



STRATHMORE UNIVERSITY BUSINESS SCHOOL
BACHELOR OF SCIENCE IN SUPPLY CHAIN & OPERATIONS MANAGEMENT
END OF SEMESTER EXAMINATION
BSCM 1206: SUPPLY CHAIN COSTING AND BUDGETING

DATE: 15th December 2023

TIME: 13:00-15:00

Instructions

1. The examination consists of **FIVE** questions.
2. Answer **QUESTION ONE (COMPUSLSORY)** and any other **TWO** Questions.
3. Marks will be awarded based on clear exposition of your ideas, precision in the use of language and the validity of your logic. Show all your workings.

QUESTION ONE

(30 MARKS)

- a) Define the following Management Accounting terminologies:
- | | |
|---|------------------|
| i. Relevant and irrelevant costs | (2 marks) |
| ii. Period cost and product cost | (2 marks) |
| iii. Cost Objective and Cost classification | (2 marks) |
- b) Prudent steel limited is preparing its budget for the year ending 30th June 2024 for the fuel expenses consumption. It is decided to estimate an equation in the form, $y = a + bx$, where y is the total fuel oil expense at an activity level x, a is the fixed expense while b is the rate of variable cost.

The following information relate to the year ended 30th June 2023.

MONTH	MACHINE HOURS	FUEL OIL EXPENSE	MONTH	MACHINE HOURS	FUEL OIL EXPENSE
2022	('000')	(Sh. '000')	2023	('000')	(Sh. '000')
July	34	640	January	26	500
August	30	620	February	26	500
September	34	620	March	31	530
October	39	590	April	35	550
November	42	500	May	43	580
December	32	530	June	48	680

The annual total and monthly average figures for the year ended 30th June 2023 were as follows.

	Machine Hours	Fuel Oil Expense
	('000')	(Sh. '000')
Annual Totals	420	6,840
Monthly Average	35	570

Required:

- i. Using the high-low method, estimate and interpret the fixed and variable cost elements of the fuel oil expense. **(4 Marks)**
 - ii. Using the results in (i) above, predict the fuel oil expense for October 2024 if experience indicates that 41,000 machine hours will be used. **(3 Marks)**
 - iii. Briefly explain any two limitations of the High-low method of cost accumulation that may be overcome by using simple linear regression analysis. **(2 Marks)**
- c) Furuzu Ltd is starting a business to produce a single product which it sells at Kes 1,000. They estimate that the marginal cost of production will be Kes 600, while the fixed costs will be Kes 40,000 per month. You have been recently hired into the firm and have been asked to do some calculations which would inform their business plan.

Required: -

- i. Calculate the break-even point is **sales value**. **(3 marks)**
- ii. Calculate a projected breakeven point in **Units** if the sales price is reduced by 10%. While the fixed cost decreased by Kes 10,000. **(3 marks)**
- iii. Calculate the projected profit/loss for the month for sales of 500 units. **(2 marks)**
- iv. Calculate the sales revenue required to earn a projected profit of Kes 150,000. **(2 marks)**

- v. Calculate the margin of safety in units, value terms and percentage if the expected sales for the month is 400 units. **(3 marks)**
- vi. Highlight TWO assumptions of break-even analysis. **(2 marks)**

QUESTION TWO (20 MARKS)

- a. Distinguish between Marginal and Absorption costing. **(8 marks)**
- b. Batch 11T used 2000 kgs of the main raw material in stores which cost \$10/kg, and 500 kgs of special material that was bought in at \$4/kg.
90 hours of direct labor were spent in Department A where the employees were paid at \$12/hour, and 40 hours of direct labor spent in department B where employees are paid at \$10/hour. Overheads are absorbed at the rate of \$3/ direct labor hour.
900 units were produced within the production period.

Required:

- i. Prime cost of the batch produced **(3 marks)**
- ii. Total Production cost of the batch **(3 marks)**
- iii. Unit cost per unit **(2 marks)**
- c. Identify **FOUR (4)** benefits of Cost accounting. **(4 marks)**

QUESTION THREE (20 MARKS)

- a. Discuss in detail **FOUR (4)** cost estimation techniques. **(8 marks)**
- b. Discuss budget preparation process detailing all the steps involved in the process. Provide relevant examples where necessary. **(12 Marks)**

QUESTION FOUR (20 MARKS)

- a. Discuss **FOUR (4)** types of standards in a business environment. **(8 Marks)**
- b. Identify and explain **THREE (3)** objectives of standard costing. **(3 Marks)**

- c. Below information relates to Zee ltd production plant for the month ended 30th November 2023. Use the information in the table below to answer the following questions.

	Standard					Actual			
Product	Qty (Units)	Units sales price (Shs)	Cost/Unit	Total Sales		Qty (Units)	Units sales price (Shs)	Cost/Unit	Total Sales
A	2,000	4	3.5	8,000		2,200	4.1	3.7	9,020
B	2,500	5	4	12,500		2,000	5.25	4.3	10,500
C	1,750	6	5.25	10,500		2,000	5.75	5	11,500
TOTALS	6,250			31,000		6,200			31,020

Required;

- i. Sales Price Variance (2 marks)
- ii. Sales margin volume variance (3 marks)
- iii. Sales Volume Variance (2 marks)
- iv. Total sales value variance (2 marks)

QUESTION FIVE

(20 MARKS)

- a. Identify and explain **THREE (3)** types of budgets. (3 marks)
- b. Differentiate between interlocking and integrated accounting. (2 marks)
- c. List down **FOUR (4)** assumptions of CVP analysis. (4 marks)
- d. List down **FIVE (5)** differences between management accounting and financial accounting. (5 marks)
- e. Discuss the **THREE (3)** motives for holding inventory. (3 marks)
- f. Explain the following terms:
 - i. Material price variance (1 mark)
 - ii. Material usage variance (1 mark)
 - iii. Material cost variance (1 mark)