



Unit Assessment Record (UAR)

Engineering Principles (Electrical) (D3PT 04)

Credit Value: 1

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:



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VERIFIER:..... DATE:

Evidence Log – For each of the performance criteria please clearly identify the evidence within the portfolio that satisfies the criterion.

1) Analyse composite electromagnetic circuits

TMA Evidence

Supplementary Evidence & Location

- | |
|---|
| (a) Characterization of the effects of the non-linear relationship between flux density and magnetic field strength is correct for magnetic materials. |
| (b) Appraisal of the behaviour of a magnetic material undergoing cyclic magnetization is complete in terms of the prescribed phenomena. |
| (c) Application of the formulae in the solution of practical problems involving electromagnetic circuits is appropriate in terms of circuit dimensions, units and accuracy. |
| (d) Identification of the desirable properties of a magnetic material is appropriate in terms of the application. |

2) Analyse a.c. circuits

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|---|
| (a) Sketches of phasor diagrams representing R , L and C circuits are correct in terms of phase relationships and phasor summation. |
| (b) Algebraic analysis of R , L and C circuits is correct in terms of representation, method and accuracy. |

3) Investigate the resonant condition in series and parallel circuits

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| (a) The resonant behaviour of series and parallel tuned circuit is defined correctly in terms of their impedance and supply voltage-current phase relationships. |
| (b) Sketches of phasor diagrams to represent a tuned circuit below, at and above resonance are correct in terms of phase and magnitude relationships. |
| (c) Calculations involving circuit parameters are correct in terms of a given tuned circuit model. |
| (d) The plot of the frequency response of a tuned circuit is accurate in terms of magnitude, centre frequency and bandwidth. |

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.

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OUTCOMES/PERFORMANCE CRITERIA		Qu	1a	1b	1c	1d	2a	2b	3a	3b	3c	3d	4a	4b	Merit	
EVIDENCE	EPE - 1 - TMA (v2)	1			X											
		2	X	X		X										
		3			X											
		4				X										
	EPE - 2 - TMA (v2)	1					X	X								
		2					X	X								
		3					X	X								
		4					X	X								
	EPE - 3 - TMA (v2)	1							X							
		2								X						
		3									X	X				
		4									X					
	EPE - 4 TMA (v2)	1											X			
		2											X			
		3											X	X		
		4											X	X		
	MERIT ASSIGNMENT (v2)	1														X
	MINIMUM EVIDENCE REQUIREMENT			1	1	2	2	4	4	1	1	2	1	4	2	1

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 one or more of the following ways:

- (a) integration of theory with practice
- (b) synthesis of two or more outcomes in solving problems
- (c) logical and lucid presentation of work
- (d) depth of further reading and research.