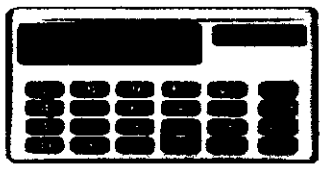
UNIVERSITY EXAMINATIONS



UNIVERSITEITSEKSAMENS

UNISA university of south africa

MAC2601

October/November 2013

PRINCIPLES OF MANAGEMENT ACCOUNTING

Duration . 2 Hours

100 Marks

EXAMINERS :

FIRST :	MR M RAMALEBA	MRS JM VERSTER
SECOND	MR RK NZHINGA	PROF M STEYN

Use of a non-programmable pocket calculator is permissible.

Closed book examination

This paper consists of **11** 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	Direct and absorption costing	15	18
3	The activity-based costing (ABC) system	10	12
4	The process costing system	15	18
5	Standard costing	15	18
6	Sensitivity analysis (probabilities)	5	6
7	Nature and behaviour of costs	10	12
8	Sensitivity analysis (decision trees)	10	12
		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:

Abbettery (Pty) Ltd is a company which build large shopping malls as well as residential complexes. The company uses the FIFO method of inventory valuation

The records below relates to the company inventory records for the month of October 2013:

Date	Transactions	Details
1/10	Opening inventory	150 units @ R6,50
3/10	Purchases	1 200 units @ R6,80

Freight cost paid is 10% of the cost price per unit.
Average exchange rate for the day: ZAR/USD 9.9275

5/10	Issues	800 units
8/10	Returned to supplier	25 units bought on 8/10

1.1

Using the FIFO method of inventory valuation, the value of inventory purchased on 3 October 2013 is: (2)

A. R8 796
B. R8 061
C. R8 976
D R8 160

1.2

Which one of the following statements is correct about the inventory valuation method used by Abbettery (Pty) Ltd ? (2)

A. Materials received or purchased first are issued last
B. Materials received or purchased first are issued first
C Materials with the highest value are issued first
D. Materials with the lowest value are issued last

1.3

Nkandla (Pty) Ltd. absorbs overheads on the basis of machine hours. The following budgeted and actual information applied in the preceding accounting period:

	Budget	**Actual**
Production overheads	R 200 000	R 225 000
Machine hours	40 000	35 000
Units produced	25 000	22 500

Overheads for the preceding period were. (2)

A R50 000 over applied
B. R50 000 under applied
C. R45 000 under applied
D. R45 000 over applied

1.4

A chicken farm uses a predetermined overhead recovery rate based on machine hours. Budgeted farming overheads for the year amounted to R600 000, however, actual farming overheads for the year amounted to R750 000 During the year the farm absorbed R810 000 of farm overheads based on 125 000 actual machine hours.

What was the farm's budgeted level of machine hours for the year (rounded to nearest Rand)? (2)

A. 92 395 hours
B. 125 000 hours
C 92 593 hours
D. 126 000 hours

1.5

Jambo plumbing services is in the process of implementing a costing system and require the expertise of a management accountant. Their manager, P. Postman, approaches you for advice

Which one of the following statements is **not** true about a job costing system? (2)

A. Job costing is appropriate where homogeneous products are manufactured using the same production facilities.

B Job costing is appropriate where heterogeneous products are manufactured using the same production facilities.

C. A common example of a business where job costing is applied is at a workshop where repairs are carried out on different vehicles and where the cost of repairs to each vehicle is calculated separately

D. Job costing is not appropriate in industries where large quantities of similar products pass through a single process or consecutive processes in the course of production.

1.6

The following data is available for joint products Isitya and Ikopi:

	Isitya	**Ikopi**
	R	**R**
Sales at split-off point	120 000	90 000
Sales after further processing	190 000	150 000
Joint cost (up to split-off point) allocated	50 000	35 000
Further processing cost	30 000	30 000

Which product(s) must be sold at the split-off point and which product(s) must be sold after further processing? (2)

A Isitya: split-off point; Ikopi split-off point

B Isitya: further process; Ikopi: split-off point

C. Isitya: split-off point; Ikopi: further process

D. Both Isitya and Ikopi must be processed further

Questions 1.7 and 1.8 are based on the following information:

The following budgeted and actual information was taken from the records of Phala (Pty) Ltd:

	Budget		**Actual**
	8 000 units	**12 000 units**	**10 500 units**
	R	**R**	**R**
Sales	5 400 000	8 100 000	7 035 000
Manufacturing costs (**variable**)	1 936 000	2 904 000	2 625 000
Selling and administrative costs (**semi-variable**)	2 195 200	2 917 200	2 326 800

Jim Mathoho, chief operating officer, after seeing how the expected sales and production volume varied from the fixed budget commented, "As soon as the fixed budget was approved, it was out of date".

1.7 What is the budgeted variable cost per unit? (2)

A R422,50

B. R180,50

C R242,00

D R274,00

1.8 The flexible (flexed) budget will show a contribution amount of ____. (2)

A R4 546 500

B R1 835 750

C R3 731 000

D R2 649 250

1.9

Choose the correct term for the following definition an amount that was incurred in the past and that cannot be changed by any future decision. (2)

A. Committed (unavoidable) cost
B Committed (unavoidable) income
C. Incremental cost
D. Sunk cost

1.10

Which one of the following methods will be the most appropriate for allocating resources where multiple (more than one) constraints apply and the organisation produces a single product (feasible production output < demand)? (2)

A Use the contribution per limiting factor to rank products for the optimal product mix
B. Produce the full number of units for which there is a demand
C Limit output to resource with the highest (most constrictive) constraint
D. Use the contribution per unit of output to rank products for the optimal product mix

QUESTION 2 (15 marks) (18 minutes)

The management accountant has presented the following information for Vivo (Pty) Ltd , which manufactured a single product type for the year ended 31 October 2013.

Prime costs per unit (variable)	R120 (2012: R105)
Selling price per unit	R200 (2012: R180)

Overhead costs:

• Manufacturing (variable)	R45 per unit
• Manufacturing (fixed)	R150 000
• Selling and administrative (fixed)	R 80 000
• Selling and administrative (variable)	R2 per unit

Additional information:

- Vivo (Pty) Ltd. manufactures 20 000 units each year.
- Units sold during 2013 were 15 000.
- The cost structure of Vivo (Pty) Ltd., except for prime costs, remained unchanged from 2012.
- Opening inventory value for 2 500 units calculated for IFRS purposes (financial accounting) at 1 November 2012 is R393 750.
- There was no opening inventory at 1 November 2011.
- Vivo (Pty) Ltd. applies the weighted average method of inventory valuation

REQUIRED:

(a) Draft the contribution statement of comprehensive income for the year ended 31 October 2013 using the direct costing method. (7)

(b) Draft the statement of comprehensive income for the year ended 31 October 2013 using the absorption costing method. (8)

QUESTION 3 (10 marks) (12 minutes)

You are a senior management accountant at Fabulous (Pty) Ltd., a profitable manufacturing company based in Kempton Park. The Financial Director of Fabulous (Pty) Ltd requested you to attend a management accounting seminar presented by Charl Hatt, a pundit on activity-based costing.

After the training you are confident to assist Fabulous with activity-based costing.

Details of the four products manufactured by the company are listed below:

Products	C1	C2	C3	C4
Output in units	200	250	100	300
Machine hours (per unit)	5	4	2,25	3

Production overhead for the period is as follows:

Machine department costs	R40 000
Setup costs	R20 000
Stores receiving	R15 000
Inspection	R10 000
Material handling and dispatch	R25 000

Cost drivers to be used for **ABC** are listed for the overhead costs shown:

Cost	**Cost driver**	**Cost driver volume**
Machine department costs	Machine hours	?
Setup costs	Number of production runs	20
Stores receiving	Requisitions raised	60
Inspections	Number of inspections	50
Materials handling	Orders executed	25

REQUIRED:

(a) Calculate the **manufacturing overhead cost per unit** of product C2 if all production overheads are allocated on a machine hour basis instead of by using ABC. (5)

(b) Calculate an activity rate for each of the five activities (assume ABC is now used). (5)

QUESTION 4 (15 marks) (18 minutes)

Simple Snacks (Pty) Ltd. manufactures one product in a single process and uses a process costing system. The following information is available for June 2013

	Units
Work-in-process:	
1 June 2013 – 20% completed	300 000
30 June 2013 – 90% completed	240 000
Started (put into production) in June	400 000
Completed in June	420 000

Additional information:

1. Raw materials are added at the beginning of the process and conversion takes place evenly throughout the process.
2. Normal losses are estimated as 4% of the units that reach the wastage point.
3. Cost information for June 2013 was as follows.

	Material	**Conversion**
	R	**R**
Work-in-process (1 June 2013)	1 050 000	432 000
Current production cost	1 456 000	2 029 000

REQUIRED:

a. Prepare the **weighted average** method quantity statement for June 2013, assuming wastage takes place when the process is 10% complete. (7)

b. Prepare the **FIFO** method quantity statement for June 2013, assuming wastage takes place at the end of the process. (8)

QUESTION 5 (15 marks) (18 minutes)

Prepaid Meters (Pty) Ltd manufactures prepaid electrical devices and supplies them to the City of Tshwane. The company has a manufacturing plant in Rosslyn, Tshwane Prepaid Meters (Pty) Ltd uses standard costing. The company uses two types of material for the manufacturing of these devices, material CTA 1 and material CTA 2 The company has appointed you as the financial director to assist them to be the best company in terms of revenue and services levels.

Your first task is to assist Prepaid Meters (Pty) Ltd. with standard costing.

The following budget was produced based on budgeted sales of 9 000 units for the year ended 31 October 2013

Labour hours	90 000 hours
Rate	R15 per hour
Materials.	
Material CTA 1 (0,95 kg @ R19/kg)	R18,05
Material CTA 2 (0,85 kg @ R20/kg)	R17,00

Actual results.

Actual production	8 000 units
Actual labour hours	80 000
Actual labour cost	R1 600 000
Materials purchased and used	
CTA 1 (500 kg)	R12 000
CTA 2 (400 kg)	R 6 000

REQUIRED:

(a) Calculate the following variances for the period ended 31 October 2013:

(i) Labour rate variance (3)
(ii) Labour efficiency variance (3)
(iii) Total labour variance (3)

b) Calculate the material purchase price variance for CTA 1 and for CTA 2 (4)

c) Evaluate whether the following statements are true or false

(i) Standard costing may assist the financial director of Prepaid Meters (Pty) Ltd. in setting budgets and evaluating managerial performance (1)

(ii) Amongst others, the reason for the material price variance could be failure to take advantage of quantity discounts on bulk purchases (1)

QUESTION 6 (5 marks)(6 minutes)

Mac's Moments sells wedding portraits for a contribution of R12 per unit and have gathered the following information about the demand possibilities for its product for 2014:

Demand (number of units to be sold)	Probability
40 000	15%
60 000	5%
80 000	35%
110 000	45%

REQUIRED:

Prepare a probability distribution table for Mac's Moments, showing the weighted **contribution** for each level of demand, as well as the expected value of **contribution** for 2014 (5)

QUESTION 7 (10 marks) (12 minutes)

The following information was obtained from the books of Buda Manufacturers for the six months ended June 2013.

Month	Number of units	Semi-variable manufacturing overheads
January	1 200	4 560
February	1 272	4 932
March	1 080	4 202
April	1 320	5 364
May	1 392	5 520
June	1 592	5 994

REQUIRED:

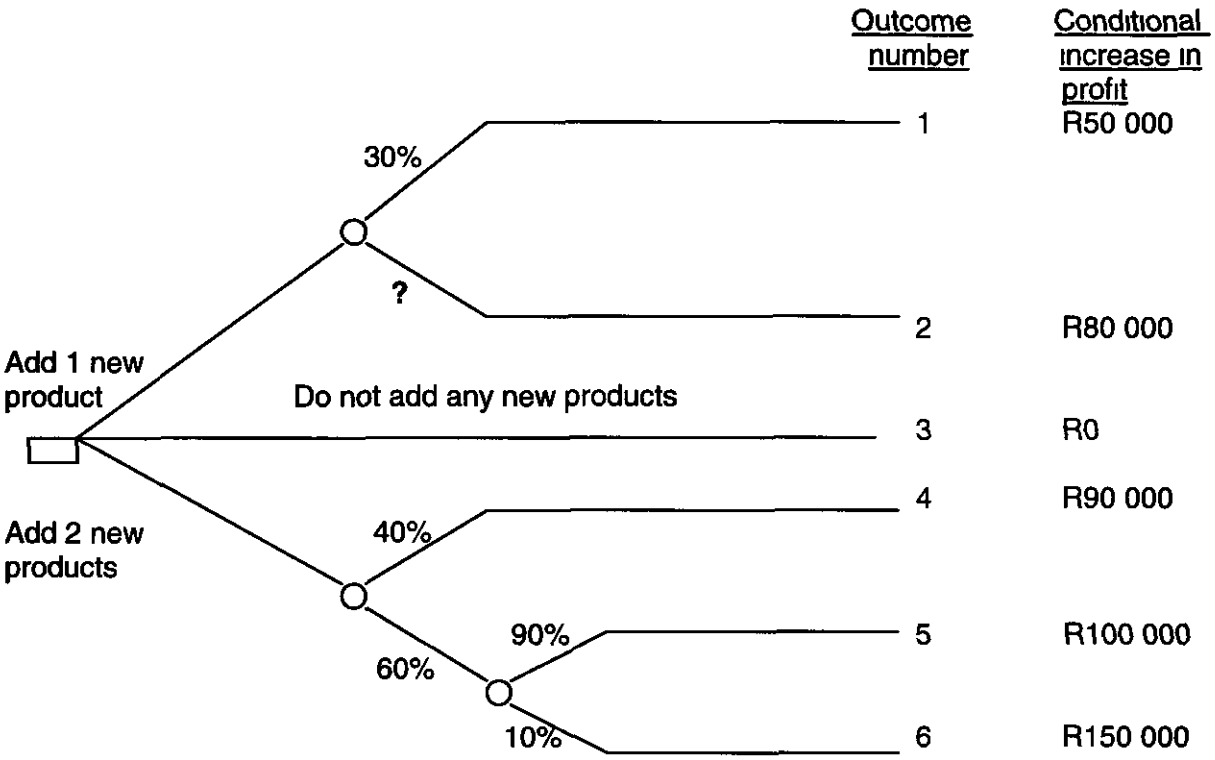
(a) Use the **high-low method** to determine the total costs to be expected in July if 1 530 units are manufactured (3)

(b) Use the **least squares method** to calculate the variable cost per unit and the fixed costs in total for the financial year. Use the following formulae and round off answers for **(a)** and **(b)** to two decimals (7)

$\Sigma xy = a\Sigma x + b\Sigma x^2$..... . ①
$\Sigma y = an + b\Sigma x$.... .. . ...②

QUESTION 8 (10 marks)(12 minutes)

Management of Incredible Products (Pty) Ltd has drawn up the following decision tree (the possible outcomes represent the increase in contribution associated with the specific outcome number)



REQUIRED:

a. Calculate the expected effect on contribution if one new product is added. (3)
b. Calculate the expected effect on contribution if two new products are added. (5)
c. Indicate which one of the three possible decisions will be the best for Incredible Products (Pty) Ltd from a quantitative perspective. (2)