



TECHNICAL UNIVERSITY OF MOMBASA

School of Business

Department of Accounting & Finance

UNIVERSITY EXAMINATION FOR:

MASTERS OF SCIENCE IN FINANCE & BUSINESS

ADMINISTRATION

BAC 5102: MANAGEMENT ACCOUNTING

END OF SEMESTER EXAMINATION

SERIES: APRIL 2025

TIME: 3 HOURS

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **FIVE** questions. Attempt **Question One** and any **THREE** questions.

Do not write on the question paper.

Question One

(a) At the request of the Board, Njenge a company based in Vubwi recently purchased 100% of the share capital of Mbazo Ltd. This request was made to ensure a steady supply of Mbazo designer jackets to Vubwi, where they are an extremely popular, but Njenge has no plans to sell the jackets in Mwanasabombwe.

Following the acquisition, Mbazo Ltd. retained its existing profit centre structure. Division A manufactures lengths of tweed and operates at its full capacity of 6,000 lengths per month. Of this amount, 25% is sold to Division B (which produces one jacket from each length of tweed) and the other 75% is sold to other garment manufacturers. Variable costs in Division A are sh.24 per length, and variable costs in Division B are sh.28 per jacket (plus the transfer price paid to Division A for the length of tweed). Fixed costs per month are sh.30,000 in Division A and sh.25,000 per month in Division B.

Division B sells all of its output to Njenge for sh.80 per jacket. At present it purchases all of its lengths of tweed from Division A, but it has recently been approached by an external supplier which has offered to supply lengths of tweed of the same quality at a price of sh.44 each. Division A has been approached by another garment manufacturer which has offered to purchase (under a long-term supply arrangement) the 1,500

lengths of tweed which are at present sold to Division B. The price offered by this garment manufacturer is sh.50 per length, although the manager of Division A estimates that the incremental cost of transporting these lengths of tweed to the garment manufacturer would be sh.10 each (payable by Division A). Required:

- (i) Explain as to whether Division B should continue buying tweed from Division A. (4 marks)
- (ii) Calculate the optimal transfer price. (6 marks)
- (iii) Calculate how much net profit from the sale of 1,500 jackets will be included in each division's monthly performance report using the transfer price in part (b) above. (7 marks)
- (iv) Comment on whether the results in your answer to part (c) provide a fair reflection of the performance of each division, and respond to the suggestion that Division B should be closed down. (10 marks)

(b) A customer has asked your company to prepare a bid on supplying 800 units of a new product. Production will be in batches of 100 units. You estimate that costs for the first batch of 100 units will average sh. 100 a unit. You also expect that a 90% learning curve will apply to the cumulative labour cost on this contract.

Required:

- (a) Prepare an estimate of the labour costs of fulfilling this contract.
- (a) Estimate the incremental labour cost of extending the production run to produce an additional 800 units. (8 marks)
- (b) Estimate the incremental labour cost of extending the production run from 800 units to 900 units. (5 marks)

Question Two

A processing company, Timao Co. Ltd., is extremely busy. It has increased its output and sales from 12,900 kg in 1st quarter of the year to 17,300 kg in the 2nd quarter. Although demand is still rising, it cannot increase its output more than an additional 5% from its existing labour force, which is now at its maximum. Data for its four products in 2nd quarter were:

Products	P	Q	R	S
Output (Kg)	4560	6960	3480	2300
Selling price (Sh. Per kg)	162	116.40	99.20	136.80
Costs (Sh. Per kg)				
Direct labour @ Sh.60 per hour)	19.60	13.00	9.90	17.00
Direct materials	65.20	49.00	41.0	54.20

Direct packaging	8.40	7.40	5.60	7.00
Fixed overhead (Absorbed on basis of direct labour cost)	<u>39.20</u>	<u>26.00</u>	<u>19.80</u>	<u>34.00</u>
	<u>132.40</u>	<u>95.40</u>	<u>76.30</u>	<u>112.20</u>

The Kagocho Company has offered to supply 2000 kg of product Q at a delivered price of 90% of Timao's Co. Ltd. Selling price. Timao Co. Ltd., will then be able to produce extra of product P instead of product Q to the plant's total capacity.

Required:

a) State with supporting calculations, whether Timao Co. Ltd should accept the Kagocho Company's offer. **(13 marks)**

b) Which would be the most profitable combination of subcontracting 2000kg of one product at a price of 90% of its selling price and producing extra quantities of another product up to the plant total capacity? Assume that the market can absorb the extra output. **(7 marks)**

Question Three

a) In his study of: "the impact of budgets on people" C Argyris reported the following comment by a management accountant on the practice of participation in setting budgets in his company: "We bring in the supervisors of budget areas, we tell them that we want their frank opinion, but most of them just sit there and nod their heads. We know they are not coming out with exactly what they feel. I guess budget scares them". Explain why managers may be reluctant to participate fully in setting budgets, indicating the negative side effects, which may arise from the imposition of budgets by senior management. **(5 marks)**

b) A critic has suggested that budgets should be abolished because they introduce rigidity and hamper creativity. Discuss. **(3 marks)**

c) A company manufactures and sells three products A,B and C. The unit cost and revenue structure for each product and its maximum forecast demand for the coming period as follows:

Product	A	B	C
Selling price per unit (shs)	140	70	500
Direct material cost per unit (shs)	70	60	80
Maximum demand (units)	500	300	300
Machine hours required per unit	10	4	5

The company has a maximum of 6000 machine hours available during the coming period

Required:

- i) Calculate the optimum product mix each month. (4 marks)
- (ii) Calculate the total throughput at the optimal mix (4 marks)
- iii) Calculate the products to be produced and sold and throughput earned if the company wish to maximize sales of product A because it is thought to be a future market leader (4 marks)

Question Four

J Limited is a consumer electronics company that specializes in manufacturing portable routers. It manufactures its own processor, which forms an integral part of the portable router. The following information pertains to the cost of manufacturing the processor:

	Current Costs (2020) `	Expected future cost (2021) `
Variable manufacturing cost:		
Direct Material cost (per unit)	450	425
Direct manufacturing labour cost (per unit)	125	110
Variable manufacturing cost for setups, materials handling and quality control (per batch)	4,000	3,720
fixed manufacturing cost:		
Fixed manufacturing overhead costs that can be avoided if manufacturing ceases	7,92,000	7,92,000
Fixed manufacturing overhead costs of plant depreciation, insurance and administration, that cannot be avoided even if manufacturing ceases	20,01,600	20,01,600

J manufactured 6,000 units of processors in 2020 in 30 batches of 200 each. In 2021, the company anticipates requirement of 7,200 units of processor. The processors would be produced in 60 batches of 120 each.

Amber Limited another trader has approached J Ltd. for supplying processors in 2021 at sh.750 per unit, as per the requirement of J Ltd.

If J Ltd. Purchases processors from Amber Ltd., the currently available capacity can be used for manufacturing and sell memory card to a loyal customer resulting in the following incremental revenues and costs in 2021:

Total expected incremental future revenues	53,75,000
Total expected incremental future costs	50,00,000

Required:

(i) Calculate the total expected manufacturing cost per unit of processor in 2021, if the product is produced in-house, (3 marks)

(ii) Evaluate whether J Ltd. should make the processors or buy them from Amber Limited, if the capacity currently used for processors is:

(a) Left Idle. (3 marks)

(b) Used to make memory card. (6 marks)

(i) Explain, at which point of incremental revenue from processors, the decision to make or buy the processors would change form one the other. (8 Marks)

Question Five

Tours & Travels Ltd. is publishing a number of Magazines on tours and travels. It will soon begin publication of a weekly magazine on tourism and lifestyle wellness for consumers. The weekly cost of publishing and distributing the magazine are estimated at sh. 1,00,000 (fixed) plus sh. 30 per copy printed and sold.

Revenue from advertising in the magazine is estimated at 55,000 per week irrespective of the number of copies sold. Market research has indicated that demand for the magazine will depend on its selling price, as follows:

- At a price of sh. 120, no copies of the magazine would be sold.
- Each subsequent price reduction of sh. 0.01 would increase demand for the magazine by one unit.

Required:

(i) Calculate optimal price for each magazine and the number of magazines that would be sold each week at the recommended price. (4 marks)

(ii) Calculate optimum profit per week. (3 Marks)

(b) Fast Electronics Ltd., an online game manufacturing company, is planning to introduce a new online game 'FPO 20' with many additional graphic features. The company expects that this online game will have a life cycle of 3 years for which the following have been estimated:

	Introductory Stage (Year 1)	Growth & Maturity Stage (Year II)	Decline Stage (Year III)
Units to be manufactured and sold	17,500 Units	75,000 units	37,500 units
Material Cost	Sh. 2,500,000	Sh. 1,000,000	Sh. 5,500,000
Labour Cost	Sh. 500,000	Sh. 36,00,000	Sh. 1,833,000

Marketing Cost	Sh. 815,000	Sh. 1,000,000	Sh. 163,000
Related overheads	Sh. 500,000	Sh.975,000	Sh. 764,000

Following additional information is provided:

- If the company decides to introduce the product, an amount equal to Sh. 1,250,000 needs to be incurred for product development.
- New machinery and tools costing Sh. 62,50,000 have to be purchased when the production commences and can be sold at the end of Year Sh. 250,000.
- The company applies life cycle costing for the online games and sets prices at 25% mark-up on the life cycle cost per unit.

Required:

Calculate the selling price per unit of the online game 'FPO 20'. **(6 Marks)**

(a) The Z division of MCX Ltd. Produces a component which it sells externally and can also be transferred to division X. Division Z has set a performance target for the coming financial year of residual income of ` 50,00,000. The following budgeted information relating to Z division has been prepared for the coming financial year:

- Maximum production / sales capacity is 8,00,000 units.
- Sales to external customers 5,00,000 units at ` 37 per unit.
- Variable cost per component is ` 25.
- Fixed cost directly attributable to the division is ` 14,00,000.
- Capital employed in the division is ` 2,00,00,000 with cost of capital of 13%.

The X division of MCX Ltd. has asked Z division to quote a transfer price for 3,00,000 units of the component.

Calculate the transfer price for the component which Z division should quote to X division so that its residual income target is achieved.

(Residual Income is the excess of net divisional income over cost of capital on the investment made in the division) **(7 Marks)**