

Please read the instructions printed at the end of this form. One of these sheets, suitably completed, should be attached to the assessed work of each candidate.

<b>Unit Title</b>	<b>Optimising performance in engineering systems and products</b>	<b>Unit Code</b>	<b>R104</b>	Series Jan / June	<b>Year</b>	<b>2</b>	<b>0</b>		
<b>Centre Name</b>				<b>Centre Number</b>					
<b>Candidate Name</b>				<b>Candidate Number</b>					

### Marking Criteria – Total Marks for this unit is 60

Mark Band 1	Mark Band 2	Mark Band 3	Teacher Comment	Page
<b>LO1: Understand why engineering systems and products are designed and maintained for optimum performance</b>				
<p><b>Limited</b> explanation of why systems and products are designed for maintenance.</p> <p style="text-align: center;"><b>1 – 2 marks</b></p>	<p><b>Adequately</b> explains why systems and products are designed for maintenance.</p> <p style="text-align: center;"><b>3 – 4 marks</b></p>	<p><b>Comprehensively</b> explains why systems and products are designed for maintenance.</p> <p style="text-align: center;"><b>5 – 6 marks</b></p>	<div style="border: 1px solid black; width: 60px; height: 40px; margin: 0 auto;">Mark</div>	
<p>Demonstrates <b>basic</b> understanding of optimum performance in engineered systems/products, with <b>limited</b> appreciation of the reasons for maintenance and repair and the implications of not maintaining engineered systems/products.</p> <p style="text-align: center;"><b>1 – 4 marks</b></p>	<p>Demonstrates <b>detailed</b> understanding of optimum performance in engineered systems/products, with <b>some</b> appreciation of the reasons for maintenance and repair and the implications of not maintaining engineered systems/products.</p> <p style="text-align: center;"><b>5 – 8 marks</b></p>	<p>Demonstrates <b>comprehensive</b> understanding of optimum performance in engineered systems/ products, with a <b>clear</b> appreciation of the reasons for maintenance and repair and the implications of not maintaining engineered systems/products.</p> <p style="text-align: center;"><b>9 – 12 marks</b></p>	<div style="border: 1px solid black; width: 60px; height: 40px; margin: 0 auto;">Mark</div>	
<b>LO2: Know methods used in engineering sectors to maintain optimum performance</b>				
<p>Demonstrates <b>basic</b> knowledge of methods used to optimise performance in engineered systems/products.</p> <p style="text-align: center;"><b>1 – 4 marks</b></p>	<p>Demonstrates <b>some</b> detailed knowledge of methods used to optimise performance in engineered systems/ products.</p> <p style="text-align: center;"><b>5 – 8 marks</b></p>	<p>Demonstrates <b>detailed</b> knowledge of methods used to optimise performance in engineered systems/products.</p> <p style="text-align: center;"><b>9 – 12 marks</b></p>	<div style="border: 1px solid black; width: 60px; height: 40px; margin: 0 auto;">Mark</div>	

L03: Understand factors that contribute to the system/product failure			Teacher Comment	Page
Describes a <b>limited</b> range of system/component failures and for each, demonstrates a <b>basic</b> understanding of reason/s for failure.  <b>1 – 4 marks</b>	Describes a <b>range</b> of system/component failures in <b>some</b> detail and for each, demonstrates a <b>sound</b> understanding of reason/s for failure.  <b>5 – 8 marks</b>	<b>Comprehensively</b> describes a <b>wide range</b> of system/ component failures and for each, demonstrates a <b>thorough</b> understanding of reason/s for failure.  <b>9 – 12 marks</b>	Mark	
L04: Be able to perform simple procedures to optimise product system/performance				
With <b>regular assistance</b> follows manufacturer's instructions/manual /disassembly procedure, adhering to <b>most</b> special instructions when carrying out replacement tasks and performance checks.  Requires <b>regular assistance</b> to carryout simple replacement tasks using appropriate tools with <b>limited</b> effectiveness. Shows a <b>basic</b> appreciation of potential hazards and safety considerations.  Requires <b>regular assistance</b> to carryout <b>simple</b> performance checks using appropriate tools with <b>limited</b> effectiveness. Shows a <b>basic</b> appreciation of potential hazards and safety considerations.  Draws upon <b>limited</b> skills/knowledge/understanding from other units in the specification.  <b>1 – 6 marks</b>	With <b>some assistance</b> follows manufacturer's instructions/manual /disassembly procedure, adhering to <b>most</b> special instructions when carrying out replacement tasks and performance checks.  <b>Works competently</b> with <b>occasional assistance</b> to carryout simple replacement tasks using appropriate tools with <b>some</b> effectiveness. Shows an <b>adequate</b> appreciation of potential hazards and safety considerations.  <b>Works competently</b> with <b>occasional assistance</b> to carryout simple performance checks using appropriate tools with some effectiveness. Shows an <b>adequate</b> appreciation of potential hazards and safety considerations.  Draws upon <b>some relevant</b> skills/knowledge/ understanding from other units in the specification.  <b>7 – 12 marks</b>	<b>Competently</b> follows manufacturer's instructions/ manual /disassembly procedure, adhering to <b>all</b> special instructions when carrying out replacement tasks and performance checks.  <b>Works independently</b> and <b>competently</b> to carryout simple replacement tasks using appropriate tools <b>effectively</b> . Shows a <b>thorough</b> appreciation of potential hazards and safety considerations.  <b>Works independently</b> and <b>competently</b> to carryout simple performance checks using appropriate tools <b>effectively</b> . Shows a <b>thorough</b> appreciation of potential hazards and safety considerations.  <b>Clearly</b> draws upon <b>relevant</b> skills/knowledge/ understanding from other units in the specification.  <b>13 – 18 marks</b>	Mark	
<b>Total/60</b>				

If this work is a re-sit, please tick		Session and Year of previous submission	Jan / June	<b>2</b>	<b>0</b>		Please tick to indicate this work has been standardised internally	
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## Guidance on Completion of this Form

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](http://www.ocr.org.uk)).

## Guidance on Completion of this Form

- 1 **One** sheet should be used for each candidate.
- 2 Please ensure that the appropriate boxes at the top 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 the mark awarded for each strand of the marking criteria in the appropriate box and enter the circled mark in the final column.
- 5 Add the marks for the strands together to give a total out of 60 Enter this total in the relevant box.