



Oxford Cambridge and RSA

OCR Level 1/Level 2 Cambridge National in Engineering Programmable Systems

Qualification J824

Unit R048

Unit Recording Sheet

Please read the instructions printed at the end of this form. A Unit Recording Sheet must be completed for each candidate and unit.											
Unit Title	Making and testing electronic circuits				Unit Code	R048	Session		Year	2	0
Scenario Title											
Centre Name							Centre Number				
Candidate Name							Candidate Number				
Marking Criteria							Teacher Comments		Mark	Page No.	
Task 1 – Topic Area 1: Drawing and simulating electronic circuits											
MB1: 1 - 2 marks			MB2: 3 - 4 marks			MB3: 5- 6 marks					
Produces circuit schematic diagram with limited accuracy using CAD software. [1 2]			Produces circuit schematic diagram with partial accuracy using CAD software. [3 4]			Produces fully accurate circuit schematic diagram using CAD software. [5 6]			/6		
MB1: 1 - 2 marks			MB2: 3 - 4 marks			MB3: 5- 6 marks					
Undertakes basic testing of the circuit, using circuit simulation and test features of CAD software prior to PCB design, to show the circuit functions correctly. Takes few appropriate actions based on the outcomes of testing. [1 2]			Undertakes adequate testing of the circuit, using circuit simulation and test features of CAD software prior to PCB design, to show the circuit functions correctly. Takes some appropriate actions based on the outcomes of testing. [3 4]			Undertakes comprehensive testing of the circuit using circuit simulation and test features of CAD software prior to PCB design, to show the circuit functions correctly. Takes fully appropriate actions based on the outcomes of testing. [5 6]			/6		

Marking Criteria			Teacher Comments	Mark	Page No.
Task 1 (continued) – Topic Area 1: Drawing and simulating electronic circuits					
MB1: 1 - 3 marks	MB2: 4 - 6 marks	MB3: 7- 9 marks			
Uses CAD software to produce a PCB layout showing track and component views, with limited accuracy. [1 2 3]	Uses CAD software to produce a PCB layout showing track and component views, with partial accuracy. [4 5 6]	Uses CAD software to produce a PCB layout showing track and component views, that is fully accurate. [7 8 9]			
				/9	

Marking Criteria			Teacher Comments	Mark	Page No.
Task 2 – Topic Area 2: Constructing electronic circuits					
MB1: 1 - 3 marks	MB2: 4 - 6 marks	MB3: 7 - 9 marks			
Demonstrates limited skills to produce a PCB using an appropriate method. Dependent upon assistance to produce a PCB. Dependent upon reminders of safety requirements in order to work safely. [1 2 3]	Demonstrates adequate skills to produce a PCB using an appropriate method. Assisted to produce a PCB. Worked safely with some reminders of safety requirements. [4 5 6]	Demonstrates effective skills to produce a PCB using an appropriate method Works independently to produce a PCB. Worked safely at all times without additional instruction. [7 8 9]		/9	
MB1: 1 - 4 marks	MB2: 5 - 8 marks	MB3: 9 - 12 marks			
Demonstrates limited skills to populate and assemble a PCB using appropriate tools and equipment. Dependent upon assistance to populate and assemble a PCB. Dependent upon reminders of safety requirements in order to work safely. [1 2 3 4]	Demonstrates adequate skills to populate and assemble a PCB using appropriate tools and equipment. Assisted to populate and assemble a PCB. Worked safely with some reminders of safety requirements. [5 6 7 8]	Demonstrates effective skills to populate and assemble a PCB using appropriate tools and equipment Works independently to populate and assemble a PCB. Worked safely at all times without additional instruction. [9 10 11 12]		/12	

Marking Criteria			Teacher Comments	Mark	Page No.
Task 3 – Topic Area 3: Testing electronic circuits					
MB1: 1 - 3 marks	MB2: 4 - 6 marks	MB3: 7 - 9 marks			
Undertakes basic visual and functional testing of the operation of the electronic circuit. Undertakes basic fault identification in electronic circuits. [1 2 3]	Undertakes adequate visual and functional testing of the operation of the electronic circuit. Undertakes adequate fault identification in electronic circuits. [4 5 6]	Undertakes comprehensive visual and functional testing of the operation of the electronic circuit. Undertakes comprehensive fault identification in electronic circuits. [7 8 9]		/9	
MB1: 1 - 3 marks	MB2: 4 - 6 marks	MB3: 7 - 9 marks			
Undertakes a basic evaluation of final circuit construction and its operation. [1 2 3]	Undertakes an adequate evaluation of final circuit construction and its operation. [4 5 6]	Undertakes a comprehensive evaluation of final circuit construction and its operation. [7 8 9]		/9	
Total				/60	

Please tick to confirm this work has been standardised internally	<input type="checkbox"/>
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Please note: This form may be updated on an annual basis. The current version of this form will be available on the OCR website (www.ocr.org.uk).

A Centre Authentication form (CCS160) **must** be completed for each submission to the moderator. This **must** be held in your centre to be available on request at centre inspection.

Guidance on Completion of this Form

- 1 One form should be used for every candidate.
- 2 Please make sure that all parts of the form are completed.
- 3 Please enter specific page numbers where evidence can be found in the portfolio, and where possible, indicate to which part of the text in the mark band the evidence relates.
- 4 Circle/highlight the mark awarded for each strand of the marking criteria in the appropriate box.
- 5 Enter the circled/highlighted mark in the 'Mark' column.
- 6 Add the marks for the strands together to give a total out of 60. Enter this total in the relevant box.
- 7 For Paper-based submissions, one of these sheets, suitably completed, should be attached to the assessed work of each candidate.
- 8 For Electronic Internal submissions, prior to submitting 'candidate evidence' to OCR (via the Repository/SfA or via a USB), the Centre should add a separate folder containing the Unit Recording Sheets.