



**GCE**

**Accounting**

Unit **F014**: Management Accounting

Advanced GCE

**Mark Scheme for June 2018**

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All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

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Question	Answer	Mark	Guidance
1 (a)	<p><u>Cash flows</u></p> <p><u>Product 1</u></p> <p>2019 <math>5.20 \times 15,000 - 31,000 = 47,000</math> (1)</p> <p>2020 <math>5.80 \times 17,000 - 34,600 = 64,000</math> (1)</p> <p>2021 <math>5.60 \times 18,000 - 38,800 = 62,000</math> (1)</p> <p>2022 <math>5.90 \times 19,000 - 41,100 = 71,000</math></p> <p><u>Product 2</u></p> <p>2019 <math>4.20 \times 17,000 - 27,400 = 44,000</math></p> <p>2020 <math>4.40 \times 20,000 - 29,000 = 59,000</math> (1)</p> <p>2021 <math>4.50 \times 16,000 - 30,000 = 42,000</math> (1)</p> <p>2022 <math>4.70 \times 13,000 - 31,100 = 30,000</math> (1)</p>	6	
(b) (i)	<p><u>Payback</u></p> <p>Product 1: 2.15 years (2)</p> <p>Product 2: 2.17 years (2)</p>	4	

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(ii)	<p><u>Product 1</u></p> <table border="0"> <thead> <tr> <th><u>Year</u></th> <th><u>Cash flow</u></th> <th><u>DF</u></th> <th><u>PV</u></th> </tr> </thead> <tbody> <tr> <td>2019</td> <td>47,000</td> <td>0.909</td> <td>42,723 (1)</td> </tr> <tr> <td>2020</td> <td>64,000</td> <td>0.826</td> <td>52,864 (1)</td> </tr> <tr> <td>2021</td> <td>62,000</td> <td>0.751</td> <td>46,562 (1)</td> </tr> <tr> <td>2022</td> <td>71,000</td> <td>0.683</td> <td>48,493 (1)</td> </tr> <tr> <td>2022</td> <td>12,000</td> <td>0.683</td> <td><u>8,196 (1)</u></td> </tr> <tr> <td></td> <td></td> <td></td> <td>198,838</td> </tr> <tr> <td>Capital cost</td> <td></td> <td></td> <td><u>120,000 (1)</u></td> </tr> <tr> <td>Net present value</td> <td></td> <td></td> <td><u><u>78,838 (1)</u></u></td> </tr> </tbody> </table> <p><u>Product 2</u></p> <table border="0"> <thead> <tr> <th><u>Year</u></th> <th><u>Cash flow</u></th> <th><u>DF</u></th> <th><u>PV</u></th> </tr> </thead> <tbody> <tr> <td>2019</td> <td>44,000</td> <td>0.909</td> <td>39,996 (1)</td> </tr> <tr> <td>2020</td> <td>59,000</td> <td>0.826</td> <td>48,734 (1)</td> </tr> <tr> <td>2021</td> <td>42,000</td> <td>0.751</td> <td>31,542</td> </tr> <tr> <td>2022</td> <td>30,000</td> <td>0.683</td> <td>20,490</td> </tr> <tr> <td>2022</td> <td>5,000</td> <td>0.683</td> <td><u>3,415 (1)</u></td> </tr> <tr> <td></td> <td></td> <td></td> <td>144,177</td> </tr> <tr> <td>Capital cost</td> <td></td> <td></td> <td><u>110,000 (1)</u></td> </tr> <tr> <td>Net present value</td> <td></td> <td></td> <td><u><u>34,177 (1)</u></u></td> </tr> </tbody> </table>	<u>Year</u>	<u>Cash flow</u>	<u>DF</u>	<u>PV</u>	2019	47,000	0.909	42,723 (1)	2020	64,000	0.826	52,864 (1)	2021	62,000	0.751	46,562 (1)	2022	71,000	0.683	48,493 (1)	2022	12,000	0.683	<u>8,196 (1)</u>				198,838	Capital cost			<u>120,000 (1)</u>	Net present value			<u><u>78,838 (1)</u></u>	<u>Year</u>	<u>Cash flow</u>	<u>DF</u>	<u>PV</u>	2019	44,000	0.909	39,996 (1)	2020	59,000	0.826	48,734 (1)	2021	42,000	0.751	31,542	2022	30,000	0.683	20,490	2022	5,000	0.683	<u>3,415 (1)</u>				144,177	Capital cost			<u>110,000 (1)</u>	Net present value			<u><u>34,177 (1)</u></u>	12	
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(c)*	<p><u>Payback</u> Payback considers the payback period only and does not take future cash flows into account.</p> <p>Payback is useful in technological industries, where a short pay back is preferred.</p> <p>It uses cash flow, which is not subjective.</p> <p>Timing is not taken into account when considering future cash flows.</p> <p><u>Net present value</u> Timing is taken into account when considering future cash flows.</p> <p>The full period is considered and all cash flows are taken into account.</p> <p>It uses cash flow, which is not subjective.</p> <p>Over a period, the future rate of interest could vary.</p> <p><b>(Each method 2 x 2 marks) (1 for point plus 1 for development)</b></p> <p style="text-align: right;"><b>QWC (2)</b></p>	10	
(d)	<p>The market research has already been spent. It is irrelevant to the decision. It should be ignored. It is a sunk cost.</p> <p><b>(3 x 1 mark)</b></p>	3	

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(c)	<p>Consistent production each year, regardless of demand. Will help maintain consistent labour force and security of employment.</p> <p>Sales price increase in second year and sales units below production and this has led to build up of closing stock. Potential damage and unsaleable out of date stock.</p> <p>Selling price decreased in third year and this has led to increase in demand and reduction in closing stock. This has contributed to increased profit.</p> <p>Total costs have increased each year. Direct material costs maintained for first two years but increased in third year. All other costs have increased each year.</p> <p><b>(3 x 3 marks)</b> <b>(1 for point plus up to 2 for development)</b></p>	9	
(d)	<p>Stock valuation should include a fair share of production overhead (FC + VC).</p> <p>This is not the case with marginal costing, which excludes fixed costs and treats them as a period cost.</p> <p>Absorption costing should be used as it does include fixed costs within closing stock.</p> <p>Application of accruals concept with revenues and costs matched in the period to which they relate.</p> <p>Absorption costing meets accounting standards, SSAP 9/IAS 2.</p> <p><b>(3 x 2 marks)</b> <b>(1 for point plus 1 for development)</b></p>	6	



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3 (a) (i)	New data: Selling price 165 Units 8,750 Direct materials 31.35 Direct labour 30.90 Var overheads 22.75 Fixed costs 140,000  $\text{B/E} = \frac{140,000(1)}{165 - 85(2)} = 1,750(1)$ $[85 = 31.35(1) + (30.90 + 22.75)(1)]$  Sales value x 165 = 288,750(1of)	5															
(ii)	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Selling price</td> <td style="text-align: right;">165</td> </tr> <tr> <td>Variable costs</td> <td style="text-align: right;"><u>85</u></td> </tr> <tr> <td>Contribution</td> <td style="text-align: right;">80(1)</td> </tr> <tr> <td>Qty</td> <td style="text-align: right;"><u>8,750</u></td> </tr> <tr> <td></td> <td style="text-align: right;">700,000</td> </tr> <tr> <td>Fixed costs</td> <td style="text-align: right;"><u>140,000(1)</u></td> </tr> <tr> <td>Profit</td> <td style="text-align: right;"><u>560,000(1of)</u></td> </tr> </table>	Selling price	165	Variable costs	<u>85</u>	Contribution	80(1)	Qty	<u>8,750</u>		700,000	Fixed costs	<u>140,000(1)</u>	Profit	<u>560,000(1of)</u>	3	
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(iii)	$8,750 - 1,750 = 7,000(1of)$  $\frac{7,000(1of)}{8,750} = 80\%(1)$	3															

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(iv)	<p><u>Profit y/e 30 April 2018</u></p> <table style="margin-left: 20px;"> <tr><td>Selling price</td><td style="text-align: right;">160</td></tr> <tr><td>Variable costs</td><td style="text-align: right;"><u>82</u></td></tr> <tr><td>Contribution</td><td style="text-align: right;">78(1)</td></tr> <tr><td>Qty</td><td style="text-align: right;"><u>8,200</u></td></tr> <tr><td></td><td style="text-align: right;">639,600</td></tr> <tr><td>Fixed costs</td><td style="text-align: right;"><u>120,000</u></td></tr> <tr><td>Profit</td><td style="text-align: right;"><u>519,600(1)</u></td></tr> </table> <p>519,600(2)</p> <p>80Q(1) – 140,000(1) = 519,600(1of)</p> <p>Q = 8,245(1)</p>	Selling price	160	Variable costs	<u>82</u>	Contribution	78(1)	Qty	<u>8,200</u>		639,600	Fixed costs	<u>120,000</u>	Profit	<u>519,600(1)</u>	6	
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Profit	<u>519,600(1)</u>																
(b)	$\frac{50(1)}{100} = \frac{SP - 90(1)}{SP}$ <p>SP = 180(1)</p> <p><b>Or</b></p> $90(1) \times \frac{100}{50(1)} = 180(1)$	3															
(c)	<p>It provides an assessment of risk, indicating the extent to which expected output can fall before a loss is made. It shows the ability to withstand adverse trading conditions.</p> <p>The greater the margin of safety, the greater are profits and the safer is the company's position.</p> <p><b>(2 x 3 marks)</b>  <b>(1 for point plus up to 2 for development)</b></p>	6															

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4 (a)	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">% DM</td> <td style="width: 20%; text-align: center;"><u>600,000</u></td> <td style="width: 20%; text-align: center;">= 150%</td> <td style="width: 30%;"></td> </tr> <tr> <td></td> <td style="text-align: center;">400,000</td> <td></td> <td></td> </tr> <tr> <td> </td> <td></td> <td></td> <td></td> </tr> <tr> <td>% DL</td> <td style="text-align: center;"><u>600,000</u></td> <td style="text-align: center;">= 300%</td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">200,000</td> <td></td> <td></td> </tr> <tr> <td> </td> <td></td> <td></td> <td></td> </tr> <tr> <td>% PC</td> <td style="text-align: center;"><u>600,000</u></td> <td style="text-align: center;">= 100%</td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">600,000</td> <td></td> <td></td> </tr> <tr> <td> </td> <td></td> <td></td> <td></td> </tr> <tr> <td>Per unit</td> <td style="text-align: center;"><u>600,000</u></td> <td style="text-align: center;">= 4,000</td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">150</td> <td></td> <td></td> </tr> <tr> <td> </td> <td></td> <td></td> <td></td> </tr> <tr> <td>LHR</td> <td style="text-align: center;"><u>600,000</u></td> <td style="text-align: center;">= 30</td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">20,000</td> <td></td> <td></td> </tr> <tr> <td> </td> <td></td> <td></td> <td></td> </tr> <tr> <td>MHR</td> <td style="text-align: center;"><u>600,000</u></td> <td style="text-align: center;">= 25</td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">24,000</td> <td></td> <td></td> </tr> <tr> <td></td> <td colspan="2" style="text-align: center;"><b>(6 x 1 mark)</b></td> <td></td> </tr> </table>	% DM	<u>600,000</u>	= 150%			400,000			 				% DL	<u>600,000</u>	= 300%			200,000			 				% PC	<u>600,000</u>	= 100%			600,000			 				Per unit	<u>600,000</u>	= 4,000			150			 				LHR	<u>600,000</u>	= 30			20,000			 				MHR	<u>600,000</u>	= 25			24,000				<b>(6 x 1 mark)</b>			6	
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(c)	<p><u>% direct materials</u>            Usually no relationship between materials and overheads.            A job requiring expensive material will be charged more overhead than a job requiring cheaper material, even though overhead incurred could be the same.            To be accurate material, time and equipment need to be similar.</p> <p><u>MHR</u>            Most overheads are related to time and this is a time-based method.            Preferred if machining is the dominant factor.            If different types of machinery are used, then a rate can be calculated for each type.</p> <p><b>(2 x 4 marks)</b>  <b>(1 for point plus up to 3 for development)</b></p>	8	
(d)	<p>Allocation – overheads are charge to one department.            E.g. wages of storeman charged to stores.</p> <p>Apportionment – overheads are charged to more than one department.            E.g. rent and rates apportioned to various departments.</p> <p><b>(2 x 2 marks)</b>  <b>(1 for point plus 1 for example)</b></p>	4	

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