UNIVERSITY EXAMINATIONS

UNIVERSITEITSEKSAMENS

UNISA university of south africa

ACN316-4
ACN306-Y
RAC316-Q

May/June 2008

MANAGEMENT ACCOUNTING TECHNIQUES AS AID IN DECISION-MAKING (ACCOUNTING 316)

Duration : 2 Hours

100 Marks

EXAMINERS :

FIRST :	MRS AM RAATH	MRS K KOK
	MRS PR BERRY	
SECOND :	PROF BL STEYN	
EXTERNAL :	MRS MM ODENDAAL	

Use of a non-programmable pocket calculator is permissible.

This paper consists of 8 pages.

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. The pass mark for this module is 50%.

PROPOSED TIMETABLE

Question	Topic	Marks	Minutes
1	Multiple choice questions	20	24
2	Cost-volume-profit analysis	30	36
3	Network analysis	25	30
4	Economic order quantity	25	30
		100	120

[TURN OVER]

QUESTION 1 (20 marks; 24 minutes)

This question consists of 7 multiple choice questions. Each question should be considered independently, unless specific reference is made to information in another question. Each question has only one correct answer and the marks per question are indicated in brackets after each question.

Please list the question numbers below one another, from 1.1 to 1.7 with your corresponding answer next to it, for example:

1.1 a
1.2 b

1.1 Consider the following statements regarding the newer concepts in Management Accounting:

1. Inspection, rework and product recalls add quality to a product.
2. Target cost is the cost that can be incurred on a product so that the required profit on the product can still be earned.
3. The Just in time (JIT) approach allows management to address and solve problems, for example, bottlenecks and absenteeism.
4. Activity-based management (ABM) is used to improve the performance of an organisation and to manage costs.

Indicate which of the above statements are **true**:

(a) Statements 2, 3 and 4
(b) Statements 1 and 3
(c) Statements 2 and 4
(d) All of the above statements
(e) None of the above

(3)

1.2 Consider the following statements with regard to correlation and regression analysis:

1. In determining the correlation between delivery cost and sales, sales is the independent variable and delivery cost the dependent variable.
2. In the formula $y = a + bx$, **y** represents the fixed cost and intercept on the y axis, and **x** represents the variable cost and the slope of the line.
3. Projections can be made of the delivery cost and sales by means of the regression line by substituting either the **a** or **b** value into the equation and solve for the unknown.
4. A perfect correlation between two sets of data will result in a coefficient of correlation of 1 or -1.

Indicate which of the above statements are **false**:

(a) Statements 1 and 2
(b) Statements 2 and 3
(c) Statements 1 and 3
(d) Statements 1, 2 and 3
(e) None of the above

(3)

QUESTION 1 (continued)

1.3 Dayla Limited has just started manufacturing a new threshing machine which requires a lot of manual labour. It took 5 184 labour hours to manufacture the first four machines. Past experience of the manufacture of similar machines has shown that a 90% learning curve applies from the first to the sixteenth machine to be manufactured, which can be assumed in this case.

Consider the following statements:

1. The total manufacturing time for the first 8 machines is 9 331,20 hours.
2. The cumulative average manufacturing time per machine for the first 16 machines is 1 049,76 hours.
3. The first threshing machine took 1 440 labour hours to manufacture.
4. The cumulative average manufacturing time per machine for the first 4 machines is 1 296 hours.

Indicate which of the above statements is **true** (round figures to two decimals):

(a) All of the above statements
(b) Statements 1, 2 and 3
(c) Statements 1, 2 and 4
(d) Statements 1, 3 and 4
(e) None of the above (3)

1.4 The following variable budget was taken from the records of Doman (Pty) Ltd:

No of units produced	10 000 R	20 000 R
Direct labour	300 000	600 000
Maintenance costs	18 400	20 800
Depreciation	17 500	17 500

Consider the following statements **with regard to the above**:

1. Direct labour represents a semi-variable cost.
2. Maintenance represents a variable cost.
3. Depreciation represents a fixed cost.

Indicate which of the above statements are **true**:

(a) Statement 1
(b) All the statements
(c) Statements 1, 2 and 3
(d) Statements 1 and 3
(e) None of the above (3)

QUESTION 1 (continued)

The following information must be used for the purpose of answering questions 1.5 and 1.6, bearing in mind that questions must be considered independently from each other.

Fitex Ltd manufactures various exercise and fitness products. The branch in Centurion manufactures two types of electronic exercise belts, namely the Slim Belt and the Trim Belt. The Slim Belt has made a loss over the past year, and management has to make a decision whether to discontinue with it.

The following budget, based on 80% capacity, has been compiled for the Centurion branch:

	Trim Belt	Slim Belt
Units produced	5 000	4 000
	R	R
Sales	1 700 000	1 400 000
Expenses	1 403 000	1 860 000
Direct material	378 000	460 000
Direct labour	200 000	300 000
Total overheads	825 000	1 100 000
Net income/(loss)	297 000	(460 000)

Additional information:

1. Fixed overheads for the branch amounts to R 1 145 000.
2. Organisational overheads of the head office are allocated to the branches at a specific rate and amount to 20% of fixed overheads. The rest of the fixed overheads are connected exclusively to the Centurion branch.
3. Overheads are allocated to production based on direct labour cost.
4. The demand for the Trim Belt will not be affected if the Slim Belt is discontinued.

1.5 The value of fixed overheads to be taken into consideration when making the decision whether to discontinue production of the Slim Belt is:

(a) R1 145 000
(b) R916 000
(c) R549 600
(d) R366 400
(e) None of the above (3)

1.6 The value of variable overheads to be taken into consideration when making the decision whether to discontinue production of the Slim Belt is:

(a) R468 000
(b) R780 000
(c) R312 000
(d) R1 925 000
(e) None of the above (3)

QUESTION 1 (continued)

1.7 Which one of the following formulae is **incorrect?**

(a) Marginal income ratio = Marginal income per unit/Selling price per unit
(b) Net income ratio = Total net income/ Selling price per unit
(c) Marginal cost ratio = Total marginal cost/ Total sales
(d) Sales = Marginal cost + fixed cost + profit
(e) None of the above (2)

[20]

QUESTION 2 (30 marks; 36 minutes)

You are the owner of a company which provides training. You have been approached to prepare a quotation for training at a business on the far North coast of KwaZulu-Natal.

You have prepared the following budgeted information for a group of 60 attendants:

	R
INCOME:	
Fixed fee	17 100
Variable income per person	1 710
[NB: These amounts include Value-added-tax (VAT) at a rate of 14%]	
EXPENDITURE: (EXCLUDING VAT)	
Rent per day	6 350
Return air ticket per person	1 200
Car rental per day: (includes 100 free kilometres per day, thereafter a rate of R3,00 per km will be charged)	200
Accommodation per person per night	525
Salary of assistant	2 000
Meals & refreshments for course attendants per person per day	225
Stationery (40% fixed)	8 000
Administrative expenses (100% variable)	3 750

ADDITIONAL INFORMATION:

- The training will take place on 5 and 6 June 2008 from 8:00 to 15:00. You will fly from the O R Tambo international airport in Johannesburg to the Durban international airport on the 4th of June, where you will rent a car and drive to the North coast, returning to the Durban international airport and departing to Johannesburg on the 6th of June.
- It is expected that you will travel 450km by car during the 3 days.
- One administrative assistant will accompany you on your trip.
- Due to the popularity of the training programme, it is expected that 60 people will attend the training session.
- The quotation per attendant includes all course material, meals and refreshments. Accommodation is not included.

QUESTION 2 (continued)

REQUIRED:

(a) Calculate the number of people needed to attend the training course in order for you to break even. (20)

(b) Determine the margin of safety and state the significance thereof. (4)

(c) Calculate the variable income per person (excl. VAT) if you want to earn an after-tax net income of R40 000 from this training course, if the fixed cost and the number of course attendants remain the same. Your current rate of taxation is 29%. (6)

NB: All figures should be rounded off to the nearest rand. **[30]**

QUESTION 3 (25 marks; 30 minutes)

Francois, a member of Frangie CC, a civil engineering entity has asked you to assist him with the planning, organising and controlling of the business's projects. You decide you will use your knowledge of network analysis to assist him.

PART A

You are given the following information on the activities of the construction of a canal system at the local dam.

(a) The following estimates were made for the completion of the construction of 3 jetties:

Optimistic estimate:	16 days
Most likely estimate:	18 days
Pessimistic estimate:	32 days

Calculate the expected time for the activity. (3)

(b) The construction of 2 ramps has an estimate of 45 days duration at a cost of R122 000. You discover that the activity can be accelerated to a duration of 30 days at a cost of R153 500.

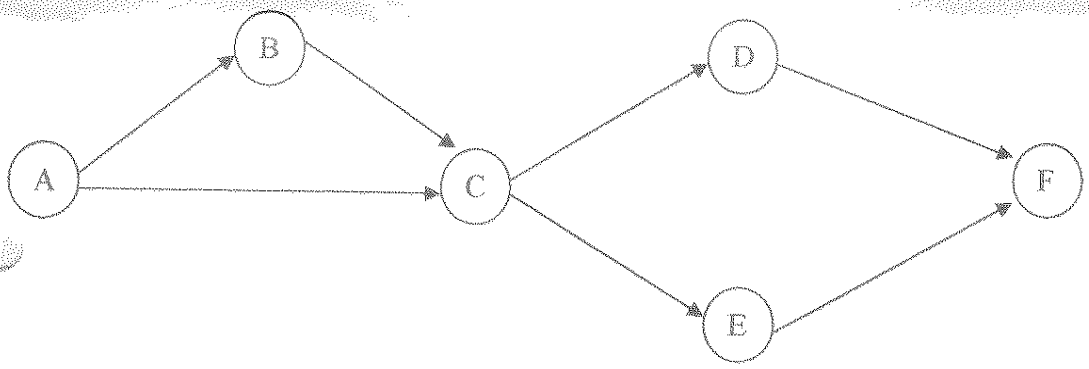
Calculate the cost slope of the activity and state the significance thereof. (4)

QUESTION 3 (continued)

PART B

The business has been asked to tender for a project to lay water-pipes at the local airstrip. The information made available to you led you to the following:

1. **Network diagram:**



2. **Project variable costs:**

Activity	Expected time (Weeks)		Cost slope R
	Normal	Accelerated	
Ⓐ→Ⓑ	16	14	2 600
Ⓐ→Ⓒ	18	12	2 200
Ⓑ→Ⓒ	9	9	-
Ⓒ→Ⓓ	14	10	2 000
Ⓒ→Ⓔ	10	7	1 950
Ⓓ→Ⓕ	12	9	2 340
Ⓔ→Ⓕ	19	13	4 000

3. **Project fixed costs:**

Fixed costs are considered to be of a discretionary nature and are recovered at R5 500 per week.

REQUIRED:

(a) Determine the critical path for the network. (3)

(b) Determine the most cost effective manner in which the project can be completed. (12)

(c) Assuming the original total cost of the project amounted to R1 276 450, calculate the tender price if Frangie CC wants to earn a 30% profit on cost price using the minimum expected cost. (3)

[25]

QUESTION 4 (25 marks; 30 minutes)

Computex (Pty) Ltd is a supplier of computer equipment. Its premises are situated nearby the local university. One of its products, a laptop computer selling at R4 900, is very popular among the B Com students.

The company sells on average approximately 20 laptop computers per week. Sales take place evenly throughout the year which consists of 50 weeks.

The company purchases the laptop computers at a cost of R3 430 each. The cost to place an order amounts to R300 and orders are executed within 5 weeks.

Safety stock should amount to the sales requirement for 3 weeks.

Direct stockholding costs are R35,00 per unit and insurance on the laptop computers amount to 10% of the unit cost per year.

The supplier has offered a quantity discount of 5% per laptop computer on orders of 150 units. The company implemented the economic order quantity model to manage its inventory.

The current after tax cost of capital is 11% per annum, the current rate of inflation is 7% per annum and the current rate of taxation is 29%.

REQUIRED:

(a) Advise management of the company whether they should accept the special offer from the supplier. (20)

(b) Determine the re-order point for the laptop computers. (2)

(c) List any three implications if a quantity discount is accepted. (3)
[25]