from different disciplines, backgrounds and expertise to accomplish an activity safely and on time 					
Assessor must ask the following standardised questions.		Assessor must record all additional que for clarification and the responses pro apprentice including examples.		Recording timeline.	Mark awarded
Questions					
Develop some open ended questio	ns				





B4 Interpersonal skills					
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met	Distinction Criteria – Minimum two to be met		
Gets along well with others					
and takes into account their					
needs and concerns					
Assessor must ask the following standardised questions.		Assessor must record all additional que for clarification and the responses pro apprentice including examples.		Recording timeline.	Mark awarded.
Questions					
Develop some open ended question	ns				

B6 Sustainability and ethical behaviour						
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met	Distinction Crite be met	ria – Minimu	m two to	
Behaves ethically and undertakes work in a way that contributes to sustainable development						
Assessor must ask the following standardised questions.		Assessor must record all additional que for clarification and the responses pro apprentice including examples.		Recording timeline.	Mark awarded.	





Q	uestions					
D	evelop some open ended questio	ns				
					•	
В	7 Risk awareness					
P	ass Criteria – All to be met		Merit Criteria – Minimum two to be	Distinction Crite	ria – Minimu	m two to
			met	be met		
•	Demonstrates high					
	concentration, the desire to					
	reduce risks, ability to be					
	compliant and awareness of					
	change, through regular					
	monitoring and checking of					
	information					
Assessor must ask the following			Assessor must record all additional qu	estions asked	Recording	Mark
st	tandardised questions.		for clarification and the responses provided by the		timeline.	awarded.
Ļ			apprentice including examples.			
Q	uestions					



Develop some open ended questions



Pathway: Control and Instrumentation Role Specialist Skills

CI1 Position, assemble, install and dismantle plant and equipment to agreed specifications, which will include instrumentation and control of temperature, pressure and flow systems to agreed specifications Distinction Criteria - Minimum two to Pass Criteria - All to be met Merit Criteria - Minimum two to be be met met Demonstrate a clear Demonstrate a detailed technical Demonstrate deeper understanding of their role and knowledge of the methods and technical/commercial knowledge responsibilities in relation to processes used to conduct the of the equipment/operation e.g. the work to be conducted installation costs, technical work requirements planning, Provide an accurate technical Pro-actively works with others to sustainability of equipment etc explanation for the purpose of identify areas for improvement the work activity and follows through on agreed Identify and implement tangible changes that improve the Demonstrate a clear plan for implementation efficiency of the work being the work to be undertaken and Make recommendations conducted an understanding of any /suggestions to improve work safety/technical information Identify and take action to report efficiencies or deal with issues of given Produce a detailed work plan to nonconformity/compliance Use tools and equipment to support the work delivery competently achieve the Demonstrate the ability to take a including measures to deal with quality standards required by contingencies lead in accepting additional responsibility and autonomy to the company in a timely achieve/improve the work being manner Conduct the work in undertaken compliance with all relevant





,	evelop some open ended question	าร				
Q	uestions					
	ssessor must ask the following andardised questions.		Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.	Recording timeline.	Mark awarde	d.
•	regulatory requirements and company policies and procedures Deal effectively with any issues within their role responsibilities, where necessary Complete the required checks and tests to confirm the work meets the accuracy, finish and quality standards required					









company policies and procedures • Deal effectively with any issues within their role responsibilities, where necessary			
Complete the required checks and tests to confirm the work meets the accuracy, finish and quality standards required			
Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.	Recording timeline.	Mark awarded.
Questions Develop some open ended questions			

Cl3 Replace, repair and/or remove components in plant and equipment and ensure its return to operational condition							
Pass Criteria – All to be met		Merit Criteria – Minimum two to be		Distinction Criteria – Minimum two to			
		met		be met			
Demonstrate a clear		 Demonstrate a detailed 		Demonstrate deeper technical/			
understanding of their role and		understanding of the causes and		commercial knowledge of the			
responsibilities in relation to the		principles of component		repair/replacement work being			
work to be conducted		degradation		undertaken e.g. costs, effect on			





•	Provide an accurate technical	•	Demonstrate a detailed		maintenance periods, equipment	
	explanation for the purpose of		understanding of the		sustainability	
	the maintenance work		limits/restrictions of component	•	Identify and implement tangible	
•	Demonstrate a clear plan for		replacement or repair e.g. In		changes that improve the	
	the work to be undertaken and		terms of reliability, certification of		efficiency of the work being	
	an understanding of any		instruments/systems etc.		conducted	
	safety/technical information	•	Pro-actively works with others to	•	Identify and take action to report	
	given		identify areas for improvement		or deal with issues of	
•	Use tools and equipment to		and follows through on agreed		nonconformance/compliance	
	competently carry out the		implementation	•	Demonstrate the ability to take a	
	removal/replacement of	•	Make		lead in accepting additional	
	components in a logical		recommendations/suggestions		responsibility and autonomy to	Ш
	sequence and timely manner		to improve work efficiencies		achieve/improve the work being	
•	Conduct the work in	•	Produce a detailed work plan to		undertaken	
	compliance with all relevant		support the maintenance			
	regulatory requirements and		operation including measures to			
	company procedures		deal with contingencies			
•	Deal effectively with any					
	issues within their role					
	responsibilities, where					
	necessary	,				
•	Complete the required checks					
	and tests to confirm the work					





meets the accuracy, finish and quality standards required			
Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.	Recording timeline.	Mark awarded.
Questions			
Develop some open ended questions			





CI4 Diagnose and determine the ca	ause	of faults in plant and equipment		
Pass Criteria – All to be met		Merit Criteria – Minimum two to be		Distinction Criteria – Minimum two to
		met		be met
Demonstrate a clear		Demonstrate a detailed		Demonstrate deeper
understanding of their role		understanding of the		technical/commercial knowledge 🛮
and responsibilities in relation		theory/principles of relevant		of the effect of fault diagnosis and
to the fault diagnosis to be		diagnostic techniques		repair e.g. fault analysis, costs,
conducted		Able to identify the root cause of		prevention, lost time
Provide an accurate technical		the fault and preventative		Identify and implement tangible
explanation for the purpose		measures		changes that improve the
and process of the fault's		Pro-actively works with others		efficiency of the work being
activity		to identify areas for		conducted
Demonstrate a clear plan for		improvement and follows	Ш	Identify and take action to report
the diagnosis to be		through on agreed		or deal with issues of
undertaken and an		implementation		nonconformity/compliance
understanding of any		Make recommendations/		Demonstrate the ability to take a
safety/technical information		suggestions to improve work		lead in accepting additional
given		efficiencies		responsibility and autonomy to
Competently use the correct		Produce a detailed work plan to		achieve/improve the work being
tools, equipment, technical		support the maintenance		undertaken
data and diagnostic		operation including measures to		
techniques to identify, locate		deal with contingencies		
and diagnose fault/s in a				
timely manner				









CI5 Calibrate and configure instrum	ent a	nd control systems		
Pass Criteria – All to be met		Merit Criteria – Minimum two to be	Distinction Criteria – Minimum two	to
		met	be met	
Demonstrate a clear		Demonstrate a detailed	Demonstrate deeper technical	
understanding of their role and		understanding of the	knowledge of equipment	
responsibilities for the		theory/principles of	calibration and configuration e.g.	
calibration/configuration		system/equipment calibration	system / equipment parameters,	
activity to be undertaken		Demonstrate a detailed	tolerances, settings	
Provide an accurate technical		understanding of methods to	Identify and implement tangible	
explanation for the purpose]	prevent unplanned shutdown of	changes that improve the	
and process of the calibration	Ш	interacting equipment when	efficiency of the work being	
work		conducting calibration	conducted	
Demonstrate a clear plan		Pro-actively works with others to	Identify and take action to report	
which takes into consideration		identify areas for improvement	or deal with issues of	
the effects of calibration on the		and follows through on agreed	nonconformity/compliance	
operation of interacting		implementation	Demonstrate the ability to take a	
systems		Make recommendations/	lead in accepting added	
Competently use the correct		suggestions to improve work	responsibility and autonomy to	
tools, equipment and technical		efficiencies	achieve/improve the work being	
data technical data to calibrate		Produce a detailed work plan to	undertaken	
and configure instruments		support the maintenance	aa.c	
and/or systems in a timely		operation including measures to		
manner		deal with contingencies		
THE THE		dear with contingencies		





 Conduct the required tests/checks to confirm the consistency and accuracy of calibrated instruments/systems Record the results/outcomes of calibration work in line with company requirements 						
Assessor must ask the following standardised questions.		Assessor must record all additional for clarification and the responses apprentice including examples.	-	Recording timeline.	Mark awar	
Questions Develop some open ended question	าร					





Appendix F: Practice Technical Interview Template

This document is for use by the employer/provider person playing the role of the assessor during a practice technical interview. It is designed to help replicate the live assessment experience and to enable feedback to be provided to the apprentice.

The practice technical interview must be conducted under examination conditions and recorded. The apprentice must be asked questions.

There are a maximum of **100 marks** for the interview.

To achieve a Pass for the technical interview, a Pass is required in ALL relevant elements, including all skills from the specialist pathway.

To achieve a Merit or Distinction for the technical interview, all Pass criteria must be achieved PLUS a minimum number of merit and distinction marks as described in Section 3 in the Specification 'Grading and Grading Criteria – Component 3: Technical Interview.'

Apprentice Full Name:			
Employer and location:			
Assessor Full Name:			
Date of Interview:	Start time:	Finish time:	



K1 First principles relating to the ope	eratio	on and maintenance of appropriate pla	nt ar	nd equipment	
Pass Criteria – All to be met		Merit Criteria – Minimum two to be		Distinction Criteria – Minimum two	to
		met		be met	
 A working knowledge of the principles of operation for the range of plant/equipment they are responsible for The primary purpose of the range of plant/equipment worked on e.g. what the plant / equipment worked on does How the plant/equipment interacts within the overall system The typical characteristics of healthy and unhealthy operation for the range of plant/equipment worked on and how to identify the 					
 difference How they have used their knowledge of plant and equipment operating/maintenance 		equipment operating/maintenance principles to improve or enhance operational activities		into the effects of new technologies on current/future maintenance requirements/methodologies	





principles to support their work decisions/activities				
Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.		Recording timeline.	Mark awarded
Questions				
Develop some open ended questions				

K2 Relevant industry health and safety	standards, regulations, and environmental	and regulatory requirements
Pass Criteria – All to be met	Merit Criteria – Minimum two to be	Distinction Criteria – Minimum two to
	met	be met
A working knowledge of the	A detailed understanding of the	Excellent and thorough health,
relevant health, safety and $\qquad \Box$	relevant health, safety and	safety and environmental
environmental regulations and	environmental regulations and	knowledge and understanding in
standards and how they	standards by explaining	relation to the wider impact of
impact the overall operation	additional technical detail e.g.	relevant industry working
A clear understanding of their	how they influence how the work	practices and regulations for their
responsibilities and those of	is planned and/or conducted	work activities
others under the relevant	Conducting reviews of work	● How they have taken a leading
company policies and	health, safety and environmental	role in identifying health, safety
procedures which apply to the	arrangements and their	and environmental deficiencies
range of work undertaken and	applicability and adapting them	





	describe why they are		for changing circumstances whilst		and then imple	ementing the		
	required		still maintaining safety		appropriate so	lution/s in line	with	
•	A knowledge of the company		How they have readily accepted		Company police	cies/procedure	es	
	process/s and/or procedures		additional health, safety and		How they have	e challenged		
	for achieving and maintaining		environmental		unsafe behavi	our/practices ι	using	
	safety when working on		responsibility/autonomy to		appropriate ted	chniques		
	systems within their work role	П	maintain/improve work safety					
	and how they impact the work		standards					
	e.g. safe systems of work,							
	documentation							
•	A clear understanding of the							
	purpose of conducting risk							
	assessments and the factors							
	which affect the critical							
	reasoning when making risk							
	assessment decisions							
•	A knowledge of the Company							
	procedure/s for reporting							
	safety concerns and							
	emergencies							
	sessor must ask the following Indardised questions.	ļ	Assessor must record all additiona clarification and the response provapprentice including examples.	•		Recording timeline.	Mark awar	





ns		
relop some open ended questions		

Pass Criteria – All to be met			
A working knowledge of the maintenance requirements for the range of plant/ equipment worked on within their job role A working knowledge of the company's operational processes and procedures and how these have affected/influenced their maintenance work Their planning process for conducting maintenance operations and the factors which have influenced their critical reasoning/decision making when planning their work			





•	A working knowledge of the range and type of test procedures which they have used to confirm their work has met with company operational requirements and standards A knowledge of how their maintenance activities have impacted plant/equipment/others				
	ssessor must ask the following andardised questions.		Assessor must record all additional questions asked for clarification and the response provided by the apprentice including examples.	Recording timeline.	Mark awarded.
	uestions evelop some open ended question	15			

K4 The relevant engineering theories and principles relative to their occupation								
Pass Criteria – All to be met			erit Criteria – Minimum two to k	Distinction Criteria – Minimum two to				
			met		be met			
A working knowledge of the		•	A detailed knowledge of the		An excellent and thorough			
range of relevant operational			relevant operational theories		knowledge and understanding of $\;\Box$			
theories and principles which			and principles which have		the relevant operational theories			
underpin their work								





Questions Develop some open ended question	25						
Assessor must ask the following standardised questions.		Assessor must record all addition for clarification and the response apprentice including examples.	-		Recording timeline.	Mark awar	
 A working knowledge of the basic effect/influence of the relevant operational theories and principles which directly underpin their work activities The benefits of being able to identify and apply the differing operational theories and principles in relation to their job role e.g. maintenance inspections, fault finding A working knowledge of how to apply the relevant operational formulae which can be used to support their work activities 		How they have used relevant operational theories and principles to support / influence their work		and principles and equipment How they have understanding operational the principles to m which have infl an improved pe How they have further technications based on rel theories and pe support the eff future technological	t in their job ro e used their of relevant eories and take suggestic fluenced or led erformance e conducted al research while levant operation rinciples to fects of curren	ons d to hich onal	





S5 Locate, and rectify faults on plant and equipment							
Pass Criteria – All to be met		Merit Criteria – Minimum two to be	Distinction Criteria – Minimum two to				
			be met				
A working knowledge of the		A detailed knowledge of the		An excellent			
company policies and		company processes and		knowledge/understanding in			
procedures for the location of		procedures by explaining		relation to fault			
faults on plant and equipment		additional technical detail for the		location/rectification procedures			
worked on		fault location		within their job role			
A clear understanding of the	Ш	methods/procedures conducted		How they have used a range of			
company policies and		on plant/ equipment/systems		methods to locate, and rectify			
procedures in relation to		A detailed understanding of the		faults on plant and equipment,			
achieving the safe isolation of		tools and equipment that can be		with a detailed			
equipment from relevant		used to identify and locate faults		explanation/justification of their			
sources of energy and		on plant/equipment/systems		chosen methods			
maintaining safety from the		Their ability to take a lead in fault		How they have used their			
system		finding/rectification activities and		knowledge of fault			
How they have used tools/		accept additional		location/rectification to			
equipment/techniques to		responsibility/autonomy for the		improve/influence work			
inspect and identify faults on		fault work undertaken		outcomes			
plant/equipment and develop							
sound solutions while							
recognising and defining							
problems							





Assessor must ask the following standardised questions. Assessor must record all additional questions asked for clarification and the response provided by the apprentice including examples. Questions
Assessor must ask the following standardised questions. Assessor must record all additional questions asked for clarification and the response provided by the timeline.
Company procedures
How they have used tools/equipment/techniques to repair faults and confirm the rectification to the quality standards required by company policies/procedures How they have recorded / reported the results of fault-finding activities in line with

S6 Read, understand and interpret information and work in compliance with technical specifications and supporting						
documentation						
Pass Criteria – All to be met	Merit Criteria – Minimum two to be	Distinction Criteria – Minimum two to				
	met	be met				
A working knowledge of the	How they have taken a lead in					
range of information which can	interpreting/relaying technical					





_				
	be gained from company		information to progress work or	
	policies and procedures which		support others understanding	
	affect their work	•	How they have	
•	A working knowledge of the		questioned/clarified information	
	range and type of technical		which was unclear or incorrect	
	information/specifications	•	How they have	
	available and how they are		reported/updated information	
	used to support work activities		which was not technically	
	How they have used company		correct/accurate	
	work information and technical			
	specifications to			
	conduct/support their work			
	activities			
•	Describe how they have used			
	Company information to			
	record/report the results of			
	work carried out in line with			
	company procedures			





S7 Inspect and maintain appropriate plant and equipment to meet operational requirements							
Pass Criteria – All to be met		Merit Criteria – Minimum two to b	Эе	Distinction Criteria – Minimum two to			
	met		be met				
How they have planned		Their ability to explain in detail		An excellent			
inspection and maintenance		the range of skills, knowledge		knowledge/understanding in			
operations and the factors		and behaviours they have		relation to			
which influenced their critical		used to support their		inspection/maintenance			
reasoning/decisions during		conducted		procedures within their job role			
their planning process		inspection/maintenance		Their ability to explain/justify the			
How they have		operations		Company inspection and			
implemented/complied with	Ц	How they have pro-actively		maintenance procedures used			
company operational		worked with others to resolve		for a range of plant and			
processes and procedures		problems during		equipment			
during their conducted		inspection/maintenance		How they have taken a lead in			
inspection and maintenance		operations which supported		accepting additional			
work		work progression/performance		responsibility/autonomy to			
How they have used		How they have taken action to		improve the outcome of			
tools/techniques/equipment to		report or deal with issues of		inspection/maintenance			
conduct maintenance		nonconformity or non-		operations			
inspection and maintenance		compliance during					
procedures on a range of		inspection/maintenance work					
plant/equipment to meet		operations					
company standards	Ш						





Develop some open ended questions			
Questions			
Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the response provided by the apprentice including examples.	Recording timeline.	Mark awarded.
 How they have used test equipment/procedures on plant/equipment to confirm that the work completed met with Company operational requirements How they have reported/recorded the outcome of their inspection and maintenance operations 			

S8 Communicate, handover and confirm that the appropriate engineering process has been completed to specification										
Pass Criteria – All to be met			erit Criteria – Minimum two to b	Distinction Criteria – Minimum two	to					
		m	et		be met					
A working knowledge of their		• `	How they have taken a pro-		How they have					
role and responsibilities in the			active lead in the handover		consulted/involved team					
handover of the			process by effectively		members/other relevant persons					
			communicating the detail of							





	system/equipment/plant back			handover arrangements with		to achieve greater understanding	
	to operational service			stakeholders		and improved performance	
•	A working knowledge of the		•	Their ability to develop positive	•	Their ability to actively address	
	Company process for the	П		professional relationships with		conflict/ resolve problems with	
	handover of plant/equipment	_		individuals to support the		positive outcomes to build	
	which has been worked on			handover process and resolve		positive relationships and	
•	How they have completed the	П		any issues within their role	•	Their ability to effectively	
	required checks/tests to	Ш		responsibility		communicate technical	
	confirm the		•	How they have adapted their		information across a wide range	
	plant/equipment/system			communication method/style		of stakeholders e.g. colleagues,	
	worked on meets operational			to better suit the changing		management,	
	requirements before			circumstances/needs of the		briefings/meetings, external	
	conducting the handover			work		clients	
	process						
•	How they have completed the						
	handover of plant/equipment in						
	line with relevant company						
	policies and procedures						
•	How they have confirmed the	П					
	recipient/s of the handover	_					
	process fully understand any						
	critical information given						
•	How they have completed the						
	company process for reporting/						





recording the handover of plant/equipment back into service in line with company procedures			
Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the response provided by the apprentice including examples.	Recording timeline.	Mark awarded.
Questions Develop some open ended questions			





Pathway: Control and Instrumentation Role Specialist Skills

Cl1 Position, assemble, install and dismantle plant and equipment to agreed specifications							
Pass Criteria – All to be met		Merit Criteria – Minimum two	to	Distinction Criteria – Minimum two to be			
		be met		met			
A working knowledge of their		A detailed understanding		An excellent knowledge and			
responsibilities for the range of		of the range and technical		understanding in relation to the \Box			
work activities within their job role		requirements of the plant		range and technical requirements			
How they have used company		and equipment worked on		of the plant and equipment worked			
policies/procedures/specifications		A detailed technical		on			
to conduct a range of position,		understanding for the		Their ability to explain/justify the			
assemble, install and dismantle		range of		Company methods			
work activities		methods/techniques used		/processes/procedures used for the			
How they have used tools and		for their position,		range of plant and equipment			
equipment to conduct a range of		assemble, install and		worked on			
position, assemble, install and		dismantle work activities		How they have taken a lead in			
dismantle activities in compliance		A detailed technical		accepting additional			
with specifications and regulatory		understanding for the		responsibility/autonomy to improve			
requirements		factors which can affect		the outcome of their			
How they have conducted the		their critical reasoning		position/assemble/install/dismantle			
required checks/test procedures		when making decisions to		work activities			
to confirm the completed work		resolve technical					
meets company/operational		problems					
requirements		How they have taken a					
		proactive lead in					





Questions Develop some open ended questions						
Assessor must ask the following standardised questions.	Assessor must record all ad asked for clarification and the by the apprentice including	ne re	sponse provided	Recording timeline.	Mark awar	
 How they have used critical reasoning to identify and resolve technical problems within their control effectively during their range of work activities How they have reported/recorded the work conducted and returned the work area to a safe condition in line with company procedures 	organising/controlling their conducted work activities which has led to a successful completion					

Pass Criteria – All to be met	Merit Criteria – Minimum two t	0	Distinction Criteria – Minimum two to		
	be met		be met		
A working knowledge of their	A detailed understanding of		An excellent knowledge and		
responsibilities for the range of	the range and technical		understanding in relation to the		
work activities within their job role	requirements of the plant		range and technical maintenance		
How they have used company	and equipment worked on		requirements of the plant and		
policies/procedures/specifications			equipment worked on		





to conduct a range of		•	A detailed technical	•	Their ability to explain/justify the	
maintenance procedures work			understanding for the range		company maintenance	
activities			of methods/techniques		methods/processes/procedures	
How they have used tools and	П		used for maintenance work		used for the range of plant and	
equipment to conduct a range of			undertaken		equipment worked on	
maintenance procedures in		•	A detailed technical	•	How they have taken a lead in	
compliance with all company			understanding for the		accepting additional	
health, safety and environmental			factors which can affect		responsibility/autonomy to	
processes, policies and			their critical reasoning when		improve the outcome of their	
regulatory requirements			making decisions to resolve		maintenance work activities	
How they have conducted the			technical problems			
required checks/test procedures		•	How they have taken a pro-			
to confirm the completed			active lead in			
maintenance work meets			organising/controlling their			
company requirements			conducted work activities			
How they have used critical			which has led to a			
reasoning to identify and resolve			successful completion			
technical problems within their						
control effectively during their						
range of work activities						
How they have reported/recorded		V				
the work conducted and returned						
the work area to a safe condition						
in line with company procedures						





Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the response provided by the apprentice including examples.	Recording timeline.	Mark awarded.
Questions			
Develop some open ended questions			





CI3 Replace, repair and/or remove components in plant and equipment and ensure its return to operational condition **AND** Cl4 Diagnose and determine the cause of faults in electrical plant and equipment Pass Criteria - All to be met Merit Criteria - Minimum two to be Distinction Criteria - Minimum two to met be met A working knowledge of their A detailed understanding of • An excellent knowledge and responsibilities for the range of the methods and technical understanding in relation to the replace/repair activities requirements for the range of range and technical undertaken plant and equipment replaced/ requirements of the plant and repaired equipment replaced/repaired How they have used company A detailed technical Their ability to explain/justify the policies/ procedures/specifications to understanding for the range of company methods/processes/ conduct a range of causes and effects which lead procedures used for the range of replace/repair work procedures to plant and equipment being plant and equipment replaced/repaired replaced/repaired How they have used tools and equipment to conduct a range A detailed technical How they have taken a lead in of replace/repair procedures in understanding for the factors accepting additional compliance with all company which can affect their critical responsibility/autonomy to health, safety and reasoning when making improve the outcome of their decisions to resolve technical environmental processes, replace/repair work activities policies and regulatory problems requirements How they have taken a proactive lead in





•	How they have conducted the		organising/controlling their				
	required checks/test		conducted replace/repair work				
	procedures to confirm the		activities which has led to a				
	plant/equipment worked on		successful completion				
	can be returned to operational						
	service						
•	How they have used critical						
	reasoning to identify and						
	resolve technical problems						
	within their control						
•	How they have returned						
	plant/equipment worked on to						
	operational service in line with						
	company procedures						
	ssessor must ask the following andardised questions.		Assessor must record all addition for clarification and the responsa	•	Recording timeline.		rded.
Q	uestions						
D	evelop some open ended question	าร					
						1	





CI5 Calibrate and configure instrument and control systems								
Pass Criteria – All to be met		Merit Criteria – Minimum two to b	е	Distinction Criteria – Minimum two to				
		met		be met				
A working knowledge of their		 A detailed knowledge of the 		How they would identify and				
responsibilities for the range of		principles of calibration and/or		implement potential changes to				
diagnostic activities		configuration of plant and		improve the efficiency of				
undertaken		equipment		calibration and/or configuration				
How they calibrated	Ш	Detailed knowledge of the		activities				
instruments to a given	_	ways to minimise risk of all		How they reported or dealt with				
specification	Ш	planned shutdowns during		instruments that failed to meet				
How they planned calibration		calibration and/or configuration		calibration and/or configuration				
activities to minimise		activities		compliance				
operational conditions		How they would work with in a		How they took an autonomous				
How they selected the		team to identify improvements		role during calibration and/or				
appropriate tools and		on calibration and/or		configuration activities				
equipment for specific		configuration activities						
calibration and/or configuration		 How they would report any 						
activities		potential improvements						
A working knowledge of the		associated with calibration						
company procedures and		and/or configuration activities						
regulatory requirements that								
must be followed when								
calibrating and/ or configuring								
instruments								





 How they applied a calibration that was both accurate and consistent How they recorded the outcomes of calibration and/or configuration activities 			
Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the response provided by the apprentice including examples.	Recording timeline.	Mark awarded.
Questions Develop some open ended questions			





Appendix G: Portfolio Mapping Document

Introduction

Throughout the on-programme part of the apprenticeship, the apprentice will need to compile a portfolio of evidence to support the requirements of the technical interview which is based on the portfolio. The evidence within the portfolio will need to be mapped by the apprentice to the KSB requirements using the portfolio mapping document below.

The independent assessor will use the portfolio mapping document to review the evidence in the apprentice's portfolio in preparation for the technical interview.

The portfolio mapping document below consists of the core requirements and specialist skills.

Apprentices next steps

- 1. Complete all the details on the first page and include employer details of where relevant competencies from their experience at work was gained.
- 2. Ensure each piece of evidence is signed off by their tutor/supervisor/mentor and training provider. The apprentice can use a number of different types of evidence to demonstrate their competence as described in Section 5 of the Specification 'What to include in the portfolio of evidence'. For further guidance, the apprentice must seek advice from their tutor/supervisor/mentor and training provider.
- 3. Map evidence to the criteria in the following pages using a referencing system indicating where the evidence for the criteria is located in the portfolio e.g., work based evidence Job 1 (J1) page 5 paragraph 2. This will allow the independent assessor, appointed by the EUIAS to locate the section or specific piece of evidence being discussed and referred to during the interview.
- 4. Place the portfolio mapping document at the front of the portfolio of evidence.

The apprentice's training provider must make arrangements for EUIAS to have access to the apprentice's portfolio including the portfolio mapping document at Gateway. For those using e-portfolios such as ONEFILE or SMARTASSESSOR the reference used must simply be the file or folder name you used when uploading the evidence to such systems.



Portfolio Mapping Document

This document must be placed at the front of the Portfolio and submitted to EUIAS with the Portfolio.

Mapping Sign off on Completion:

Apprentice Full Name (Print)	Apprentice Signature	Training Provider (Company)	Training Provider Full Name of Signatory	Date of Sign Off

Core Knowledge

Ref. Apprenticeship Standard Criteria		PORTFOLIO REVIEW (Apprentice Input)			
		1	2	3	
K1	First principles relating to operation and maintenance of plant and equipment				
K2	Relevant industry health and safety standards, regulations and environmental and regulatory requirements		7		
K3	Maintenance and operational practices, processes and procedures				
K4	Relevant engineering theories and principles				
Assessor Comments:					



Core Skills

Ref.	Apprenticeship Standard Criteria	PORTFOLIO REVIEW (Apprentice Input)		
			2	3
S5	Locate, and rectify faults on plant and equipment			
S6	Read, understand, interpret and work to technical information			
S7	S7 Inspect and maintain plant and equipment			
S8	S8 Communicate, handover and confirm that the appropriate engineering process has been completed			
Asse	essor Comments:			



Core Behaviours

Ref.	ef. Apprenticeship Standard Criteria		PORTFOLIO REVIEW (Apprentice Input)			
		1	2	3		
B5	Critical reasoning					
Asse	ssor Comments:					



Pathway: Control and Instrumentation Specific Skills

Ref.	Apprenticeship Standard Criteria	PORTFOLIO REVIEW (Apprentice Input)				
		1	2	3		
CI1	Position, assemble, install and dismantle plant and equipment to agreed specifications					
CI2	Carry out planned, unplanned and preventative maintenance on plant and equipment					
CI3	Replace, repair and/or remove components in plant and equipment and ensure its return to operational condition					
CI4	Diagnose and determine the cause of faults in plant and equipment					
CI5	Calibrate and configure instrument and control systems					
Assessor Comments:						



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