nAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY

FACULTY OF MANAGEMENT SCIENCES

DEPARTMENT OF ACCOUNTING, ECONOMICS & FINANCE

QUALIFICATION: BACHELOR OF TECHNOLOGY : ACCOUNTING AND FINANCE	
QUALIFICATION CODE: 07BACC	LEVEL: 7
COURSE CODE:MAC412S	COURSE NAME: MANAGEMENT ACCOUNTING AND CONTROL 4B
SESSION: JANUARY 2019	PAPER: PRACTICAL AND THEORY
DURATION: 3 HOURS	MARKS: 100

SECOND OPPORTUNITY EXAMINATION QUESTION PAPER	
EXAMINER	Mr. H. Namwandi
MODERATOR:	Mr. W. Dreyer

INSTRUCTIONS
1. This question paper is made up of five (5) questions.
2. Answer All the questions and in blue or black ink.
3. Start each question on a new page in your answer booklet and show all your workings.
4. Questions relating to this paper may be raised in the initial 30 minutes after the start of the paper. Thereafter, candidates must use their initiative to deal with any perceived error or ambiguities and any assumption made by the candidate should be clearly stated.

PERMISSIBLE MATERIALS
Non-programmable calculator

THIS QUESTION PAPER CONSISTS OF 4 PAGES (Excluding this front page)

QUESTION 1   (20 marks)

The manager of the T Rex Swimming Club is planning the club's swimming team program. The first team practice is scheduled for May 1. The activities, their immediate predecessors, and the activity time estimates (in weeks) are as follows:

Activity	Description	Immediate predecessor	Optimistic	Most probable	Pessimistic
A	Meet with board	-	3	5	7
B	Hire coaches	A	4	6	8
C	Reserve pool	A	2	4	6
D	Announce program	B,C	1	2	3
E	Meet with coaches	B,C	2	3	4
F	Order team suits	A	1	2	3
G	Register swimmers	D	1	2	3
H	Collect fees	G	1	2	3
I	Plan first practice	E,H,F	1	1	1

Note: The "Duration (weeks)" header spans the Optimistic, Most probable, and Pessimistic columns.

Required:

1.1 Draw a network diagram which clearly shows the relationship between the various activities.   (8)

1.2 Compute the expected time for the completion of each activity.   (5)

1.3 List all the different paths in the network.   (4)

1.4 Compute the expected completion time of the entire project.   (1)

1.5 If the club manager plans to start the project on February 1, what is the probability that the swimming program will be ready by the scheduled May 1 (13 weeks)? Should the manager begin planning the swimming program before February 1? Explain.   (13)
                                                                              (2)

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QUESTION 2 (21 marks)

Coke Ltd is currently selling Product N at N$5 per unit. The sales manager believes that sales for the coming financial year of Product N will be between 80 000 and 120 000 units, and that the probability of various sales figures being attained is as follows:

Sales	Probability
80 000	0,1
90 000	0,2
100 000	0,3
110 000	0,3
120 000	0,1

Fixed costs amount to N$150 000 per annum but, if production is to exceed 100 000 units, an additional N$8 000 of fixed costs will have to be incurred through leasing additional machinery. No significant inventories are held.

The sales manager also informs you that if selling prices were reduced by N$0,40 per unit, all the sales figures quoted above could be increased by 20 000 units. Variable costs amount to N$3 per unit.

Required:

Advise management whether to lease the additional machinery or not. Also calculate the expected net profit to be derived from sales of Product N in the forthcoming year assuming your advice is followed.

QUESTION 3 (19 marks)

Fanta Chain Stores own a small chain of 12 shops. There is a large spread in the size of the shops. The financial director of the group is considering the amalgamation of a number of the smaller shops with a view to improving profitability. She has assumed that she will retain at least the total turnover of the shops concerned, after amalgamation. She now wishes to relate profit to turnover. The data for each shop for the last financial year are given below:

Shop	Turnover (N$'000)	Annual profit (N$'000)
1	50	8
2	60	10
3	85	13
4	85	12
5	100	18
6	120	80
7	140	34
8	155	35
9	180	40
10	210	50
11	250	70
12	365	30

Required:

3.1 Determine the degree of correlation between the turnover and the annual profit of the different shops. (16)

3.2 Advise the financial director on the proposed amalgamation of the shops. (3)

QUESTION 4 (20 marks)

Twizza CC owns 210 square metres of land on which the corporation plans to build two types of garden sculptures called Misty and Sunshine. On completion these sculptures will be exhibited and probably sold by the end of the year. The overall budgeted costs are N$3 000. The Misty type costs N$50 to build and requires 7 square metres of land. The Sunshine type costs N$60 to build and requires 3 square metres of land.

To comply with local planning regulations, not more than 45 sculptures may be constructed on this site. Twizza has estimated that the profit on a Misty sculpture will be N$22 and on a Sunshine sculpture it will be N$8. The firm aims to maximise its profit.

Required:

4.1 Draw up a linear programming model for this project.
4.2 Construct a graph which clearly shows the feasible area.
4.3 Determine the optimum number of each type of sculpture that should be built.
4.4 Determine the maximum profit that can be realised on this project.

QUESTION 5 (20 marks)

Bonaqua Ltd has an opportunity to develop and market a new product. The costs of entering the market, including development and marketing costs are N$40 000. It is estimated that the total market for the product will either be high, medium or low, with probabilities of 0,30; 0,45 and 0,25 respectively.

A high market demand will generate a total gross income of N$100 000; a medium market will produce a total gross income of N$60 000 and a low market will produce a total gross income of N$40 000.

A major competitor is also considering entering this market, but it will probably wait until the product is marketed to see what the total demand for the product looks like. If the competitor sees a high market develop, there is an 80% chance it will also enter. If it sees a medium market the chance of entering is 50% and the chance of entering drops to 30% if a low market develops.

Required:

By making use of a decision tree diagram, calculate the amount of net income the company can probably expect.

END OF QUESTION PAPER.