



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

LOCATION: SWANSEA

LLEOLIAD: ABERTAWE

LEVEL 5

LEFEL 5

EXAMINATION PERIOD
MAY 2018

CYFNOD ARHOLIADAU
MAI 2018

MODULE CODE: M5X00854
MANAGEMENT ACCOUNTING

TIME: 3 HOURS

ANSWER ALL FOUR QUESTIONS

Equipment or materials required – Non Programmable calculators are permitted

Adnoddau neu ddefnyddiau sydd eu hangen – caniateir cyfrifanellau nad ydych yn galu eu rhaglennu

- Students are allowed to take into the exam room 2 sides of A4 printed notes
Caniateir i fyfyrwyr gymryd 2 ochr A4 o nodiadau wedi'u printio

ANSWER ALL QUESTIONS

Question 1.

The Duke Company, a subcontractor for the aircraft and missile industry, has been asked to bid on a prospective contract for 1,200 units of a precision missile part. Two months ago the Duke Company had produced 300 of these parts at the following total costs:

	£
Direct materials	12,000
Direct labour (6000 hours @ £6)	36,000
Tooling cost	3,000
Variable overhead	3,000
Other overhead	6,000
	60,000

- i. Tooling can be reused, even though all of its cost was assigned to the original order of 300 parts;
- ii. Variable overhead incurrence is directly affected by direct labour hours.
- iii. Other overhead is assigned at a flat rate of 25% of direct labour cost for purposes of bidding on contracts.

The Duke Company has used a 90% learning curve as a basis for forecasting what pertinent costs should be.

Required:

- a) Prepare a prediction of the total expected costs for bidding on a contract of 1,200
(15 marks)

- b) Analyse the limitations of the learning curve
(10 marks)

(Total Marks = 25)

Question 2.

Apples Ltd manufactures electronic devices and markets two measuring instruments X and Y at £30.10 and £33.40 respectively. They are similar in design and differ only in the number of the various components which are needed for their assembly.

	Requirements per unit		Cost(£)/unit	Number in stock/day
Component a	5	3	0.40	190
Component b	14	10	0.95	700
Component c	6	11	1.20	420
Component d	4	6	0.80	200

Required:

- a) Formulate the objective function and state the restrictions in a mathematical form (15 marks)
- b) Briefly explain other types of statistical techniques that business could employ (10 marks)

(Total Marks = 25)

Question 3.

P V C College teaches its accountancy subjects wholly through correspondence. This is done by the production of self study packs which enables students to prepare for professional qualifications.

Each course of study was sold at the price of £25.00 last year and a total of 20,000 were produced and sold. The production costs of the various courses offered by the college are the same.

The variable cost of producing a study course last year was:

	£
Direct materials	8.50
Direct labour	10.00
Other direct costs (mainly postage)	1.00
Variable overheads	1.00

The fixed overhead for the college during the year was £45,000

During the coming year the costs of the organisation are expected to increase by the following:

	%
Direct materials	20.00
Direct labour	16.67
Other direct costs	67.00
Variable overheads	25.00
Fixed overheads	5.00

Market research has shown that when the company increases the price of its courses to its students, as long as the increase is kept below 17.5% this is unlikely to have an effect on the number of courses sold. However, for every 1% prices are raised above a 17.5% increase the number of units sold can be expected to fall by 2%

Required:

- a) Find the selling price of the study courses if the number of study courses sold and the annual profits are to remain as before.

(15 marks)

- b) Discuss the importance of price elasticity to a company's pricing policy.

(10 marks)

(Total Marks = 25)

Question 2.

Pink Ltd manufactures four products, W, X, Y and Z. Output and cost data for the period just ended are as follows.

	<i>Output</i>	<i>No of production runs in the period</i>	<i>Material cost per unit</i>	<i>Direct labour hours per unit</i>	<i>Machine hours per unit</i>
	Units		£		
W	10	2	20	1	1
X	50	3	80	3	3
Y	100	5	40	4	2
Z	500	<u>6</u>	100	2	4
		<u>16</u>			

Direct labour cost per hour is £5. Overhead costs are as follows

	£
Short run variable costs	3,080
Set-up costs	10,920
Expediting and scheduling costs	9,100
Materials handling costs	<u>7,700</u>
	<u>30,800</u>

The following cost drivers have been identified:

Short Run Variable Costs = Production Runs

Set up Costs = Production Runs

Expediting and Scheduling Costs = Machine Hours

Materials Handling Costs = Labour Hours

Required:

- a) Calculate the product cost using a Traditional and ABC Approach.

(18 marks)

- b) Analyse why ABC is considered a fairer way of apportioning costs to products.

(7 marks)

(Total Marks = 25)

Diwedd/End

MAY 2018 MANAGEMENT ACCOUNTING

MARKING SCHEME.

Q1.

(a) $y = ax^b$

300 PARTS = 1st UNIT

1200 PARTS = 4th UNIT.

-0.152

$y = 6000(5)$

$b = \frac{\log 0.90}{\log 2} = -0.152$

$y = 4698 \text{ hrs.}$

Total hrs $4698 \times 5 = 23,490$

Time for 1st Unit = (6,000)

Incremental time = 17,490

Costs for 1,200 Parts:

Direct Materials £ 48,000

Direct Labour £ $6 \times 17,490$ 104,940

Tooling Cost -

Variable O/H £ $0.50 \times 17,490$ 8,745

Other O/H $104,940 \times 25\%$ 26,235

187,920

Contract price must be at least £187,920.

a) 15 Marks.

Q1

(5) 2 Marks available for every limitation identified & analysed.

Answers should include:

No labour breaks.

Motivated work force.

Trained work force.

Labour intensive operations.

Determination of the learning rate.

Degree of learning effect evident.

No breaks in production.

Total 10 Marks.

Q1 Total 25 Marks.

Q2 (a).

Contribution of X and Y.

		X	Y
	Selling Price	30.10	33.40
	less		
	Variable Costs:		
	Component a	(2.00)	(1.20)
5 MARKS.	" b	(13.30)	(9.50)
	" c	(1.20)	(13.20)
	" d	(3.20)	(4.80)

Contribution. 4.40 4.70

Objective Function = Contribution = C

Maximise $C = 4.40X + 4.70Y$

Subject to the following restrictions:

10 MARKS

Component a	$5X + 3Y \leq 190$
" b	$14X + 10Y \leq 100$
" c	$6X + 11Y \leq 420$
" d	$4X + 6Y \leq 200$

Sale of X $X \geq 0$

Sale of Y $Y \geq 0$

Part (a) 15 Marks.

Q2

(b) Consideration of the following Statistical Techniques should be included.

- Correlation & Regression.
- Expected Value.
- Maximin Minimax & Maximax.
- Time Series & Forecasting.
- Tableau Method - Linear programming.

2 Marks for each method identified & explained. Maximum of 10.

Part b) 10 Marks.

Total 25 Marks.

Q3 (a)

Current Profit : £
 Selling Price 25.00
 Variable Costs (20.50)

Contribution 4.50

5 Marks

No of Units 20,000

Total Contribution 90,000
 Fixed Costs (45,000)

Profit 45,000

Increase in Costs £

Fixed Costs

Materials 10.20
 Labour 11.67
 Direct Costs 1.67
 Variable 1.25

£45,000 to £47,250

24.79

5 Marks

$$20,000 = \frac{47,250 + 45,000}{C}$$

$$C = 4.6125$$

5 Marks

Variable Costs 24.79

Selling Price £29.4025

Part (a) 15 Marks

Q3

(b) - Definition of Price Elasticity

- Formula for Price Elasticity

- Explanation of Elastic & Inelastic products.

- Application of price elasticity to the example.

- Illustration of answer by making reference to the data provided in the question.

2 Marks for each discussion

b) 10 Marks

Total 25 Marks.

Q4.

(a) Traditional Approach:

Machine Hours.

$$\begin{aligned}
 W & 10 \times 1 = 10 \\
 X & 50 \times 3 = 150 \\
 Y & 100 \times 2 = 200 \\
 Z & 500 \times 2 = 1,000 \quad \text{200} \\
 \hline
 & 1,360 \quad \text{2360}
 \end{aligned}$$

4 Marks

$$\begin{aligned}
 \text{Overhead rate} &= \frac{30,800}{1,360} \\
 &= 22.65
 \end{aligned}$$

13.05
= £ 22.65 Per Machine Hr

Product Cost:

	W	X	Y	Z
Material	200	3,200	4,000	5,000
Labour	50	750	2,000	5,000
Overheads	227	3,398	4,530	22,650
	130.51	8148.6525	2610	26,100
Total Cost	477.381	1348.6207	10,530.860	17,650.811
Units	10	50	100	500
Cost Per Unit	47.7381	146.96	105.30	155.30
	38.10	102.96	86.10	162.20
		134.14		

6 Marks

ABC Approach.

Cost Drivers.

Short run variable cost

$$\begin{aligned}
 &= \frac{3,080}{16} = 192.5
 \end{aligned}$$

Q4 (a).

$$\text{Set up Costs} \quad \frac{10920}{16} = 682.50$$

$$\text{Scheduling Costs} \quad \frac{9100}{1365} = 6.70 \quad 3.856$$

$$\text{Materials Handling} \quad \frac{7100}{1560} = 4.94$$

8 Marks

	W	X	Y	Z
Material	200	3200	4000	50000
Labour	50	150	2000	5000
Short Run	385	577.50	962.50	1155
Setup	1365	2047	3412	4095
Scheduling	38.56	578	771.	7712
Materials Handling	49	741	1976	4940
Total Cost	2087	8693	13121	72902
Units	10	50	100	500
Cost Per Unit	208.7	173.86	131.21	145.80

5) 1 Mark for each relevant point made in relation to why ABC is considered a more equitable way of sharing the costs.

5) 1 Mark

Total 25 Marks