



Unit Assessment Record (UAR) Electronic Devices (D3PP 04))

Credit Value: 2.0

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:	
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.....	
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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:

4) Apply field-effect transistor theory in practical applications

TMA Evidence

Supplementary Evidence & Location

(a) The principles of operation of a field-effect transistor are correctly related to the appropriate mathematical model.
(b) Transistor ratings and characteristics are correctly interpreted.
(c) Measurements made to plot transfer characteristics are accurate and the graph correct in terms of scale and annotation.
(d) The switching properties of the MOSFET are demonstrated.
(e) Measured performance of a single stage FET amplifier is compared to that predicted from circuit and small-signal model analysis.

5) Evaluate the properties and applications of optoelectronic devices

(a) The solutions to problems relating the operation and performance of an optical fibre to its characteristics and light source are correct.
(b) Analysis of the effects of light upon the conductivity of a doped semiconductor is correct in terms of the irradiance and wavelength of the light and the temperature and properties of the semiconductor.
(c) The performance of an optoelectronic device is calculated given its physical properties and operating conditions.
(d) The relative advantages of solid state displays are critically compared.
(e) The advantages of using optical coupling are correctly stated.

Additional Evidence – Identify any additional evidence, e.g. transcript of oral interview questions and responses/checklist or additional assessment exercises, etc.

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Use additional sheets as required

Justification of Merit Award

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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.

Electronic Devices

OUTCOMES/PERFORMANCE CRITERIA		Qu	1a	1b	1c	1d	1e	2a	2b	2c	2d	3a	3b	3c	3d	3e	3f	4a	4b	4c	4d	4e	5a	5b	5c	5d	5e	Merit		
TMA - 1 (v2)	1							F	O	R	M	A	T	I	V	E														
	2							F	O	R	M	A	T	I	V	E														
	3	X																												
	4						X																							
	5			X																										
	6						X	X																						
TMA - 2 (v2)	1		X			X	X																							
	2						X	X																						
	3						X																							
	4						X																							
	5								X																					
	6									X																				
	7									X																				
	8							X	X																					
	9								X																					
	10									X																				
TMA - 3 (v2)	1											X																		
	2											X																		
	3												X																	
	4												X	X																
	5											X	X																	
	6												X																	
	7													X																
	8													X																
	9																	X	X				X							
	10																	X			X									
TMA - 4 (v2)	1																						X	X						
	2																							X						
	3																							X		X				
	4																							X						
	5																							X						
	6																							X						
	7																						X							
	8																						X							
	9																								X					
TMA - 5 (EXPERIMENTS) (v2)	1							X	X	X																				
	2							X	X																					
	3											X			X															
	4											X	X																	
	5											X				X														
	6																	X	X			X								
	7																	X	X	X	X									
	8																							X	X					
MERIT ASSIGNMENT																												X		
MINIMUM EVIDENCE REQUIREMENT			1	1	1	2	3	4	2	8	2	3	2	7	1	1	1	2	3	2	2	3	2	2	7	1	1	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 the following ways:

- (a) demonstrating an ability to use a number of different performance criteria in an integrative way (e.g. to solve problems that are more complex than are necessary to demonstrate the achievement of the individual performance criteria)
- (b) using the individual performance criteria in a creative way to solve unfamiliar problems (i.e. is able to transfer a competence gained in one situation to a related but unfamiliar situation)
- (c) demonstrating a critical awareness of the significance of the practical exercise to the theory and development of the subject.