STRATHMORE BUSINESS SCHOOL

BACHELOR OF SUPPLY CHAIN MANAGEMENT

END OF SEMESTER EXAMINATION

SCM 1206: SUPPLY CHAIN COSTING AND BUDGETING

Date: Wednesday, 23rd March 2022 **Time:** 2 Hours

INSTRUCTIONS:
Answer **QUESTION ONE** and any other **TWO QUESTIONS**

QUESTION ONE

A) Mombasa Wheel Assemblers Ltd assembles cars from imported knocked-down-kits. The company has been operating at 60% capacity, assembling 3,000 cars per year.

The following information relates to the company's operations at two different levels of capacity.

	Level of activity	
	60%	80%
Costs	Shs. '000'	Shs. '000'
Direct materials	600,000	800,000
Direct labour	150,000	200,000
Indirect labour	200,000	240,000
Factory fuel and power	10,000	130,000
Factory repairs	130,000	155,000
Total cost	1,180,00	1,525,000

Required:
Using the high-low method, establish the cost equations of the for y = a +bx for each of the following costs for the company (assume that 60% and 80% represent the lowest and the highest levels of activity).

1. Direct materials (2.5 marks)
2. Direct labour. (2.5 marks)

3. Indirect labour. (2.5 marks)
4. Factory repairs. (2.5 marks)

(B)

(a) 'Just-in-time (JIT) procurement is a term which describes a policy of obtaining goods from suppliers at the latest possible time, and so avoiding the need to carry any materials or components of inventory.'

Required: Discuss four characteristics of a good JIT system? **(6 marks)**

(b) A large retailer with multiple outlets maintains a central warehouse from which the outlets are supplied. The following information is available for Part Number GK001.

Average usage	350 per day
Minimum usage	180 per day
Maximum usage	420 per day
Lead time	11 – 15 days
Reorder quantity	6,500 units.

Required:

(i) Reorder level **(2 marks)**

(ii) Maximum level **(2 marks)**

(C)

Elevator Automation has three departments' preparation, machining and assembly. The budgeted direct labour cost for the three departments shs 8 000, 12 000 and 10 000 respectively. The agreed hourly wage rates are preparation shs 12, machining shs 20 and assembly shs10
The following information related to the job has been provided

	Shs
Raw materials from stock	8,500
Bought in components	2,700

Direct labour

Preparation	50 Hours
Machining	200 Hours
Assembly	120 Hours

Administration and selling overheads are to be absorbed by adding 10% on all other costs and profit is charged at 25% of total costs.
Factory overheads are budgeted at shs 180 000 for the year and variable overheads are as under

	Shs
Preparation	24,000
Machining	84,000
Assembly	60,000

Draw up a cost estimate for this job **10 Marks**

(Total: 30 Marks)

QUESTION TWO

a) You are in charge of making forecasts and preparing budgets. You have been supplied with cost and revenue forecasts and details of payment as follows:

1. **Forecast of revenue and costs for the quarter ending 31 March 2021**

	January	**February**	**March**
	Shs.	**Shs.**	**Shs.**
Direct			
Materials (purchases)	112,000	100,000	135,000
Wages	90,000	80,000	100,000
Overheads			
Production	34,000	32,000	40,000
Administration	22,000	20,000	27,000
Selling and distribution	13,000	11,000	18,000
Sales	360,000	350,000	440,000

2. **Forecast of revenue and costs for the quarter ending 30 June 2021**

	April	**May**	**June**
	Sh.	**Sh.**	**Sh.**
Direct			
Materials (purchases)	90,000	67,000	79,000
Wages	72,000	54,000	63,000
Overhead			

Production	45,000	36,000	40,000
Administration	22,000	25,000	27,000
Selling and distribution	13,000	11,000	16,000
Sales	350,000	360,000	360,000

Cash balance on 1 April 2021 Sh. 90,000

Other details

- Period of credit allowed by suppliers averages two months.
- Debenture to the value of Shs. 125,000 are being issued in May 2021 and the amount is expected to be received during the month.
- A new machine is being installed at the end of March 2021 at a cost of Sh 150,000 and payment is promised in early May 2021.
- Sales commission of 3% is payable within one month of sales.
- A dividend of Sh 100000 is to be paid in June 2021.
- There is a delay of one month in the payment of overheads. There is also a delay in payment of wages averaging a quarter of a month.
- Twenty per cent of the debtors pay cash. The other debtors pay within one month.

Required:
A cash budget on a monthly basis from the second quarter of the year 2021. **(20 marks)**
(Total: 20 marks)

QUESTION THREE

A) Huruma Company Ltd manufactures and sells a single product. The following information regarding the company's operations for the year ended 30 September 2021 was presented to you.
Profit and loss account for the year ended 30 September 2021

		Sh'000	Sh'000
Sales			30,000
Less:			
	Production costs		
	Direct material	6,500	
	Direct labour	5,400	
	Variable Product overheads	7,000	
	Prime costs		**18,900**
			11,100

Other expenses:		
Selling – Variable	2,600	
- Cost	1,997	
Administration	2,100	6,697
Net profit		4,403

The following changes are expected to occur during the year ending 30 September 2021:
1. Selling price will be adjusted downward by 3% in order to attract more customers.
2. Material prices will rise by 2% due to inflation.
3. There will be a reduction in labour cost of 4%.
4. Production overheads will increase by 3%.
5. Increase in the efficiency of sales persons will reduce direct selling costs by 5%.

All other factors are expected to remain constant.

Compute:

a) Break-even point in sales value (4 marks)

b) The margin of safety in sales value (3 marks)

c) The sales value at which profit of Sh 4.5 million will be achieved (3 marks)

(Total: 20 marks)

QUESTION FOUR

a) Explain five ways of cost classification and analysis **5 Marks**

b) Explain the importance of cost analysis in business decision making **3 Marks**

c) Discuss four arguments for use of variable costing decision making **2 Marks**

d) XYZ Bakeries Ltd makes cakes and provided the following information for the year 2021

	Shs 000
Production 20 000 cakes	
Sales 15 000 cakes	
Production costs	
Direct materials	2,400
Direct labour	600
Variable overheads	500
Fixed overheads	900
Selling and administration costs	
Sales commission	250
General expenses	160
Fixed overheads	240
the company sells each cake at shs 300	

Prepare a profit and loss account on the basis of absorption costing ***(10 Marks)***
(Total: 20 Marks)

QUESTION FIVE

Mawingu Co makes four components, W, X, Y and Z, for which costs in the forthcoming year are expected to be as follows.

	W	X	Y	Z
Production (units)	1,000	2,000	4,000	3,000
Unit marginal costs	*$*	*$*	*$*	*$*
Direct materials	4	5	2	4
Direct labour	8	9	4	6
Variable production overheads	2	3	1	2
	14	17	7	12

Directly attributable fixed costs per annum and committed fixed costs:

	$
Incurred as a direct consequence of making W	1,000
Incurred as a direct consequence of making X	5,000
Incurred as a direct consequence of making Y	6,000
Incurred as a direct consequence of making Z	8,000
Other fixed costs (committed)	30,000
	50,000

Directly attributable fixed costs are all items of cash expenditure that are incurred as a direct consequence of making the product in-house.

Required: A subcontractor has offered to supply units of W, X, Y and Z for $12, $21, $10 and $14 respectively. On the basis of relevant cost analysis should Shellfish make or buy the components? **(20 marks)**