



MACHAKOS UNIVERSITY

University Examinations for 2018/2019 Academic Year

SCHOOL OF BUSINESS AND ECONOMICS

DEPARTMENT OF BANKING, ACCOUNTING & FINANCE

FOURTH YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF COMMERCE

BAC:403: MANAGEMENT ACCOUNTING II

DATE: 6/5/2019

TIME: 8.30-10.30 AM

INSTRUCTIONS: Attempt Question One and any other Two Questions

QUESTION ONE (COMPULSORY) (30 MARKS)

- a) KK Ltd is a fitness Centre serving traders in the Central Business District (CBD). Currently, the Centre has 4,000 members with each member paying a subscription fee of Sh.35,000 per annum.

The Centre comprises of a gym, a swimming pool and a small exercise area.

A competitor plans to open a new fitness Centre within the same locality. This is expected to cause a decrease in membership numbers for KK Ltd unless its facilities are upgraded.

Consequently, KK Ltd is considering the following options in a bid to improve the its membership numbers:

Option 1

No upgrade. In this case, membership numbers would be expected to fall to 3250 per annum for the next four years. Operational costs would remain unchanged at the current level of Sh. 4,500 per member per annum.

Option 2

Upgrade the exercise area. The capital cost of this upgrade would be Sh.18,000,000. The expected effect on membership numbers for the next four years is as follows:

Probability	Effect on membership numbers
0.2	Remain at their current level of 4,000 members per annum.
0.8	Increase to 4,800 members per annum.

The effect on operational costs for the next four years is expected to be:

Probability	Effect on operational costs
0.3	Increase to Sh.6,000 per annum per member.
0.7	Increase to Sh.8,000 per annum per member.

Any improvements are expected to last for four years.

Required:

- i) Using the Expected Monetary Value (EMV) criterion, recommend the decision that KK Ltd should make.
 - ii) Advise on the maximum price that KK Ltd . should pay for perfect information about the upgrade of the exercise area.
- b) Assume that ABC Ltd produces two products, product A and B and the following budget has been prepared.

	A	B	Total
Sales in units	120,000	40,000	160,000
	Sh.	Sh.	Sh.
Sales @5/-, 10/-	600,000	400,000	1,000,000
Variable cost @ 4/-, 3/-	<u>480,000</u>	<u>120,000</u>	<u>600,000</u>
Contribution @ 1/- 7/-	<u>120,000</u>	<u>280,000</u>	400,000
Total fixed cost			<u>300,000</u>
Profit			<u>100,000</u>

Required:

- i) Compute the break-even point in total and for each of the products.
- ii) The company proposes to change the sales mix in units to 1:1 for products A and B. Advise the Co. on whether this change is desirable.
- c) Explain the limitations of linear programming as one of the methods of resource allocation.

QUESTION TWO (20 MARKS)

A firm produces two products, X and Y, with a contribution of Sh.8 and Sh.10 per unit respectively.

Product	Labour hours	Material A	Material B
X	3	4	6
Y	5	2	8
Total available	500	350	800

- i) Formulate the linear programming model.
- ii) Solve the model using graphical method.

QUESTION THREE (20 MARKS)

- a) Explain the causes of unfavourable labour Efficiency variance. (2 marks)
- b) The standard cost for a production system in a given model is as follows:

Inputs	Std.Qty	Std price
Materials	6kg	Sh.6.00
Direct labour	5.0 Hours	Sh.16.00
Variable Overheads	5.0 Hours	Sh.4.00

During the month 13,000 kg of raw materials were purchased at Sh.4.00 per kg and all the material was used to produce 4000 units of finished products. 4,500 hours of direct labour time were used at a total cost of Sh.64,000. The actual variable overhead cost was Sh.15,000.

Required:

Compute the following variances:

- i) Materials price variance.
- ii) Materials efficiency (usage) variance.
- iii) Total materials variance.
- iv) Labour rate variance.
- v) Labour efficiency variance.
- vi) Total labour variance
- vii) Variable overhead rate variance.
- viii) Variable overhead efficiency variance.
- ix) Total overhead Variance. (18 marks)

QUESTION FOUR (20 MARKS)

- a) Explain the limitations of profit planning in an organization. (6 marks)
- b) A farmer feeds his pigs a mixture of Swill, Vitamins and a proprietary brand of feed mix. He owns 100 pigs who eat at least 20 kgs of food per day each. He would want to ensure that the animals receive a balanced diet , while at the same time looking at the cost. The following dietary and cost factors have been obtained.

		Vitamins			
	Calories	1	2	3	
Minimum daily dietary					
requirements per pig	40	20	10	30	
Contents of foodstuffs					Costs
Swill per kg(X1)	1.5	0.5	-	-	Sh.5/kg
Feed mix per kg(X2)	2.0	0.5	-	1	Sh.10/kg
Vitamins per bottle(X3)	--	0.5	7	14	Sh.20/bottle

Required: Formulate the LP problem. (14 marks)

QUESTION FIVE (20 MARKS)

- a) ABC Ltd operates on a 250 days year and provides you with the following information :

Annual demand in units = 16,000.

Ordering cost per order= sh.60.

Holding cost per unit =Sh.120.

i) calculate the EOQ.

ii) Mean demand per day.

iii) Re-order level.

- b) Further the following information is also provided:

- Stock out costs per unit =Sh.1

Annual distribution of demand during lead time:

<u>Units</u>	<u>Probability</u>
0	0.05
150	0.1
300	0.1
450	0.15
600	0.25
750	0.15
900	0.1
1050	0.1

Required:

Determine the optimal level of safety stock and the revised re-order point for ABC Ltd.