TECHNICAL UNIVERSITY OF MOMBASA

School of business

DEPARTMENT OF ACCOUNTING AND FINANCE

UNIVERSITY EXAMINATIONS FOR DEGREE IN BACHELOR OF COMMERCE/BUSINESS ADMINISTRATION & MATHS, BACHELOR OF BUSINESS AND INFORMATION TECHNOLOGY AND FINANCE

BAC 4203: MANAGEMENT ACCOUNTING

SPECIAL/SUPPLEMENTARY EXAMINATIONS

SERIES: DECEMBER 2024

TIME: 2 HOURS

Instructions;

Answer question one and any other Two questions
Do not write on this paper

Question One
Chess Engineering Ltd make two products Knight and Rook. The budgeted cost and operating data for both products are:

Product	Knight	Rook
Selling price per unit	sh.50	sh.70
Variable cost per unit	sh.35	sh.50
Machine hours per unit	0.3	0.6
Output per week	400	600

Weekly overheads are:

Activity	Cost driver	Cost pool
Setting up machine	Number of batches	sh.1,250
Storing and issuing material	Material requisitions	sh.3,150
Maintaining machines	Machine hours	sh.2,400

Core costs of sh.8,000 per week (senior management and administration) are not affected by production activity.
The products are produced in batches of 20 units at a time. A Knight is made from 6 separate items and so 6 material requisitions are needed for each batch manufactured. A Rook is made from 11 different items so 11 material requisitions are needed per batch.
Required;
(a) Calculate the activity based cost per unit of cost driver consumed. (3 marks)
(b) Prepare a budgeted weekly operating statement for Chess Engineering. (3 marks)
You should show the following separately, within the statement.

1) The budgeted output for each product per week; (3 marks)
2) The contribution to profits for each product and in total before charging activity based costs; (3 marks)
3) The profit for each product and in total after charging activity-based costs but before charging core costs (non activity based costs). (3 marks)
4) The total profit after charging core based costs. (3 marks)

c) Manna Industries sold 150,000 units of its product at sh.20 per unit. Variable costs are sh.15 per unit (manufacturing cost of sh.12 and selling expenses of sh.3). Fixed costs are incurred uniformly throughout the year and amount to sh.972,000, that is, manufacturing costs of sh.600,000 and selling expenses of sh.372,000.

Required:

i) Calculate the break-even point in units and in shillings. **(4 marks**)

ii) Calculate the number of units that must be sold to earn an income of sh.75,000 before income tax. **(3 marks)**

iii) Calculate the number of units that must be sold to earn an after tax profit of sh.100,000 if the income tax rate is 40% **(5 marks)**

Question Two

Guka, Fresh Juice company, commenced operations five years ago and produces a range of healthy muesli snack juice for the retail market. The company uses a process costing system based on the weighted average method to value production and inventory. Manufacturing comprises two simple processes: mixing and finishing. In the mixing process, the various ingredients are combined thoroughly and then transferred to the finishing process. In the finishing process the mixed ingredients are moulded into bars and cooked to create the finished product. All ingredients are added at the start of the mixing process and no additional ingredients are added in the finishing process. Labour and production overheads, also called conversion costs, are incurred evenly throughout both processes. Details relating to the company's most popular product, the Nut Crunch bar, for the most recent financial period are shown below:

	Mixing	Finishing
Opening inventory	60,000 Kgs	25,000 Kgs
Degree of completion	40%	30%
Previous process costs	-	sh.11,500
Materials	sh.15,000	-
Conversion costs	sh.10,625	sh. 2,750
Input during the period to the process 1	60,000 Kgs	–
Materials	sh.38,400	--
Conversion costs	sh.30,220	sh.20,650
Completed and transferred	175,000 Kgs	185,000 Kgs
Closing inventory	35,000 Kgs	10,000 Kgs
Degree of completion	50%	50%

Note: A normal loss of 5% of the materials input (during the period) to the mixing process is expected. Any waste material from the mixing process can be sold to a local farmer for sh. 0.05 per Kg.

Required:

Prepare the following accounts, where applicable, for the most recent financial period. You should ensure that all workings are shown clearly:

(i) Mixing process account (5 marks)
(ii) Finishing process account (5 marks)
(iii) Normal loss account (5 marks)
(iv) Abnormal loss/Abnormal gain account (5 marks)

Question Three

a) MANULO Ltd. based in kapedo, produces eco-friendly clothes hangers made from recycled cardboard. The company has developed a new process to manufacture the clothes hangers with minimal environmental impact. In November 2022, the manufacturing process was filmed by the company's marketing staff and uploaded to social media sites. This resulted in a substantial increase in sales in 2023. The managing director of S MANULO Ltd. is delighted with the increased sales and keen to see how this compares to the budgeted figures for 2023. Budgeted and actual information for the month of March is presented below.

Budgeted information:

Production and sales in units	67,200
Selling price per hanger	sh.1.55
Direct materials: recycled cardboard 5,040 Kgs	sh.4,032
Direct labour 3,360 hours	sh.40,992
Variable production overhead (based on direct labour hours)	sh.4,032
Fixed production overhead (based on direct labour hours)	sh.10,752

Actual information:

Production and sales in units	sh. 84,000
Selling price per hanger	sh.1.45
Direct materials: recycled cardboard 6,720 Kgs	sh.5,460
Direct labour hours 3,780 hours	sh.56,511
Variable production overhead	sh.4,536
Fixed production overhead	sh.12,663

Required:

Calculate relevant variances in as much detail as the information above permits.

(10 marks)

(b) A Factory produces two products, 'A' and 'B' from a single process. The joint processing costs during a particular month are : sh.

Direct Material	30,000
Direct Labour	9,600
Variable Overheads	12,000
Fixed Overheads	32,000

Sales: A- 100 units@ sh. 600 per unit; B – 120 units @ sh. 200 per unit.

I. Apportion joints costs on the basis of:

(i) Physical Quantity of each product.

(ii) Contribution Margin method, and

Required:

Determine Profit or Loss under both the methods. **(5 marks**)

(e) When volume is 4,000 units; average cost is sh. 3.75 per unit. When volume is 5,000 units, average cost is sh. 3.50 per unit. The Break-Even point is 6,000 units.

Calculate:

(i) Variable Cost per unit **(1.5 marks)**

(ii) Fixed Cost and **(1.5 marks)**

(iii) Profit Volume Ratio. **(2 marks)**

Question Four

Blasius Ltd is a leading manufacturer of furniture in Galana. The company manufactures these three garden furniture products – chair, bench and table. The budgeted unit cost and resource requirements of each of these items are detailed below:

	Chair	Bench	Table
	Sh.	Sh.	Sh.
Timber cost	5.00	15.00	10.00
Direct labour cost	4.00	10.00	8.00
Variable overhead cost	3.00	7.50	6.00
Fixed overhead cost	4.50	11.25	9.00
	16.50	43.75	33.00
Budgeted units per annum	3,500	1,900	1,350

These volumes are believed to equal the market demand for these products. Fixed overhead costs are attributed to the three products on the basis of direct labour hours. The cost of the timber is Sh.2.00 per square metre. The products are made from a specialized timber. A memo from the purchasing manager advises you that because of a problem with the supplier, this specialized timber is limited in supply to 20,000 square metres per annum. The sales director has already accepted an order for 500 chairs, 100 benches and 150 tables which if not supplied would incur a financial penalty of Sh.2,000. These quantities are NOT included in the market demand estimates above.

The selling prices of the three products are:

Chair	Sh.20.00
Bench	Sh.50.00
Table	Sh.40.00

Required:

a) Determine the optimum production plan and state the total contribution that this would yield. **(10 marks)**

b) Morgan Chadwick Ltd is a firm of financial consultants which offers short revision courses on taxation and auditing for professional examinations.
The firm has budgeted annual overheads totaling sh.152,625.

Until recently the firm has applied overheads on a volume basis, based on the number of course days offered. The firm has no variable costs and the only direct costs are the consultants' own time which they divide equally between their two courses.

The firm is considering the possibility of adopting an Activity Based Costing system (ABC) and has identified the overhead costs as shown below.

Details of overheads:	sh.
Centre hire	62,500
Enquiries administration	27,125
Brochures	63,000
Total	152,625

The following information relates to the past year and is expected to remain the same for the coming year.

Course	No. of courses sold	Duration of course	No. of enquiries per course	No. of brochures printed per course
Auditing	50	2 days	175	300
Taxation	30	3 days	70	200

All courses run with a maximum number of students (30), as it is deemed that beyond this number the learning experience is severely diminished, and the same centre is hired for all courses at a standard daily rate, The firm has the human resources to run only one course at any one time.

Required:

(a) Calculate the overhead cost per course for both auditing and taxation, using traditional volume-based absorption costing. **(4 marks)**

(b) Recalculate the overhead costs per course using activity-based costing and explain your choice of cost driver in your answer **(6 marks)**

Question Five

(a) PJ Ltd manufactures hockey sticks. It sells the products at sh. 500 each and makes a profit of sh.125 on each stick. The Company is producing 5,000 sticks annually by using 50% of its machinery capacity.

The cost of each stick is as under:	sh.
Direct Material	150
Direct Wages	50
Works Overhead	125 (50% fixed)
Selling Expenses	50 (25% variable)

The anticipation for the next year is that cost will go up as under:

Fixed Charges 10%, Direct Wages 20%, Direct Material 5%

There will not be any change in selling price.

There is an additional order for 2,000 sticks in the next year.

Calculate the lowest price that can be quoted so that the Company can earn the same profit as it has earned in the current year? **(10 Marks)**

(b)Mount Sinai Health Centre specializes in the provision of sports/exercise and medical/dietary advice to clients. The service is provided on a residential basis and clients reside for whatever number of days that suit their needs.

Budgeted estimates for the year ending 30th June 2024 are as follows:

1. The maximum capacity of the center is 50 clients per day for 300 days in a year.
2. Clients will be invoiced at a fee per day. The budgeted occupancy level will vary with the client fee level per day and is estimated at different percentages of maximum capacity as follows:

Client fee per day (sh)	**Occupancy level**	**Occupancy as a percentage of maximum capacity**
3,600	High	90%
4,000	Most likely	75%
4,400	Low	60%

3. Variable costs are also estimated at one of the three levels per client day. The high most likely and low levels per client per day are Sh.1,900, Sh.1,700 ad Sh.1,400 respectively.
4. The range of cost levels reflects only the possible effect of the purchase prices of goods and services.

Required:

i. A summary which shows the budgeted contribution to be earned by Mount Sinai Health Centre for the year ended 30 June 2002 for each of the nine possible outcomes. **(10 marks)**