Practice assessment model answers

Management Accounting: Decision and Control (MDCL)

Practice assessment 1

Version 1.2 published 29 June 2020

Practice assessment model answers – MDCL

Task 1 (12 marks)

(a) Calculate the budgeted quarterly costs of production for 15,900 units to the nearest pound (£) and classify each cost using the dropdown boxes. (8 marks)

Cost	Quarterly production		Cost classification
	3,800 units	15,900 units	
	£	£	
Direct materials	31,008	129,744	Variable
Rent	7,450	7,450	Fixed
Leased machines	7,522	30,088	Stepped
Maintenance	10,016	35,063	Semi-variable

(b) Calculate the total fixed and variable overheads for the following production levels. Enter your answers to the nearest pound (£). (4 marks)

Units	Fixed £	Variable £
21,000	181,000	126,000
36,000	193,000	205,000

Task 2 (15 marks)

(a) (i) Calculate the variances in the table below. Enter your answers to the nearest whole pound (£). Enter a zero if there is no variance. Do not use minus signs or brackets. (7 marks)

(ii) Use the dropdown boxes to indicate whether each variance you calculate in (i) is adverse, favourable or no variance. (4 marks)

	£	Adverse/Favourable/ No variance
Apricots price variance	1,000	Adverse
Apricots usage variance	5,000	Adverse
Direct labour rate variance	0	No variance
Direct labour efficiency variance	4,000	Favourable

(b) Calculate the actual number of hours used to produce 950 units to the nearest whole number. (2 marks)

The actual number of hours used was 1910

(c) Calculate the actual price per kg of material to two decimal places. (2 marks)

The actual price per kg of material was £ 8.60

Task 3 (15 marks)

(a) Complete the budgeted operating profit statement below for month 3, using absorption costing and marginal costing.

Apply the appropriate standard cost for the valuation of production and inventory.
Use positive numbers only for the sales to fixed overheads rows. Do not use minus signs or brackets.

For the final row, record any loss figure with a minus sign.
If any answer is zero or a figure is not required, enter '0' into the relevant cell. (15 marks)

	Absorption costing	Marginal costing
	Month 3 (£)	Month 3 (£)
Sales - month 3	990,000	990,000
Opening inventory	279,000	144,000
Production costs	950,000	500,000
Closing inventory	190,000	100,000
Cost of sales	1,039,000	544,000
Fixed overheads	0	450,000
Profit/Loss	-49,000	-4,000

Task 4 (12 marks)

(a) A retail shop analyses its sales volumes using Time Series Analysis. Enter the appropriate three month moving averages for sales units into the table below. (3 marks)

Month	Sales (units)	Three month moving average (units)
December	5,760	
January	5,820	5,780
February	5,760	
March	6,600	6,160
April	6,120	
May	6,150	6,200
June	6,330	

(b) Complete the following sentences using the dropdown boxes to indicate your answers. (2 marks)

Seasonal variation equals actual sales for a month, less [trend ▼] sales for the same month.

The observation that retail sales are higher during November and December is an example of [seasonal variation. ▼]

(c) Complete the table below by restating the following costs at January prices. Enter the costs to the nearest pound (£). (3 marks)

Month	Actual costs (£)	RPI	Costs at January prices (£)
January	129,000	170	129,000
March	132,000	172	130,465
June	135,000	174	131,897

(d) Calculate the values of a and b. (4 marks)

Value of a: 4,000

Value of b: 5

Task 5 (18 marks)

(a) Analyse how all SIX variances could have been affected by the information above. (12 marks)

Q	Model Answer
(a)	The response below covers a range of possible points that you may include in your written response. This example is not intended to be exhaustive and other valid comments may be relevant. **Materials variances** The general price of materials may have risen since the budget was set. Also, a higher quality of material may have been purchased to be used in the new machinery. Both factors would lead to the adverse price variance of £5k. The new machinery is likely to manufacture the finished product more effectively with less waste. Similarly, the new highly skilled labour will be able to handle the raw materials more effectively with less waste. Both will lead to a favourable usage variance (here £7k). **Labour variances** The new higher skilled workers will be paid a higher hourly rate. The redundancy costs for the less skilled workers may have been included in this month's wages costs. Both would explain the £10k adverse rate variance. Higher skilled workers will be more efficient overall, capable of producing more components per hour. They may also be highly motivated as they had just been recruited to new roles. These would lead to a favourable efficiency variance here of £10k. **Fixed overhead variances** The £7k favourable expenditure variance can be explained by the reduction in rent and the lower depreciation charge on the new machinery. Both would have reduced overall fixed overhead expenditure in comparison to the original budget. The efficiency of the new machine could improve productive capacity. Coupled with the higher skilled labour, which is likely to be able to produce more in their working week, more units would have been produced than expected. Therefore the volume variance is £11k favourable.

Bands	Descriptor
0	No response worthy of credit.
1 – 4	Answer provides a **very brief** analysis of how recent events may have affected some of the variances. Points made have little relevance to the scenario and use of supporting evidence is limited. Responses cannot access higher bands if they do not address **each** of the variances (materials, labour and fixed overheads).
5 – 8	Answer provides a **brief** analysis of how the variances (materials, labour and fixed overheads) may have been affected by recent events and a range of relevant points are made. The response makes good use of evidence to support points made. Answer demonstrates a good understanding of causes of variances. To achieve the highest marks in this band, the response will address all six detailed variances.
9 – 12	Answer gives a **detailed** analysis of how all six variances may have been affected by recent events, making fully relevant points throughout. Points made will be well supported by evidence drawn from the scenario. A response that falls in this band will demonstrate a solid understanding of variances, how they can inter-relate and how they behave in different situations.

(b) Identify TWO reasons why EACH standard may need to be amended.

Q	Model Answer
(b)	The response below covers a range of possible points that you may include in your written response. This example is not intended to be exhaustive and other valid comments may be relevant. **Material standards** **(2 marks)** The standard material price may need to be amended to reflect different price of input material. If the material is of higher quality, the standard material usage may need to be reduced to reflect standard input material quantity is less for the new machine. **Labour standards** **(2 marks)** Higher skilled labour is likely to take less time to make each unit. Therefore the standard labour hours per unit could fall. They are also likely to have a higher wage rate and therefore a higher standard cost per hour. **Fixed Overhead standards** **(2 marks)** The saving in rent on the storage facilities will reduce the standard fixed cost expenditure in total. Additionally, any long-term increase in expected production levels will reduce the standard fixed overhead per unit.

Task 6 (15 marks)

(a) Use the performance information above about the Cambria division to complete the table below. (8 marks)

- **Enter all figures as positive numbers (do NOT use minus signs).**
- **Show your answers to the nearest whole pound (£).**

	£
Sales	2281250
Cost of sales	1825000
Gross profit	456250
Selling costs	45625
Admin costs	79844
Net profit	330781

(b) Using your results in (a), calculate the following three performance indicators (to one decimal place) for the Cambria division. (3 marks)

The mark-up on cost of sales: 25 %

The net profit margin: 14.5 %

The Return on net assets (RONA): 18 %

(c) Using the information above, advise whether the project is likely to be acceptable to the company and the manager of the Cambria division. (4 marks)

It is in the interests of the company as a whole to [accept ▼] the contract because its return is [above ▼] the target.

The manager of the Cambria division is likely to [reject ▼] the contract because it will [decrease ▼] the chance of receiving a bonus.

Task 7 (18 marks)

(a) (i) Complete the table below for the next reporting period by calculating the missing figures for Jackal and Hyena. (6 marks)

	Jackal	Hyena
Contribution per unit (£)	7	9
Contribution per limiting factor (£) (to TWO decimal places)	7.00	4.50
Optimal production (units)	5,000	7,500

(ii) Discuss, with ALL relevant factors, why you have chosen the production levels you gave in answer (i) and the consequences of choosing a different level of production. You should use calculations to support your answer. (7 marks)

Q	Model Answer
(ii)	The response below covers a range of possible points that you may include in your written response. This example is not intended to be exhaustive and other valid comments may be relevant. If the company were to produce the total sales demand they would require 43,000kg of material (which they have) and 27,000 labour hours (which they don't have). This means they need to make the best possible use of the scarce resource, in this case, labour hours. To do this we calculate the contribution per limiting factor and produce in order of the best return in terms of the limiting factor. If we do not do this and produce any other quantity we will have less contribution and therefore less profit. Optimal production gives contribution of £102,500 (£35,000+£67,500) whereas producing Hyena first would give a contribution of £90,000**.**

Bands	Descriptor
0	No response worthy of credit.
1 – 2	Answer provides a **very brief** discussion of the chosen production levels – this must be linked to the student's response in part (i) of the task to achieve marks. Little or no relevant explanatory points made for the consequences of choosing a different level of production. No mention on use of calculations to support answer.
3 – 5	Answer provides a **brief** discussion of the choice in production levels, including a satisfactory explanation of the points made for the consequences of choosing a different level of production. To achieve the highest marks in the band, the response will be linked to at least one relevant factor in part (i). Limited use of calculations to support answer.

6 – 7	Answer gives a **comprehensive** and **detailed** discussion of the choice in production levels, demonstrating a solid understanding of the consequences. Points made for choosing a different level of production are fully supported by relevant evidence and are directly linked to the student's answer in part (i). To achieve full marks, the response will be linked to **all** relevant factors. Answer fully supported by calculations.

(b) (i) Calculate the profit figures for the current and proposed situation. (4 marks)

	Current situation (£)	Proposed situation with new equipment (£)
Profit	97,500	89,250

(ii) Complete the sentence below to state whether or not the new equipment should be acquired. Use the dropdown box to select your answer. (1 mark)

It [would not ▼] be better to acquire the new equipment.

Task 8 (15 marks)

(a) (i) Complete the table below using Activity Based Costing (ABC) principles. (6 marks)

	£	Rose (£)	Thyme (£)	Total overheads (£)
Cost driver - per material requisition	250			
Cost driver - per production set-up	1,000			
Total materials handling		100,000	300,000	400,000
Total production set-ups		150,000	450,000	600,000

(ii) Using the information supplied above, calculate the fixed overheads assuming they are absorbed on a budgeted labour hours basis. (2 marks)

	Rose (£)	Thyme (£)
Fixed overheads	750,000	250,000

(b) Discuss the advantages and disadvantages of moving to an ABC system for the company. (7 marks)

Q	Model Answer
(b)	The response below covers a range of possible points that you may include in your written response. This example is not intended to be exhaustive and other valid comments may be relevant. Using ABC leads to more accurate product costs using a fairer allocation of the overheads charged. This leads to better decision making in terms of pricing, withdrawal of products, and production scheduling. It's also believed that ABC leads to better management understanding of the cause and allocation of overheads.

	By identifying the cost pools, management are able to look at ways to achieve savings in overheads in a more focused way. By using cost drivers, management can assess whether product profitability can be increased by reducing the number of times a driver is used**.** The time taken to identify activities and install the system could be a disadvantage for the company. The cost of implementation and the cost of running the system may also be a disadvantage. Another disadvantage for the company could be any resistance to change that they encounter.
Bands	**Descriptor**
0	No response worthy of credit.
1 – 2	Answer provides a **very brief** discussion of the advantages and disadvantages of ABC, demonstrating little or no understanding of ABC. It is unlikely that a response in this band will include more than two advantages or disadvantages.
3 – 5	Answer provides a **brief** discussion of the advantages and disadvantages of ABC, going beyond the minimum stages given in a Band 1 response. To achieve the highest marks in the band, the response will correctly explain at least four of the advantages or disadvantages.
6 – 7	Answer gives a **detailed** discussion of the advantages and disadvantages of ABC. To achieve the highest marks in the band students should cover at least six of the advantages or disadvantages in their answer.