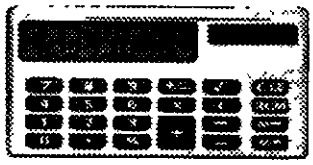
UNIVERSITY EXAMINATIONS



UNIVERSITEITSEKSAMENS

UNISA university of south africa

MAC2601

May/June 2013

PRINCIPLES OF MANAGEMENT ACCOUNTING

Duration 2 Hours

100 Marks

EXAMINERS :

FIRST	MR M RAMALEBA	MRS JM VERSTER
SECOND	MR RK NZHINGA	PROF HM VAN DER POLL

Use of a non-programmable pocket calculator is permissible.

Closed book examination

This examination question paper remains the property of the University of South Africa and may not be removed from the examination venue.

This paper consists of **13** pages

N.B.:

1 This paper consists of EIGHT (8) questions
2 All questions must be answered
3 Basic workings, where applicable, must be shown
4 Ensure that you are handed the correct examination answer book (blue for accounting) by the invigilator
5 EACH QUESTION ATTEMPTED MUST START ON A NEW (SEPARATE) PAGE.
6 The required percentage to pass this module is 50%

PROPOSED TIMETABLE:

Question	Subject	Marks	Time in minutes
1	Multiple Choice Questions (MCQ)	20	24
2	Standard costing	10	12
3	Relevant costing	10	12
4	Sensitivity analysis	10	12
5	Nature and behaviour of costs (two independent parts)	15	18
6	Accounting for material, labour and overheads	10	12
7	The job costing system	10	12
8	The process costing system	15	18
		100	**120**

QUESTION 1 (20 marks)(24 minutes)

Question 1 contains 10 multiple-choice questions of 2 marks each. Simply write down the number of each multiple-choice question (1 1 up to 1 10) with the letter of the correct option (A, B, C or D) next to each respective question number

Question 1.1 is based on the following information:

Shanduka Ltd., based in Sandton, recorded the following purchase and issue of materials ("Gold") for the month of December 2012

Date	**Transaction details**
December	
1 Opening inventory	300 units @ R6,50
3 Purchased	350 units @ R6,90
7 Issued	400 units to production

Industry information

Total costs for the industry pertaining to freight charges amount to R294 for orders placed in December Due to Shanduka's massive market share, its share of the total freight charges is 50% of the industry total for December

1.1

The value of inventory at 7 December, after issue to production of 400 units of Gold and using the **FIFO** method of valuation, is: (2)

A R1 725
B R2 562
C R1 830
D. R 732

1.2

While sitting in the Library studying for your MAC2601 exam, a fellow student asked you to verify the following statements regarding inventory valuation

(i) The issuing of materials at **weighted average** cost assumes that each batch taken from the storeroom is made up of the same quantities from each consignment in inventory at the date of issue
(ii) The flow of materials dictates the flow of costs when the **FIFO** method is used
(iii) During times of inflation, the use of the **FIFO** method will result in issues to production being made at "cheaper" prices
(iv) The **weighted average** method divides the total cost of all materials of a particular class by the number of units on hand for that class in order to find the average price

Indicate which of the above statements are true (2)

A Statements (ii) and (iii)
B Statements (i), (iii) and (iv)
C Statements (i) and (iv)
D Statements (i) and (ii)

1.3

Product costs using the absorption costing method equals (2)

A Direct materials
B. Direct labour
C Fixed costs
D Variable and fixed manufacturing costs

1.4

The following information is available for the month ended 30 April 2013

Opening inventory	10 000 units
Closing inventory	8 000 units
Net profit before tax (using absorption costing)	R280 000,00
Fixed cost per unit in opening inventory	R7,50
Fixed cost per unit in closing inventory	R9,00

If **direct costing** is used, the net profit before tax for the month ended 30 April 2013 will (2)

A Increase by R 3 000
B. Decrease by R 3 000
C Increase by R75 000
D Decrease by R72 000

1.5

Mangaung Ltd is a Chinese conglomerate which recently established an office in Johannesburg The CEO of the company, Frelimo Mudau, has recently confided in you that he struggles to understand activity-based costing The CEO has requested you as a management accounting student to list the advantages and disadvantages of ABC for him

i) Performance measurement can be carried out in more detail owing to the extensive research required to implement ABC
ii) ABC is less expensive than the traditional costing method
iii) It may result in more accurate price decisions if costs are used to set prices
iv) If overhead cost is a low percentage of total cost, ABC will differ significantly from traditional costing

Indicate which of the above statements are true (2)

A Statements (i) and (iii)
B. Statements (i) and (iv)
C Statements (ii) and (iii)
D Statements (i), (ii) and (iv)

1.6

You have been provided with the following statements regarding ABC:

i) ABC is more suitable for companies with larger amounts of indirect costs
ii) The overhead rate will be the same irrespective whether ABC or traditional costing is used
iii) In ABC, only manufacturing cost can be assigned to products
iv) The business process can be redesigned if inadequacies are identified in ABC research

Indicate which of the above statements are true (2)

A Statements (ii) and (iii)
B Statements (i) and (iii)
C Statements (i) and (iv)
D Statements (iii) and (iv)

Questions 1.7 and 1.8 are based on the following information:

Chachingo Ltd manufactures three joint products and one by-product (Dee) in a single process. The following are the actual results for March 2013:

	Aye Units	**Bee Units**	**Cee Units**	**Dee Units**
Production at 100% capacity	20 000	25 000	10 000	2 000

All joint products can be processed further into a superior product namely: Super Aye, Super Bee and Super Cee Due to strict quality control at the end of the production process a rejection of 10% of the final product will occur if further processing is done after split-off point

The following information is applicable **if products are processed further**

	Super Aye R	**Super Bee R**	**Super Cee R**
Selling price per unit	20	15	25
Additional processing costs	4	4	5

Additional information:

1 Costs incurred in the joint process were **R**

- Direct material 238 500
- Direct labour 143 100
- Manufacturing overheads 95 400

2. By-products are sold for R3 per unit

1.7

Assuming that a regular market exists for the by-product, the total joint costs to be allocated is (2)

A R477 000
B R471 000
C R386 600
D R375 600

1.8

The profit attributed to product Super Bee if the total production is sold and the company uses the **physical standard method** to allocate joint cost is (round off to the nearest rand) (2)

A R 23 409
B R 60 909
C. R123 409
D. R160 909

1.9

You have been appointed as trainee management accountant at one of the investment banks in Sandton The head of finance has requested you to present a document about budgeting and, in particular, to list its advantages and disadvantages

You are considering the following statements

(i) Budget variances can expose weak points in an organisation
(ii) Forecasts are always 100% accurate
(iii) Budgets do not help with cost control
(iv) Budgets serve as a roadmap in terms of whether the organisation is achieving its goals

Indicate which of the above statements are true (2)

A. Statements (i) and (ii)
B Statements (i), (ii) and (iii)
C Statements (ii) and (iii)
D Statements (i) and (iv)

1.10

Whilst preparing for your MAC2601 exam, you overhear fellow students having a discussion about flexible (flexed) budgets.

They mentioned the following

(i) A flexible budget is the approved plan of action for achieving a predetermined goal
(ii) A flexible budget is the budget that calculates budgeted income and budgeted costs according to actual production volume
(iii) For the preparation of a flexible budget, we need to calculate the fixed cost per unit based on actual production volume
(iv) A flexible budget is the budget that restates the position if a variation from expected sales and production volume occurs on which the fixed budget is based

Indicate which of the above statements are true. (2)

A Statements (i) and (ii)
B Statements (iii) and (iv)
C Statements (i), (ii) and (iii)
D Statements (ii) and (iv)

QUESTION 2 (10 marks)(12 minutes)

Zanral Ltd , a company based in Midrand, was recently awarded a contract by the National Department of Transport to supply etags The company manufactures these etags to be fitted in cars. The company uses a standard costing system

The standard cost per Zanral etag is as follows

		R
Direct material plastic	(10 kg @ R10 per kg)	100
Direct material steel	(15 kg @ R16 per kg)	240
Direct labour	(20 hours @ R8 per hour)	160
Variable manufacturing overhead varying with hours worked (20 hours at R4 per hour)		80
Variable selling costs		22 000
Budgeted selling price per etag		1 200

Zanral Ltd financial information for the year ended 31 December 2012 includes

		R
Cost of direct material plastic	(12 kg @ R13 per kg)	78 000
Cost of direct material steel	(10 kg @ R12 per kg)	60 000
Cost of direct labour	(25 hours @ R12 per hour)	150 000
Variable selling costs		25 000
Selling Price per etag		1 350
Etags manufactured and sold		500 etags

Round off all variances to the nearest rand

REQUIRED:

a Calculate the labour rate variance (2)
b Calculate the labour efficiency variance (2)
c Calculate the variable manufacturing overhead efficiency variance for overheads that vary with hours worked (2)
d Calculate the purchase price variance for direct material steel (2)
e Evaluate whether the following statement about standard costing is **true** or **false**

- Organisations use standard costing because actual performance can be controlled by measuring it against the standard, any variances can then be investigated, and corrective action taken (2)

QUESTION 3 (10 marks)(12 minutes)

Greyton Glass (Pty) Ltd manufactures and sells two different glass products. vases and cutting boards. The management accountant has started to prepare the budget for the 2014 financial year and identified the following as the only limiting factor in the production process

	Vases	Cutting boards	Total
Labour hours **required** to meet full regular demand for the product	1 500	1 000	2 500
Total labour hours **available**			1 600
Shortfall/Limitation in **labour hours**			900

The company will not be able to acquire any additional labour, but the labour hours available can be reassigned between products as required

Additional information:

1 Budgeted fixed costs for the year are R480 000
2. Vases are expected to sell for R30 per unit and cutting boards for R25 per unit.
3 Expected regular demand for 2014 3 000 vases and 4 000 cutting boards.
4. Variable costs per unit are budgeted as follows

	Vase R	Cutting board R
Variable manufacturing costs	8	12
Variable selling costs	3	1
Total variable costs	11	13

REQUIRED:

a Determine the number of sales units per product (sales mix) that should be budgeted for for the coming financial year in order to maximise the budgeted profit of Greyton Glass (Pty) Ltd (8)

b If a potential once-off customer requested Greyton Glass (Pty) Ltd to quote a total price for 200 vases, which one of the following statements will be **incorrect** with regard to setting a selling price for the 200 vases (simply write down the **number of the incorrect** statement)

(i) The budgeted fixed costs for the year (R480 000) are irrelevant to the pricing decision
(ii) Greyton Glass (Pty) Ltd will also have to take into account the net opportunity costs associated with giving up its regular sales
(iii) Greyton Glass (Pty) Ltd should also consider qualitative factors before they make a final decision about the price to be quoted
(iv) If Greyton Glass (Pty) Ltd sets the special order selling price at an amount lower than the minimum price that can be charged for the special order, this will put the company in a better overall cash position.

(2)

QUESTION 4 (10 marks)(12 minutes)

You are a business advisor You have prepared the following probability distribution table for a client regarding all the possible effects of adding a specific new product line to the client's existing business (where "-R200 000" means a R200 000 decrease in profit, "+R200 000" means a R200 000 increase in profit, etc)

Outcome value (effect on profit)	Probability (%)
-R200 000	10%
-R100 000	20%
0	20%
+R100 000	35%
+R200 000	15%

The overall profit of the client would be R2 000 000 if the new product line is **not** added

REQUIRED:

(a) Calculate the expected value of the effect on the client's profit if the new product line is added (3)

(b) Determine the individual outcome (effect on profit) that is most likely to occur. (1)

(c) Calculate what the relative decrease in the overall profit of the client will be should the new product line be added and the "-R100 000" outcome (a R100 000 decrease in profit) realise (2)

(d) State whether the above probabilities will be classified as "biased" or "unbiased" if the client's management had to make a lot of assumptions in determining these probabilities. Simply write down either "Biased" or "Unbiased", depending on the correct answer. (1)

(e) Write down the correct term for each of the following definitions/descriptions within the context of decision trees:

(i) Something that takes place independent of management's actions, i e management cannot control what happens under the specific circumstances (1)

(ii) A component of a decision tree, which connects one node to the following and which is represented by a solid line. (1)

(iii) The final result or outcome of all the events and decisions that lead to a specific point, before weighting with probabilities – also called a "possible outcome" (1)

QUESTION 5

THIS QUESTION CONSISTS OF TWO INDEPENDENT PARTS:

PART A (5 marks)(6 minutes)

Ebhayi Transport Services operates a fleet of delivery trucks in Port Elizabeth metropolitan area A careful study by the company's cost accountant has determined that if a truck is driven 145 000 km during a year, the average semi-variable operating cost is R15,50 per km If a truck is driven only 98 000 km during a year, the average semi-variable operating cost increases to R19,50 per km

REQUIRED:

a Use the high-low method to determine the variable cost per km (round off to two decimal places) and the total fixed costs (round off to the nearest hundred rand) (3)
b Formulate a linear equation that explains and predicts cost behaviour (1)
c. Forecast the total costs if an estimated 115 000 km is driven during a year (1)

PART B (10 marks)(12 minutes)

MUSIKA (Pty) Ltd is a small entertainment company operating from downtown Johannesburg

MUSIKA sells one product called BIN10 music player The following information is available for the year ended 31 March 2013 in which 16 000 units were manufactured and sold

	Total	**Per unit**
	R	**R**
Sales	560 000	35,00
Direct material	148 000	9,25
Direct labour	120 000	7,50
Conversion costs	215 000	
Fixed manufacturing overheads	55 000	

There was no inventory on hand at the beginning and end of the month Variable manufacturing overheads are based on production

REQUIRED:

a Calculate variable manufacturing overheads in total (2)
b Calculate total contribution and contribution ratio. Round off to two decimals in your calculations (2)
c Prepare a contribution statement of comprehensive income if 20 000 BIN10 are manufactured and sold. (3)
d Use the same information as in (c) above to calculate net profit if the selling price increases by R5, total fixed costs increases by R5 000 and sales volume decreases by 10% (3)

QUESTION 6 (10 Marks)(12 minutes)

Gidima Ltd , a company based in Centurion, was recently awarded a contract by the national Department of Home Affairs to supply smart ID cards to replace the current version of identity books used in South Africa

The company is excited about the prospects of making super profits from this contract as evidenced by recent South African census population numbers Gidima Ltd has requested you to assist them with the computation of the budgeted cost of each smart ID card as well as the budgeted profit. The company uses the absorption costing method of inventory valuation

The budgeted cost of a smart ID card is made up as follows.

Direct materials· Specialised plastic	2,5 m @ R3,50 per metre
Direct labour	2 hours
Variable manufacturing overhead recovery rate	R1,50 per hour
Selling price per smart ID card	R125
Variable selling costs	

(Variable selling cost is 5% of selling price per smart ID card and varies with units sold)

Additional information:

- Variable manufacturing overheads varies with labour hours worked.
- The total budgeted fixed manufacturing overheads for the period amount to R550 000. Fixed manufacturing overheads are recovered based on direct labour hours The average long run capacity of the plant is 20 000 ID cards per annum
- Direct labour is budgeted at R8 per hour.
- There was no budgeted opening or closing inventory for the period

REQUIRED:

a Calculate the budgeted **manufacturing cost** of one smart ID card (rounded to two decimal places) (5)

b Calculate the total budgeted profit if Gidima Ltd. manufactures and supplies 9 000 smart ID cards to the Department of Home Affairs (5)

QUESTION 7 (10 marks)(12 minutes)

Mboni Tshivhasa manufactures clay pots which she sells mostly to foreign tourists at the Punda Maria Gáte of the Kruger National Park Her clay pots are painted with enamel paint after being burnt in an open straw fire Each job is given a unique African name that identifies the job

Mboni wants you, as a management accountant to help her determine the cost of each job using the job costing system

The following balances were extracted from the books of Mboni Tshivhasa on 1 April 2013:

	R
Direct material	90 000
Bank	3 200
Sales expenses	3 600

April 2013 costs have been allocated to jobs as follows.

Job	Material R	Wages R
Khali	25 200	16 800
Mvuvhelo	32 400	20 160
Lusiko	18 700	9 360
Mutondo	2 900	-

Additional information

1 Actual manufacturing overheads costs incurred during the month are R72 600
2 Mark-up of 50% is added to the total of each job's cost to arrive at the selling price for the job
3 Overheads are applied to production using the rate of 90% of direct material costs
4 Job Khali, Mvuvhelo and Lusiko were completed and transferred to the finished goods account
5 Jobs Khali and Lusiko were sold on 30 April 2013

REQUIRED:

a. Prepare the following general ledger accounts, properly balanced

- Direct material control (2)
- Manufacturing overhead control (2)
- Work-in-process control (3)
- Finished Goods (1)

b. Calculate the profit or loss of Mboni Tshivhasa for the month of April 2013 (2)

QUESTION 8 (15 marks)(18 minutes)

Bontebo (Pty) Ltd. manufactures one product in a single process and uses a process costing system The following information is available for March 2013:

	Units
Work-in-process (1 March 2013) – 60% completed	12 000
Started in the current month	38 000
Completed in the current month	35 000
Work-in-process (31 March 2013) – 20% completed	10 000

Additional information

1. Bontebo (Pty) Ltd. applies the FIFO method of inventory valuation
2. Wastage takes place when the process is 30% complete
3. Raw materials are added at the beginning of the process and conversion takes place evenly throughout the process
5 Normal losses are estimated as 10% of the units that reach the wastage point.
6 The following cost data is available for March 2013

	R
Work-in-process (1 March 2013)	
Material	64 800
Conversion	18 720
Current production cost	
Material	209 000
Conversion	118 940

REQUIRED:

a Prepare the quantity statement for March 2013. (7)
b Prepare the production cost statement for March 2013 (3)
c Calculate the Rand value of the normal loss in terms of material only Round off amounts to the nearest Rand (1)
d Calculate the total value of closing WIP that will be included in the cost allocation statement (4)