AFRICA UNIVERSITY

(A United Methodist-Related Institution)

"Investing in Africa's Future"

FACULTY OF MANAGEMENT AND ADMINISTRATION

COURSE TITLE: MAC 301 Management Accounting (Conventional)

SEMESTER 1: Final Examination November 2016

LECTURER: Mr S.N. Chuchu

TIME: 3 Hours

INSTRUCTIONS

Answer **all five (5)** questions.

Start **each** question on a new page in your answer booklet.

The marks allocated to **each** question are shown at the end of the question.

Show all your workings.

Credit will be given for logical, systematic and neat presentations.

Question 1

(a) Outline any four (4) problems with performance measurement of not-for-profit organizations. **[8 marks]**

(b) Explain life-cycle costing and state what distinguishes it from traditional management accounting techniques. **[6 marks]**

(c) Gemini Limited manufactures one standard product using two raw materials, A and B, and operates an absorption accounting system of variance analysis using a fixed budget. The following data for June 2016 are available:

1. Budgeted sales and production amounted to 10 000 units.

2. **Standard cost per unit**

	$
Direct material A	10.00
Direct material B	25.00
Direct labour	15.00
Fixed production overhead	30.00
Production cost	80.00
Profit	20.00
Selling price	100.00

3. **Variances**

	$			$
Selling price	95 000(F)		Sales volume	10 000(A)
Material A price	19 200(A)		Material A usage	1 000(A)
Material B price	14 400(F)		Material B usage	2 500(A)
Labour rate	9 200(A)		Labour efficiency	4 500(F)
Overhead expenditure	10 000(F)		Overhead volume	15 000(A)

Required:
Prepare the operating statement for June 2016. **[6 marks]**

Question 2

Capricorn Limited manufactures two products, X and Y, each of which passes through the same automated production operations. The following estimated information is available for a period:

	Product X	Product Y
Original estimate of production/sales	120 000 units	45 000 units
	$	$
Selling price per unit	60.00	70.00
Direct material per unit	2.00	40.00
Variable production overhead per unit	28.00	4.00
Overall production time per unit	0.25 hours	0.15 hours

Additional information:

1. Maximum demand for each product is 20% above the estimated sales levels.
2. Variable production overhead per unit includes labour cost.
3. Total fixed production overhead cost is $1 470 000. This absorbed by products X and Y at an average rate per hour based on the estimated production levels.
4. One of the production operations has a maximum capacity of 3 075 hours which has been identified as a bottleneck which limits the overall estimated production/sales of products X and Y. The bottleneck hours required per unit for products X and Y are 0.02 hours and 0.015 hours, respectively.

Required:
Determine the optimum production plan and calculate the profit that would arise from the plan applying:

(a) The contribution margin approach **[10 marks]**
(b) The throughput accounting approach **[10 marks]**

Question 3

(a) Distinguish between maximin criterion and maximax criterion of decision making. **[5 marks]**

(b) Alpha Limited operates in an industry recovering from the recent recession. The directors of the company hope next year to be operating at 85% of capacity, although currently the company is operating at only 65% of capacity. The 65% capacity represents output of 10 000 of the single product which is produced and sold. One hundred direct workers are employed on production for 200 000 hours in the current year.

The flexed budgets for the current year are as follows:

Capacity level	55%	65%	75%
	$	$	$
Direct materials	846 200	1 000 000	1 153 800
Direct wages	1 480 850	1 750 000	2 019 150
Production overhead	596 170	650 000	703 830
Distribution overhead	192 310	200 000	207 690
Administration overhead	120 000	120 000	120 000
Total costs	3 235 530	3 720 000	4 204 470

Additional information:

1. Profit in any year is budgeted to be 16⅔% of sales and, therefore, 20% of total costs.
2. The following percentage increases in costs are expected for next year:

	Increase %
Direct materials	6.0
Direct wages	3.0
Variable production overhead	7.0
Variable distribution overhead	7.0
Fixed production overhead	10.0
Distribution overhead	7.5
Administration overhead	10.0

Required:
Prepare for the next year a flexible budget on the assumption that the company will operate at 85% of capacity. The budget should show sales revenue and profit.
[15 marks]

Question 4

Beta Limited manufactures a single product, Z. The following data are available:

Direct material standard cost per unit of Product Z

Material	Quantity Kg	Price per kg $	Total cost $
P	15	4.00	60
Q	12	3.00	36
R	8	6.00	48
	35		144

Additional Information:

1. Budgeted production/sales for the period are 4 500 units at $260 per unit. There was no budgeted opening or closing inventories of Product Z.
2. Actual production were 4 100 and sold for $1 115 800.
3. The actual direct materials consumed were as follows:

Material	Quantity Kg	Price per kg $	Total cost $
P	59 800	4.25	254 150
Q	53 500	2.80	149 800
R	33 300	6.40	213 120

Required:
Compute the following material and sales variances:

(a) Material price variance **[3 marks]**
(b) Material usage variance **[4 marks]**
(c) Material mix variance **[5 marks]**
(d) Material yield variance **[5 marks]**
(e) Selling price variance **[1 marks]**
(f) Sales volume variance **[2 marks]**

Question 5

(a) Delta Limited manufactures several products. However, the firm is considering whether or not to drop one of the product lines, Product M. This product line accounts for approximately 10% of the firm's activities.

If Product M is dropped, the senior managers of the firm will continue to receive the same salaries and the Head Office expenses will not change. However, the employment contracts of Product M line supervisor and those employees working directly on the product line will be terminated.

Required:
(i) Suggest the problem with Product M. **[1 marks]**
(ii) Identify the possible solutions to the problem. **[1 marks]**
(iii)Identify the relevant and irrelevant costs and benefits of the decision problem facing management. **[10 marks]**

(b) Sigma Limited currently has capital employed of $100 000 and earns an annual profit of $18 000. The divisional manager is considering an investment of $10 000 in an asset which will have a ten-year life with no residual value and will a constant annual profit of $1 600. The cost of capital is 15%.

Required:
Compute the following and comment on the results:

(i) The return on investment (ROI) before and after the new investment **[4 marks]**

(ii) The residual income (RI) before and after the new investment **[4 marks]**