



Unit Assessment Record (UAR)

Electrical Plant Protection (D3PN 04)

Credit Value: 1.5

NB: After entering your personal details please pass this document to your tutor for completion and eventual return to COLU. You may wish to retain a copy for your own use.

TITLE:	SURNAME:	UNIT TUTOR:
FORENAME(s):	CENTRE:	
HOME ADDRESS:	ADDRESS:	
.....	
.....	
POST CODE:	POST CODE:	
HOME TEL:	TEL NO:	
WORK TEL:	FAX NO:	
FAX NO:	E-MAIL:	
E-MAIL:	CENTRE CONTACT:	

SQA REG. NO:	UNIT START DATE:
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AUTHENTICATION OF EVIDENCE – INTERVIEW	DATE:
PORTFOLIO OF EVIDENCE AVAILABLE	<input type="checkbox"/>
EVIDENCE AUTHENTICATED	<input type="checkbox"/>
ALL OUTCOMES SATISFIED	<input type="checkbox"/>
Please initial as appropriate	
NOTES:	
.....	
.....	
.....	
.....	

GRADE	REFER	PASS	MERIT	
FINAL GRADE:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Please initial as appropriate
ASSESSOR:				DATE:



FOR COLU USE ONLY

VERIFIER:..... DATE:

Evidence Log – For each of the performance criteria please clearly identify the evidence within the portfolio that satisfies the criterion fully with respect to the range and evidence requirements as stated in the unit specification.

1) Solve cable fault location problems

TMA Evidence

Supplementary Evidence & Location

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| (a) An algebraic expression deduced for cable fault location using a bridge method (including the effect of measuring leads) is correct. |
| (b) Calculations using a bridge method of cable fault location are correct. |

2) Analyse and resolve simple power systems into one-line impedance circuits and evaluate fault levels

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| (a) Definitions of fault level and base MVA are correct. |
| (b) Calculations of power system parameters are correct. |
| (c) Construction of system impedance diagrams is in accordance with standard practice. |

3) Demonstrate an understanding of current transformers for application in electrical system protection

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| (a) Calculations of CT parameters are correct. |
| (b) An explanation of the meaning of a CT specification is correct in terms of turns ratio, burden VA and class. |
| (c) A class of CT is correctly selected for a particular application. |

4) Apply the techniques of electrical protection relays to an electrical system

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| (a) Techniques of protective relay application are described correctly. |
| (b) Protective relay settings are calculated. |

5) Apply the principles of earthing, according to the IEE Wiring Regulations, to typical industrial electrical installations

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| (a) Earthing system parameters are calculated correctly. |
| (b) The calculation and selection of appropriate circuit protection is correct. |

Assessment Matrix – The matrix indicates which instruments of assessment, within the primary assessment package, are required to satisfy individual performance criteria.

The column titled **Merit** identifies where particular opportunities exist for candidates to develop their work with a view to satisfying the requirements for the award of merit.

The row titled **Minimum Evidence Requirement** indicates the minimum number of examples required (or times a task must be performed) to satisfy a particular performance criterion.

Electrical Plant Protection

OUTCOMES/PERFORMANCE CRITERIA		Qu	1a	1b	2a	2b	2c	3a	3b	3c	4a	4b	5a	5b	Merit		
EVIDENCE	TMA - 1, 2, 3 (v2)	1		X													
		2		X													
		3	X													X	
		4	X													X	
	TMA - 4 (v2)	1			X												
		2				X	X										
		3				X	X										
		4				X	X										X
		5				X											
		6				X											
		7				X	X										
	TMA - 5 (1-6) (v2)	1							X								
	2							X	X								
	3							X		X							
	4							X			X	X					
	5											X					
	6											X					
TMA - 5 (7-12) (v2)	1										X						
	2											X					
	3											X				X	
	4											X				X	
TMA - 6 (v2)	1												X				
	2												X				
	3												X				
	4												X	X		X	
MINIMUM EVIDENCE REQUIREMENT			2	2	1	6	4	4	1	1	2	6	4	1		6	

Merit Statement

To gain a pass in this unit, a candidate must meet the standards set out in the outcomes, performance criteria, range statements and evidence requirements.

To achieve a merit in this unit, a candidate must demonstrate a superior or more sophisticated level of performance. In this unit this might be shown in the following ways:

- (a) by the transfer of a competence gained in one situation to a related but unfamiliar situation
- (b) by integrating the knowledge of two or more outcomes to solve problems that are more complex than would be necessary to demonstrate competence in a single outcome
- (c) by the demonstration of a critical awareness of the subject matter in relation to current practice in electrical plant protection
- (d) by exercising sound engineering judgement in the solution of a problem.