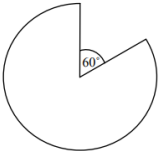




BRIDGING THE GAP

OCR Cambridge Technicals in Engineering

Course Title	Examination Board & Web Address				
OCR Cambridge Technicals - Level 3 Extended Certificate in Engineering	OCR Cambridge technical ocr.org.uk				
Units/Topics Studied:					
Unit 1 Mathematics for Engineering, Unit 2 Science for Engineering, Unit 3 Principles of Mechanical Engineering, Unit 4 Principles of Electrical and Electronic Engineering, Unit 20 Business for Engineering Unit 22 Engineering and the Environment 360 GLH					
Bridging Task					
<p>Part One: Please answer the following mathematics for engineering questions</p> <ul style="list-style-type: none"> • Factorise $5x + 10y$. • Remove the brackets and simplify $5(x - 3) + 20 - x$. • Solve the equation $3(2x - 3) = 1 - 4x$. • A circular lamina has the shape of a circle, radius 35cm. A sector of the circle subtending an angle of 60° at the centre is removed. Find the area of the remaining shape. <div style="text-align: center;">  </div>					
<p>Part Two: Choose TWO of the following tasks to complete</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 50%; vertical-align: top;"> <p>Science for engineering Please research the following basic material properties and write a sentence for each:</p> <ul style="list-style-type: none"> • ductility • brittleness • toughness • stiffness • resilience • endurance • hardness • malleability </td> <td style="width: 50%; vertical-align: top;"> <p>Engineering and the environment To understand the contribution and potential of renewable energy technologies, please research the following alternative energies.</p> <ul style="list-style-type: none"> • wind • wave • tidal • solar </td> </tr> <tr> <td style="vertical-align: top;"> <p>Principles of electrical and electronic engineering Please research the meaning of:</p> <ul style="list-style-type: none"> • an alternating current supply • a direct current supply <p>What is a voltmeter used for? What is an ammeter used for? What unit is resistance measured in?</p> </td> <td style="vertical-align: top;"> <p style="text-align: center;">Business for Engineering</p> <p>Please research the following regulations stating who they effect, who must comply and why they are in place</p> <p>COSHH; Manual Handling; Noise at Work; Working Time; Confined Spaces; Electricity at Work</p> </td> </tr> </tbody> </table>		<p>Science for engineering Please research the following basic material properties and write a sentence for each:</p> <ul style="list-style-type: none"> • ductility • brittleness • toughness • stiffness • resilience • endurance • hardness • malleability 	<p>Engineering and the environment To understand the contribution and potential of renewable energy technologies, please research the following alternative energies.</p> <ul style="list-style-type: none"> • wind • wave • tidal • solar 	<p>Principles of electrical and electronic engineering Please research the meaning of:</p> <ul style="list-style-type: none"> • an alternating current supply • a direct current supply <p>What is a voltmeter used for? What is an ammeter used for? What unit is resistance measured in?</p>	<p style="text-align: center;">Business for Engineering</p> <p>Please research the following regulations stating who they effect, who must comply and why they are in place</p> <p>COSHH; Manual Handling; Noise at Work; Working Time; Confined Spaces; Electricity at Work</p>
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