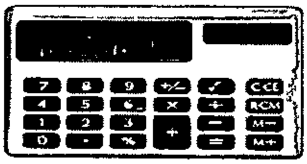
UNIVERSITY EXAMINATIONS



UNIVERSITEITSEKSAMENS

UNISA university of south africa

MAC3701

May/June 2014

APPLICATION OF MANAGEMENT ACCOUNTING TECHNIQUES

Duration 2 Hours

100 Marks

EXAMINERS :		
FIRST	MRS PR BERRY	MRS AM RAATH
SECOND	MR FJC BENADE	
EXTERNAL	MR FJ DE HART	

Use of a non-programmable pocket calculator is permissible.

Closed book examination.

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This paper consists of 7 pages (including this page)

PLEASE NOTE:

1 All questions must be answered and calculations must be shown
2 Ensure that you are handed the correct examination script (blue) by the invigilator
3 Each question attempted must be commenced on a separate page
4 You may not answer your examination paper in pencil or red pen
5 Ignore taxation and the time value of money, except when specifically stated
6 A combined final mark of 50% is required to pass this module This final mark is calculated as follows (10% - obtained for compulsory assignments 01, 02 and 03) + (90% x mark obtained in this examination), subject to a subminimum of 40% for this paper

PROPOSED TIMETABLE

Question	Topic	Marks	Minutes
1	Economic order quantity and learning curves	16	19
2	Activity based costing	9	11
3	Standard costing and cost-volume-profit analysis	30	36
4	Relevant costing	19	23
5	Short questions	26	31
		100	120

QUESTION 1 (16 marks; 19 minutes)

PART A

Atlantic (Pty) Ltd manufactures canned pilchards (a fish type) The annual consumption of pilchards, the main ingredient of product Sardinos, is 38 000 kg

The following information with regard to pilchards is available

Ordering cost	R120 per order
Purchase price	R50 per kg
Required rate of return per annum	14%
Safety stock level	150kg

In addition to the required rate of return, direct stockholding costs amount to R3 per kg per annum, and insurance at 5% of the kilogram cost per year

Atlantic (Pty) Ltd currently applies the Economic Order Quantity (EOQ) model They have calculated the EOQ to be 855 kilograms

The suppliers of pilchards, Agulhas CC, have offered to sell the product at R49 per kg, should Atlantic (Pty) Ltd agree to place only 38 orders per annum

If Atlantic (Pty) Ltd accepts this special offer, additional storage space at a cost of R600 per month will be required

REQUIRED:

Determine, from a financial perspective, whether the EOQ model should be applied or the special price per kilogram pilchards from Agulhas CC should be accepted (10)

PART B

Pint Pint is a leading manufacturer of helicopters The company was awarded a tender worth R5 billion by the South African Defence Force to manufacture new helicopters You were appointed as the leading management accountant on the project and supplied with the following information regarding the manufacture of the new helicopters

Time taken for the team to manufacture the first helicopter	50 000 hours
Time taken for the team to manufacture the second helicopter	46 000 hours

The first 16 helicopters have recently been completed and delivered It is expected that the learning curve will be maintained for the manufacturing of the first 32 helicopters

REQUIRED

Calculate the total estimated time required for the manufacture of helicopters 17 – 32 (6)

[16]

QUESTION 2 (9 marks; 11 minutes)

Cleo Ltd produces two products Duff and Buff The enterprise produces both products with the same equipment Buff is a high volume product while Duff is produced in low volumes Details of cost of activities, inputs and output are as follows

1. **Analysis of overhead costs:**

	R
Material handling	150 000
Material procurement	50 750
Set-up costs	150 000
Quality control	250 700
Processing	600 000
Total	**1 201 450**

2. **Cost driver analysis:**

Overhead	Cost driver	Duff	Buff
Material handling	Material movements	100	50
Material procurement	Number of orders	250	100
Set-up	Number of set-ups	60	40
Quality control	Number of inspections	130	100
Production	Direct labour hours	40 000	10 000

3. **Annual production output:**

	Units
Duff	80 000
Buff	20 000

REQUIRED:

Calculate the overhead cost per product using an Activity Based Costing (ABC) system **[9]**

QUESTION 3 (30 marks) (36 minutes)

Daisy CC operates a standard costing system and manufactures beaded necklaces for children They plan to produce and sell 10 000 necklaces per month

Standard cost per necklace:	R
Selling price per unit	40
Material (200g)	6
Labour (0,5 hours)	10
Variable overheads (variable to material)	4

QUESTION 3 (continued)

Fixed overheads amount to R50 000 per month and are allocated to production per labour hour

Actual results for April 2014 are as follows:

Number of necklaces produced 10 000

		R
Material purchased	2 500kg	78 750
Direct labour	4 850 hours	94 575
Variable overheads		43 000
Fixed overheads		45 250

Additional information:

1 There were no raw materials, work-in-process or finished goods inventory at the beginning or end of April 2014
2 Material issued to production = 2 050 kg
3 Material is recorded at actual cost and the results of the company are accounted for on the **absorption costing** basis
4 The actual sales for April 2014 amounted to R410 000 (10 000 necklaces)

REQUIRED

(a) Calculate the actual breakeven sales volume in units for April 2014 (5)

(b) Prepare a statement reconciling the budgeted profit for April 2014 with the actual profit and provide sales, material, labour, variable and fixed overhead variances in as much detail as possible (25)

[30]

QUESTION 4 (19 marks) (23 minutes)

Mr Zenzele is the owner of a small building enterprise He has investigated the following project as his business has spare capacity over the next few months

Contract for the extension of classrooms for a local school:

Mr Zenzele prices a contract by adding 100% to variable costs to cover overheads and profit He calculates variable costs as the actual cost of materials valued on a FIFO basis, plus the estimated wages of direct labour For this contract he has prepared the following detailed information

1. Material

This contact requires four different types of material

Material	Quantity (units)		Price per unit		
	Needed for contract	Already in inventory	Purchase price of units in inventory (R)	Current purchase price (R)	Current resale price (R)
A	2 200	400	6	10	8
B	300	300	30	34	28
C	900	600	48	35	27
D	400	800	15	18	11

Material A and B are in regular use Neither C nor D is currently used Material C has no foreseeable use in the business Material D could be used as a replacement of other material costing R16 per unit currently used in other jobs

2. Labour

The contact will require 6 months to complete Two builders currently employed at an annual wage cost of R60 000 each will be required As an incentive for them to complete the contract in time it will also be necessary to pay them a bonus of R1 000 each Without this contract they would be retained at their normal pay rates If the contract is accepted their function will be performed by temporary workers engaged for the contract period at a total cost of R49 000

Four casual labourers would also be employed specifically for the contact at a cost of R5 000 each

3. Equipment

Two types of equipment are required for this contract general purpose equipment already owned by Mr Zenzele which will be retained at the end of the contract, and specisalised equipment to be purchased secondhand, which will be sold at the end of the contract

The general-purpose equipment cost R43 000 two years ago and is currently depreciated on a straight-line basis over an eight-year life (with an estimated scrap value of R3 000) When not being used by Mr Zenzele, the general purpose equipment is hired to outside companies for R5 000 per month

The price for the relevant used specialised equipment amounts to R25 000 This equipment can be sold at the end of the contact for R18 000

QUESTION 4 (continued)

4. Premises

The contract will require the use of a premises on which Mr Zenzele has a five-year lease at a fixed rental of R8 000 per year If Mr Zenzele does not get the contract the premises will probably remain empty

5. Administrative expenses

This contract will incur cash administrative expenses estimated at R7 000

REQUIRED

(a) Calculate the price at which Mr Zenzele would tender for the classroom extension contract if he used his pricing method (6)

(b) Calculate the tender price so that Mr Zenzele would neither gain nor lose by taking the contract (ie the relevant cost) (10)

(c) Discuss any other non-financial factors that Mr Zenzele should take into account when considering this contract (3)

[19]

QUESTION 5 (26 marks; 31 minutes)

Part A

Nkosi Holdings has two divisions whose respective performances are under review You have been provided with the following information regarding these divisions

	Division 1	Division 2
Divisional profit	R105 000	R210 000
Net assets	R450 000	R975 000

Nkosi Holdings has a current cost of capital of 15%

REQUIRED

(a) Calculate the Return on Investment (ROI) and Residual Income (RI) for the two divisions and comment on your results (5)

(b) Which method of performance evaluation (ie ROI or RI) would be more useful when comparing divisional performance You are required to motivate your answer (2)

(c) Using ROI as a basis, discuss whether the manager of the Division 1 should invest in a proposed project offering a 22% return Your answer should state whether he/ she is acting in the best interests of Nkosi Holdings (4)

QUESTION 5 (Continued)

Part B

The management of a large furniture store is considering two marketing plans The outcomes of each are as follows

	Television	**Radio**
Expected outcome/Mean profit	R810 432	R960 305
Standard deviation in profits	R55 446	R231 737

REQUIRED

(a) Calculate the coefficient of variation (2)

(b) Based on the information given as well as your calculation in part (a), perform a risk analysis and advise management on the most suitable plan (5)

Part C

Hoan Limited manufactures a specific part for vending machines The budget for the next quarter ending 30 September 2014 is being revised The following actual information pertains to the quarter ended 30 June 2014

Sales (15 000 units)	R2 250 000
Closing inventory	1 500 units

Additional information:

1 There is an expected increase in sales volume of 5% per month from 1 September 2014

2 Wage negotiations indicate that there will be a rise in the labour rate and therefore it has been decided to increase the selling price by 10% as from 1 September 2014

3 Management has decided to keep closing inventory at 10% of monthly sales

REQUIRED:

(a) Compile the revised sales budget for the quarter ended 30 September 2014 (4)

(b) Compile the revised production budget for the quarter ended 30 September 2014 (4)

[26]