



# **KIBABII UNIVERSITY**

## **UNIVERSITY EXAMINATIONS SUPPLEMENTARY/SPECIAL EXAM**

**2017/2018 ACADEMIC YEAR**

**FIRST YEAR SECOND SEMESTER**

**FOR THE DEGREE OF MASTER OF BUSINESS  
ADMINISTRATION**

**COURSE CODE: MBA 807**

**COURSE TITLE: MANAGEMENT ACCOUNTING**

**DATE: 18/10/2018    TIME: 11:00 AM**

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### **INSTRUCTIONS TO CANDIDATES**

**Answer Question ONE (compulsory) and ANY OTHER TWO questions**

## SECTION A (COMPULSORY)

### QUESTION ONE

- a) Discuss the objectives of management accounting (6 Marks)
- b) Madoadoa Limited is a multi-division manufacturing company. The manufacture of M101. One of the company's finished products involves two divisions; Mwanzo and Mwisho. Mwanzo division manufactures the chassis for M101 and transfers it to Mwisho division where it is reworked, fitted and assembled into the finished product. The two divisions are housed in the same building whose lease is due to expire in two years' time.

Data on the operations of the two divisions for the year just ended is as follows:

#### Mwanzo division

Quantity of units (chassis) transferred per year	30,000
Transfer price from Mwanzo to Mwisho	Sh.30000
Current level of operations	75% of full capacity
Loss for the year	Sh.90,000,000

#### Mwisho division

Quantity of units produced and sold	30,000
Price charged outsiders	Sh.150,000
Profit made for the year	Sh.610,000,000

Mr. Makini, the general manager of Mwisho division, has been considering the possibility of sourcing the chassis from outside suppliers. He has received a quotation from Samawati Ltd., a competitor of Mwanzo division offering to supply a minimum of 30,000 and a maximum of 40,000 units of chassis per year for two years with adequate guarantees as to quality and continuity of suppliers. The unit price would be Sh.22,000. Mr.Makini is of the opinion that his division should be allowed to take all its requirement (30,000 units per year) of chassis from Samawati Ltd., unless Mwanzo division agrees to cut the unit transfer price to Sh.22,000. He suggests that if Mwanzo division cannot reduce the price it would be better for it to cease operations and the space it now occupies be taken up by Mwisho division, which is currently seeking extra warehouse space.

The summarized profit and loss accounts of the divisions for the past year ended 31 October 2001 is as follows:

	Mwanzo division	Mwisho division
Production and sales (Physical units)	30,000	30,000
	Sh. '000'	Sh. '000'
Sales revenue	900,000	4,500,000
Direct materials	450,000	2,100,000
Chassis	-	900,000
Direct labour	90,000	240,000
Variable overhead	90,000	150,000
Fixed overhead (excluding	285,000	300,000

depreciation)

Fixed overhead - depreciation	<u>75,000</u>	<u>200,000</u>
	990,000	3,890,000
	<u>(90,000)</u>	<u>610,000</u>
	<u>900,000</u>	<u>4,500,000</u>

You have been asked to investigate and advise on Makini's proposal. You have gathered the following additional information:

The limitation of the proposed contract with Samawati Ltd. To a two-year period would be agreeable to Madoadoa Ltd. As the lease for the factory is unlikely to be renewed in two years' time and there is no wish to enter into firm commitments beyond that date. If Mwanzo division is closed, most of the work force could be productively absorbed by other divisions of Madoadoa Ltd., which operate in the vicinity at no additional cost to those divisions.

The manager of Mwanzo division complains that his division has to bear exceptionally heavy depreciation charges and fixed overheads (including central office charges) which are beyond his control. Without these expenses, he believes that Mwanzo division could match price quoted by Samawati Ltd., and still make a reasonable profit. He also believes that with a price of Sh.22,000, it should be possible to operate at full capacity, selling 25% of the output in the open market. The additional output would increase the direct materials cost and variable overhead proportionately but he estimates that the total direct labour cost would only increase by 10%. The plant used by Mwanzo division has a book value of Sh.150,000,000. Its current resale is probably Sh.50,000,000. In two years it is estimated that it will have negligible value. The storage space required by Mwanzo division will probably cost Sh.10,000,000 per annum if rented. Mwanzo division has in stock sufficient raw material for nine months' production if production is continued at the same level as he has achieved last year. If this raw material is sold off (following the decision to close Mwanzo division), it would probably fetch 25% of its cost.

**Required:**

- i). Mwanzo division's combined profit and loss account for the ensuing two-year period on the assumption that the division continues to operate after reducing its transfer price to Sh.22,000 and operating at full capacity as expected. (6 marks)
- ii). A statement of costs and benefits to Madoadoa Ltd. If a decision to adopt the proposal made by Mr. Makini rather than the plan put forward by the manager of Mwanzo division is taken. (10 marks)
- c) Distinguish between Kaizen and Business Process Re-engineering (8 Marks)

**SECTION B (CHOOSE ANY THREE QUESTIONS)**

**QUESTION TWO**

Industrial Chemical Ltd. (ICL) produces chemical Y. the standard ingredients of 1 kilogram of Y are:

0.65 kilograms of ingredient F @ Sh. 40 per Kg

0.30 kilograms of ingredient D @ Sh. 60 per Kg.

0.20 kilograms of ingredient N @ Sh. 25 per Kg.

The following additional information is provided:

1. Production of 4,000 kilograms of chemical Y was budgeted for October 2004.
2. The production of chemical Y is entirely automated and production costs attributed to its production comprise only direct materials and overheads.
3. ICL's production process works on a just-in-time (JIT) inventory system and no ingredients or inventories of chemical Y are held.
4. Overheads budgeted for the production of Y in the month of October 2004 were as follows:

<b>Activity</b>	<b>Total amount Sh.</b>
Receipt of deliveries from suppliers (Standard delivery quantity is 460 kilograms)	40,000
Dispatch of goods to customers (Standard dispatch quantity is 100 kilograms)	80,000
	<u>120,000</u>

5. In October 2004, 4,200 kilograms of Y were produced and the cost details were as follows:
  - Materials used**  
2,840 kilograms of F, 1,210 kilograms of D and 860 kilograms of N at a total cost of Sh. 203,800.
  - Actual overhead costs**  
12 supply deliveries at a cost of Sh.48,000 and 38 customer dispatches at a cost of Sh. 78,000 were made.
6. ICL's budget committee met recently to discuss the preparation of the cost control report for October 2004 and the following discussion took place:

**Chief accountant:** "the overheads do not vary directly with output and are therefore by definition 'fixed'. They should be analyzed and reported accordingly".

**Management accountant:** "the overheads do not vary with output, but they are certainly not fixed. They should be analyzed and reported on an activity based basis."

**Required:**

Having regard to this discussion,

- a) Prepare a variance analysis of the production costs of Y in October 2004. (Separate the material cost variance into price, mixture and yield components and the overhead cost variance into expenditure, capacity and efficiency components using consumption of ingredient F as the overhead absorption base). (12 marks)
- b) Prepare a variance analysis of the overhead production costs on Y in October 2004 on an activity based basis. (8 marks)

**QUESTION THREE**

- a) The Z division of XYZ Ltd. produces a component which it sells externally, and can also be transferred to other divisions within the organization. The division has set a performance target for the coming financial year of residual income of Shs. 5,000,000. The following budgeted information relating to Z division has been prepared for the coming financial year.

1. Maximum production/sales capacity 800,000 units.
2. Sales to external customers: 500,000 units at Sh.37.
3. Variable cost per component Sh.25.
4. Fixed costs directly attributable to the division Sh.1,400,000.
5. Capital employed: Sh.20,000,000 with cost of capital of 13%

The X division of XYZ Ltd has asked Z division to quote a transfer price for units of the component.

**Required:**

- i Calculate the transfer price per component which Z division should quote to X division so that its residual income target is achieved. (6 marks)
  - ii Explain why the transfer price calculated in (i) above may lead to sub-optimal decision making from the point of view of XYZ Ltd taken as a whole. (4 marks)
- b) A manufacturer produces and sells two products, A and B. The unit variable cost is sh.12 and sh.8 for A and B respectively. A review of selling prices is in progress and it has been estimated that, for each product and increase in the selling price would result in a fall in demand of Sh.500 units per every Sh.1 increase in price and similarly a decrease of Sh.1 in price would result in an increase in demand of 500 units.

The current sales prices and sales demand are:-

	Price (Sh.)	Demand (Units)
A	30	15,000
B	58	21,000

**Required:**

Calculate the profit-maximizing price for reach product. (10 marks)

**QUESTION FOUR**

Sanders Ltd is a manufacturing company producing two joint products P<sub>1</sub> and P<sub>2</sub> in the ratio of 3:1 at the split-off point. The two products are taken to the mixing plant for blending and refining after the split off point. The following information is also provided:

	Product P <sub>1</sub>	Product P <sub>2</sub>
Sales volume (litres)	300,000	100,000
Selling price per litre	Sh.3,500	Sh.7,000
Joint process costs*	Sh.300,000,000	Sh.100,000,000
Blending and refining costs	Sh.250,000,000	Sh.250,000,000
Other separable costs (all variable)	Sh.50,000,000	Sh.20,000,000

\*Joint costs are apportioned on the basis of volume

The joint process costs are 70% fixed and 30% variable whereas the mixing plant costs are 30% fixed and 70% variable. There are only 5000 hours available in the mixing plant. Usually 4000

hours are taken in processing of Product P<sub>1</sub> and P<sub>2</sub>, 2000 hours for each product while the remaining 1000 hours are used for other work that generates a contribution of Sh.100,000 per hour.

The company is now planning to change the production mix of the joint process to 3:2 for product P<sub>1</sub> and P<sub>2</sub> respectively. This change will result in an increase in the joint cost by Sh.500 for each additional litre of P<sub>2</sub> produced.

**Required:**

- (a) Advise the company on whether to change the production mix. (14 marks)
- (b) Explain other qualitative factors that are important to consider before changing the production mix. (6 marks)

**QUESTION FIVE**

High-tex Engineering Company Limited wishes to set flexible budgets for each of its operating departments. A separate maintenance department performs all routine and major repair works on the company's equipment and facilities. The company has determined that maintenance department performs all routine and major repair works on the company's equipment and facilities. The company has determined that maintenance cost is primarily a function of machine hours worked in the various production departments.

The maintenance cost incurred and the actual machine hours worked during the months of January, February, March and April 2003 were as follows:

Month	Machine hours in Production departments	Maintenance department's Costs
January	800	Sh. 350
February	1,200	350
March	400	150
April	1,600	550

**Required:**

- a) Determine the cost estimation function using:
    - i High-low method. (5 marks)
    - ii Regression analysis (5 marks)
  - b) Using the regression function estimate:
    - i The maintenance costs that would have been incurred if the machine hours were expected to be 900 in the month of May 2003. (1 mark)
    - ii The maximum machine hours that would have been worked If the maintenance cost incurred had been limited to Sh.400,000 for the month of May 2003. (6 marks)
- Assuming that in the month of May 2003 machine hours were 900, establish a 95% confidence interval for this point estimate. (Assume  $t_c = 2.7764$  and standard error of estimate,  $s_e = 63.25$ ). (3 marks)