



CERTIFIED PUBLIC ACCOUNTANT
FOUNDATION LEVEL 2 EXAMINATIONS
F2.1: MANAGEMENT ACCOUNTING
DATE: WEDNESDAY 28, MAY 2025
MARKING GUIDE AND MODEL ANSWERS

QUESTION ONE

Marking guide

| Qn | Criteria | Marks |
|-----|---|------------------|
| a | Three scope areas of management accounting | |
| | Award 0.5 marks for each listed point and 0.5 marks for clear explanation of each point | <u>3</u> |
| | Maximum marks awarded for part a | 3 |
| b | | |
| i | Labour Efficiency Ratio | |
| | Award 1 mark for the correct formula and 2 marks for the answer | 3 |
| ii | Labour Capacity Utilization Ratio | |
| | Award 1 mark for the correct formula and 1 mark for a correct answer | 2 |
| iii | Labour Production Volume Ratio | |
| | Award 1 mark for a correct formula and 1 mark for a correct answer | <u>2</u> |
| | Maximum marks awarded for part b | 7 |
| c | | |
| i | Sales Price Variance | |
| | Award 1 mark for a correct formula and 1 mark for a correct answer | 2 |
| ii | Material usage Variance | |
| | Award 1 mark for a correct formula and 1 mark for a correct answer | 2 |
| iii | Labour Efficiency Variance | |
| | Award 1 mark for a correct formula and 1 mark for a correct answer | 2 |
| iv | Variable Overhead Expenditure Variance | |
| | Award 1 mark for a correct formula and 1 mark for a correct answer | 2 |
| v | Fixed Overhead Volume Variance | |
| | Award 1 mark for a correct formula and 1 mark for a correct answer | <u>2</u> |
| | Maximum marks awarded for part c | <u>10</u> |
| | Total | <u>20</u> |

MODEL ANSWERS

a) Explain three scope areas of management accounting

Scope of management accounting is very vast and includes various aspects of the business activities. Management accounting has its scope in the following fields or systems:

- **Financial accounting**

It is the foremost and indispensable part of accounting. In this system, business transactions of financial character are recorded in the proper subsidiary book. Posting of these transactions is done in ledger and from this the final accounts are prepared. Final accounts include profit and loss account and balance sheet. Profit and loss account represents the profit/ loss earned during the accounting period and the balance sheet represents the financial position of a company as on a particular date. Financial accounting is the foundation

from management accounting as it provides the necessary information for preparation of details and reports to be presented to the management.

- **Cost accounting**

Cost accounting is one of the important branches of accounting. It ascertains the cost of producing a particular commodity and rendering of services cost of selling and distribution. It facilitates effective planning regarding commodities, proper decision-making and cost control. Some of the important tools of cost accounting are marginal costing, standard costing and budgetary control.

- **Revaluation accounting**

Revaluation accounting ensures that capital is represented at its real value in the accounts and the profit has been calculated keeping this fact in mind. In other words, it assures that the assets are revalued according to the need and its effect has been brought into the accounts. Management accounting helps to ascertain the revalued figures of the assets.

- **Control accounting**

Controlling means to measure the variation, if any, between actual and the standard results and taking corrective measures to remove that variation. Management accounting is the indispensable part of control accounting, budgetary control, inventory control, equality control are some of the important techniques of management accounting for control accounting.

- **Statistical methods**

Management accounting is concerned with presentation of accounting information in the most impressive and understandable manner. It makes use of graphs, charts, index numbers, pictorial presentation and other statistical methods in order to make the information more intelligible. For scientific analysis of financial statement and accounting information various statistical techniques such as mean, standard deviation, covariance, correlation, t-test, etc and used in management accounting.

- **Interim reporting**

Interim reporting means preparation of reports on monthly, quarterly and half-yearly basis. These reports include income statement, cash flow statement, funds flow statement, scrap reports etc.

- **Internal audit**

Internal audit means audit of various departments by the internal members of the organization. The techniques of management accounting can be used to judge the efficiency and economy of the organization. Ratio analysis and funds flow analysis are widely used to judge the efficiency of an organization.

- **Taxation**

Tax planning and its management is an essential function of the management. It includes computation of income as per tax laws, filing of returns and payment of tax within stipulated time.

b) Calculate the following labour measurement ratios:

i. **Labour Efficiency Ratio**= $\frac{\text{standard hours for actual production} * 100}{\text{Total actual hours worked}}$

$$= \frac{4 * 54000 * 100}{240,000}$$
$$= 90\%$$

ii. **Labour Capacity Utilization Ratio**= $\frac{\text{total actual hours worked} * 100}{\text{Total budgeted hours}}$

$$= \frac{240,000 * 100}{200,000}$$
$$= 120\%$$

iii. **Labour Production Volume Ratio / Activity Ratio**

$$= \frac{\text{standard hours for actual production} * 100}{\text{Total budgeted hours worked}}$$

$$= \frac{4 * 54,000 * 100}{200,000}$$
$$= 108\%$$

c)

i. **Sales Price Variance**= (budgeted selling price/unit-actual selling price/unit) *actual qty

Budgeted selling price/unit= 30,500 FRW

Actual selling price/unit= (296,000,000/9,250) = 32,000 FRW

Actual quantity= 9,250 units

$$\text{SPV} = (30,500 - 32,000) * 9,250 = 13,875,000 \text{ F}$$

Material usage variance= (budgeted qty for actual production-actual qty) *budgeted price/kg

Budgeted qty for actual production= (9,250*8kg) = 74,000 kg

Actual qty= 92,500 kg

Budgeted price/kg= 1,200 FRW

$$\text{MUV} = (74,000 - 92,500) * 1,200 = 22,200,000 \text{ A}$$

Labour Efficiency variance= (budgeted hours for actual production- actual hours) * budgeted rate per hour

Budgeted hours for actual production= (10 hrs*9,250 units) = 92,500 hrs

Actual hours worked = 95,000

Budgeted rate/hour= 800 Frw

$$\text{LEV} = (92,500 - 95,000) * 800 = 2,000,000 \text{ A}$$

Variable overhead expenditure variance= (budgeted rate/hr-actual rate/hr) *actual hours

Budgeted rate per hour = (4,88/10hr) = 480 Frw

Actual rate per hour = (40,000,000/95,000) = 421 Frw

Actual hours = 95,000 hours

$$\text{VExp V} = (480 - 421) * 95,000 = 5,600,000 \text{ F}$$

Fixed overhead volume variance = (budgeted production units- actual production units) * budgeted fixed cost per unit

Budgeted production units = 10,000

Actual production units = 9,250

Budgeted fixed cos per unit = 2000

FVV= (10,000-9,250) *2,000 = 1,500,000 A

QUESTION TWO

MARKING GUIDE

| Qn | Criteria | Marks |
|----|--|------------------|
| a | Control statement: Flexible budget | |
| | Sales: 1ward 0.5 marks for flexed budget and 0.5 for variance | 1 |
| | Total Variable cost: award 0.5 mark for flexed budget and 0.5 mark for variance and interpretation | 1 |
| | Fixed production: 0.5 mark for correct flexed and variance | 0.5 |
| | Finance cost: 0.5 for correct flexed and variance | 0.5 |
| | Marketing costs: Award 1 mark for correct flexed and 0.5 for variance and interpretation | 1.5 |
| | Administration costs: Award 1 mark for correct flexed and 0.5 for variance and interpretation | 1.5 |
| | Total cost: award 0.5 mark for correct answer | 0.5 |
| | Profit: award 0.5 mark for correct answer | <u>0.5</u> |
| | Maximum marks for part a | 7 |
| b | Preparation of cash budget | |
| | Award 1 mark for cash received from sales | 1 |
| | Award 1 mark for purchases | 1 |
| | Award 0.5 marks for total cash inflow | 0.5 |
| | Award 0.5 marks each for rent, salaries total cash outflow, surplus and closing cash balance | <u>2.5</u> |
| | Maximum marks for b | 5 |
| c | Differences between avoidable and unavoidable costs | |
| | Explanation of each point 1 mark and example 1 mark | <u>4</u> |
| | Maximum marks for part c | 4 |
| d | Cost estimation using regression analysis | |
| | Award 1 mark for correct summation of x, y, xy, x ² | 1 |
| | Variable cost per unit: 0.5 for application of formula and 0.5 for correct answer | 1 |
| | Fixed cost: 0.5 for application of formula and 0.5 for correct answer | 1 |
| | Total cost equation award 1 mark for correct formula | <u>1</u> |
| | Maximum marks for part d | 4 |
| | Total | <u>20</u> |

MODEL ANSWERS

a) control statement applying the concept of flexible budget for the year ended 31st December 2024. Clearly show the variance and interpret whether favorable or adverse.

NYUNGWE Manufacturers Ltd

Control Statement for the year ended 31st December, 2024

| | | Flexed Budget | Actual | Variance | Interpretation |
|-----------------------------|--------------------------------|-------------------|-------------------|------------------|----------------|
| Production / Sales Units | | 22,500 | 22,500 | | |
| | | <u>FRW</u> | <u>FRW</u> | <u>FRW</u> | - |
| Sales | $32,000,000 * 22,500/20,000 =$ | 36,000,000 | 34,800,000 | 1,200,000 | A |
| Costs: | | | | | |
| Direct Materials Cost | $8,000,000 * 22,500/20,000 =$ | 9,000,000 | 7,200,000 | 1,800,000 | F |
| Direct Labour Cost | $12,000,000 * 22,500/20,000 =$ | 13,500,000 | 12,450,000 | 1,050,000 | F |
| Variable Overhead Cost | $2,500,000 * 22,500/20,000 =$ | 2,812,500 | 1,790,000 | 1,022,500 | F |
| Total Variable Costs | | 25,312,500 | 21,440,000 | 3,872,500 | F |
| Fixed Production Costs | Does not change | 1,650,000 | 1,800,000 | 150,000 | A |
| Finance Costs | Does not change | 830,000 | 710,000 | 120,000 | F |
| Marketing Costs | W1 | 1,956,500 | 1,900,000 | 56,500 | F |
| Administration Costs | W2 | 1,650,000 | 1,550,000 | 100,000 | F |
| Total Cost | | 31,399,000 | 27,400,000 | 3,999,000 | F |
| Profit | | 4,601,000 | 7,400,000 | 2,799,000 | F |

Workings:

W1) Marketing Costs

| | | |
|-----------------------------|-------------------------------|------------------|
| Marketing cost | | 1,820,000 |
| Fixed (40%) | 728,000 | |
| Variable (60%) | 1,092,000 | |
| Flexed Variable = | $(1,092,000 * 22,500/20,000)$ | 1,228,500 |
| Add: Fixed Cost | | <u>728,000</u> |
| Total Flexed Marketing Cost | | <u>1,956,500</u> |

W2) Administration Costs

| | | |
|-----------------------------|-----------------------------|------------------|
| Administration Costs | | 1,600,000 |
| Fixed (75%) | 1,200,000 | |
| Variable (25%) | 400,000 | |
| Flexed Variable = | $400,000 * 22,500/20,000 =$ | 450,000 |
| Add: Fixed Cost | | <u>1,200,000</u> |
| Total Flexed Marketing Cost | | <u>1,650,000</u> |

b) Prepare Virunga Ltd Cash budget for the three months ended 31st March, 2025

| | | Jan | Feb | Mar | Total |
|---------------------------|----|------------------|-------------------|------------------|-------------------|
| <u>Cash Inflow</u> | | <u>FRW</u> | <u>FRW</u> | <u>FRW</u> | <u>FRW</u> |
| Cash received from sales | W1 | 5,880,000 | 6,220,000 | 6,440,000 | 18,540,000 |
| Loan received | | <u>4,000,000</u> | <u>4,000,000</u> | - | <u>8,000,000</u> |
| Total cash inflow | | <u>9,880,000</u> | <u>10,220,000</u> | <u>6,440,000</u> | <u>26,540,000</u> |
| <u>Cash Outflow</u> | | | | | |
| Purchases | W2 | 4,524,000 | 4,456,000 | 4,420,000 | 13,400,000 |
| Rent | | 2,000,000 | 2,000,000 | 2,000,000 | 6,000,000 |
| Salaries | | <u>2,300,000</u> | <u>2,300,000</u> | <u>2,300,000</u> | <u>6,900,000</u> |
| Total cash outflow | | 8,824,000 | 8,756,000 | 8,720,000 | 26,300,000 |
| Surplus / (Deficit) | | 1,056,000 | 1,464,000 | -2,280,000 | 240,000 |
| Add: Opening cash balance | | <u>3,000,000</u> | <u>4,056,000</u> | <u>5,520,000</u> | - |
| Closing cash balance | | <u>4,056,000</u> | <u>5,520,000</u> | <u>3,240,000</u> | - |

W1: cash received from sales

| | | <u>Nov, 2024</u> | <u>Dec, 2024</u> | <u>Jan, 2025</u> | <u>Feb, 2025</u> | <u>Mar, 2025</u> |
|---------------------|-----|------------------|------------------|------------------|------------------|------------------|
| Sales | | 5,200,000 | 6,000,000 | 6,400,000 | 6,200,000 | 6,800,000 |
| Cash sales | 30% | 1,560,000 | 1,800,000 | 1,920,000 | 1,860,000 | 2,040,000 |
| One-month sales | 40% | - | 2,080,000 | 2,400,000 | 2,560,000 | 2,480,000 |
| Two months sales | 30% | - | - | <u>1,560,000</u> | <u>1,800,000</u> | <u>1,920,000</u> |
| Total cash received | | <u>1,560,000</u> | <u>3,880,000</u> | <u>5,880,000</u> | <u>6,220,000</u> | <u>6,440,000</u> |

W2: cash paid for purchases

| | | <u>Nov, 2024</u> | <u>Dec, 2024</u> | <u>Jan, 2025</u> | <u>Feb, 2025</u> | <u>Mar, 2025</u> |
|---------------------|-----|------------------|------------------|------------------|------------------|------------------|
| Purchases | | 4,200,000 | 4,500,000 | 4,560,000 | 4,300,000 | 4,600,000 |
| Cash purchases | 40% | 1,680,000 | 1,800,000 | 1,824,000 | 1,720,000 | 1,840,000 |
| One-month purchases | 60% | - | <u>2,520,000</u> | <u>2,700,000</u> | <u>2,736,000</u> | <u>2,580,000</u> |
| Total cash paid | | <u>1,680,000</u> | <u>4,320,000</u> | <u>4,524,000</u> | <u>4,456,000</u> | <u>4,420,000</u> |

c) Explain the difference between avoidable and unavoidable costs with examples in each case

Avoidable Costs

Costs that can be changed by change in the way the business operates. For example, by introducing internet banking salaries of the tellers in a bank can be avoided. Internet banking will eliminate the use of tellers in a bank.

Unavoidable Costs

Costs that cannot be changed by change in the way the business operates. For example, by introducing internet banking the salary of the managing director will still be incurred. Internet banking will not replace the managing director.

d) Using Regression analysis method of cost estimation

| X | Y | XY | X ² |
|--------------|--------------|------------------|----------------|
| 440 | 1,700 | 748,000 | 193,600 |
| 360 | 1,460 | 525,600 | 129,600 |
| 480 | 1,800 | 864,000 | 230,400 |
| 320 | 1,400 | 448,000 | 102,400 |
| <u>400</u> | <u>1,640</u> | <u>656,000</u> | <u>160,000</u> |
| 2,000 | 8,000 | 3,241,600 | 816,000 |

Find the variable cost per unit

$$b = \frac{(5 \times 3,241,600) - 92,000 \times 8,000}{(5 \times 816,000) - (2,000)^2}$$
$$= 2.6$$

Fixed cost

$$a = (8000/5) - 2.6 \times (2,000/5)$$
$$= 560$$

Formulate the total cost equation

$$Y = 2.6X + 560$$

QUESTION THREE

MARKING GUIDE

| Qn | Criteria | Marks |
|----|---|-----------|
| a | | |
| i | Preparation of job cost card | |
| | Award 2 marks for Prime cost computation | 2 |
| | Award 2 marks for Marginal cost computation | 2 |
| | Award 2 marks for Absorption cost computation | 2 |
| | Award 2 marks for Job cost computation | 2 |
| | Award 2 marks for Job price computation | <u>2</u> |
| | Maximum marks for part a) i | 10 |
| ii | Decision on customer offer price | |

| Qn | Criteria | Marks |
|-----|---|------------------|
| | Calculation of difference between price and cost | 1 |
| | Calculation of percentage | 1 |
| | Correct decision | <u>1</u> |
| | Maximum marks for part a) ii | 3 |
| iii | Difference between job costing and batch costing | |
| | Award 1 mark for clear explanation of job costing | 1 |
| | Award 1 mark for clear explanation of batch costing | <u>1</u> |
| | Maximum marks for part a) iii | 2 |
| b | Calculation of cost per unit under activity-based costing | |
| | Correct direct materials | 0.5 |
| | Correct direct labour | 0.5 |
| | Machine set up costs: Award 0.5 marks for A and 0.5 marks for B | 1 |
| | Procurement cost: Award 0.5 marks for A and 0.5 marks for B | 1 |
| | Electricity: Award 0.5 marks for A and 0.5 marks for B | 1 |
| | Overhead cost per unit: Award 0.5 marks for A and 0.5 marks for B | <u>1</u> |
| | Maximum marks for part b | <u>5</u> |
| | Total | <u>20</u> |

MODEL ANSWERS

a)

i) job cost card for job J005 showing the following; prime cost, marginal cost, absorption cost, job cost and job price

| | | <u>FRW</u> | <u>FRW</u> |
|---|---------------------|---------------|----------------|
| Timber | (13kgs * 900) | 11,700 | |
| Metal | 18kgs * 1200) | <u>21,600</u> | 33,300 |
| Direct labour | (20hrs * 1,500) | | <u>30,000</u> |
| Prime cost | | | 63,300 |
| Add: Variable overheads | (60% * 30,000) | | <u>18,000</u> |
| Marginal costs | | | 81,300 |
| Add: Fixed production costs | 795,000 / 30 | | <u>26,500</u> |
| Absorption costs | | | 107,800 |
| Add: Fixed selling & administration costs | (30% * 107,800) | | <u>32,340</u> |
| Job cost | | | 140,140 |
| Add: Profit margin | (25%/75% * 140,140) | | <u>46,713</u> |
| Job price | | | <u>186,853</u> |

ii) A customer has offered to buy the office furniture at FRW 160,000, should SMART Ltd accept to do the job without a compromise on the pricing model of the company

| | | |
|--|--------------------|---------|
| Customer Offer price | | 160,000 |
| Difference (Job cost & customer price) | | 19,860 |
| Percentage Profit | (19,860 / 186,853) | 10.60% |

Decision: Reject the customer request because the profit to be generated is only 10.6% of the job cost instead of 25% which is the practice.

iii) Explain the difference between job costing and batch costing

Job Costing

A form of specific order costing in which one product is made at a time and each product is unique. Each job must have a unique code and it is the customer to order first before the product is made.

Batch Costing

It's also a form of specific order costing method but a number of products are made at a specific point in time. The products are made in batches (groups). Every production activity is in a batch. One batch may carry a number of units of a product. Each batch has a unique code.

b) Calculate the cost per unit of each product A and B using Activity Based Costing method

| | | A | B |
|--------------------------------|--------------|--------------|---------------------------|
| Direct materials cost per unit | (5kgs * 800) | 4,000 | (4kgs * 600) 2,400 |
| Direct labour cost per unit | (3hrs * 500) | <u>1,500</u> | (7hrs * 400) <u>2,800</u> |
| Prime cost per unit | | 5,500 | 5,200 |
| Overhead cost per unit (W1) | | <u>1,880</u> | - <u>1,414</u> |
| Cost per unit | | <u>7,380</u> | - <u>6,614</u> |

Total overhead cost Frw 80,000,000

| Cost Pool | Cost Driver | Apportionment | Overhead | A | B |
|---------------------|-----------------------|---------------|-------------------|--|--|
| Machine set up cost | No of set ups | 20% | 16,000,000 | (420/800 * 16,000,000) 8,400,000 | (380/800 * 16,000,000) 7,600,000 |
| Procurement cost | No of purchase orders | 45% | 36,000,000 | (28/64 * 36,000,000) 15,750,000 | (36/64 * 36,000,000) 20,250,000 |
| Electricity | No of Kilowatts | 35% | <u>28,000,000</u> | (600/1,250 * 28,000,000) <u>13,440,000</u> | (650/1,250 * 28,000,000) <u>14,560,000</u> |
| Total Overhead Cost | | 100% | <u>80,000,000</u> | - <u>37,590,000</u> | - <u>42,410,000</u> |
| Production units | | | | 20,000 | 30,000 |

| Cost Pool | Cost Driver | Apportionment | Overhead | A | | B | |
|------------------------|-------------|---------------|----------|---|-------|---|-------|
| Overhead cost per unit | | | | | 1,880 | | 1,414 |

| | <u>A</u> | <u>B</u> | <u>Total</u> |
|---------------------------|----------|----------|--------------|
| Purchase orders per annum | 28 | 36 | 64 |
| Kilowatts per annum | 600 | 650 | 1,250 |
| Set ups per annum | 420 | 380 | 800 |
| Production units | 20,000 | 30,000 | 50,000 |

QUESTION FOUR

MARKING GUIDE

| Qn | Criteria | Marks |
|----|---|------------------|
| a | | |
| i | Identification of limiting factors | |
| | Award 0.5 marks for materials and labour resources needed | 1 |
| | Award 1 mark for correct choice of limiting factor | <u>1</u> |
| | Maximum marks awarded for part a) i | 2 |
| ii | Optimal production plan and total contribution | |
| | Calculation of contribution per unit | 1 |
| | Calculation of contribution per unit of limiting factor | 1 |
| | Ranking of the products | 1 |
| | Sharing of resources needed | 1 |
| | Allocation of resources remaining | 1 |
| | Calculation of optimal production plan | 2 |
| | Calculation of total contribution | <u>1</u> |
| | Maximum marks awarded for part a) ii | 8 |
| b | Four factors considered before outsourcing | |
| | Award 1 mark for each factor explained | <u>4</u> |
| | Maximum marks awarded for part a) iii | 4 |
| c | | |
| i | Calculation of economic order quantity | 2 |
| ii | Calculation of total ordering cost | 2 |
| ii | Calculation of total holding cost | <u>2</u> |
| | Maximum marks awarded for part b | <u>6</u> |
| | Total | <u>20</u> |

MODEL ANSWERS

a)

i) Identification of limiting factors

| | | | |
|---------------------------|---------------------|--------------|------------------|
| Materials | | | |
| Materials available | 50,000 | kgs | |
| Materials Needed: | | | |
| | <u>Kgs per unit</u> | <u>Units</u> | <u>Total Kgs</u> |
| Alpha | 5 | 7,000 | 35,000 |
| Beta | 4 | 3,000 | 12,000 |
| Gamma | 6 | 5,000 | <u>30,000</u> |
| Total Materials needed | | | <u>77,000</u> |
| Labour | | | |
| Labour hours available | 28,000 | hrs | |
| Labour hours needed: | | | |
| | <u>Hrs per unit</u> | <u>Units</u> | <u>Total Hrs</u> |
| Alpha | 1 | 7,000 | 7,000 |
| Beta | 2 | 3,000 | 6,000 |
| Gamma | 3 | 5,000 | <u>15,000</u> |
| Total Labour hours needed | | | <u>28,000</u> |

Materials is a limiting factor because we need 77,000 kgs but we only have 50,000 kgs

ii) Finding Optimal Production Plan and total Contribution

step 1: identify the limiting factor

materials is a limiting factor (part i)

| | | | |
|---|---------------|---------------|---------------|
| Step 2: Calculate contribution per unit | | | |
| | <u>Alpha</u> | <u>Beta</u> | <u>Gamma</u> |
| Selling price per unit | 60,000 | 44,000 | 78,000 |
| Less: Variable cost per unit | <u>45,000</u> | <u>36,000</u> | <u>57,000</u> |
| Contribution per unit | <u>15,000</u> | <u>8,000</u> | <u>21,000</u> |
| Step 3: Calculate contribution per unit of limiting factor | | | |
| | <u>Alpha</u> | <u>Beta</u> | <u>Gamma</u> |
| Contribution per unit | 15,000 | 8,000 | 21,000 |
| Kgs per unit | <u>5</u> | <u>4</u> | <u>6</u> |
| Cont. per unit of limiting factor | <u>3,000</u> | <u>2,000</u> | <u>3,500</u> |
| Step 4: Rank the products | | | |
| | <u>Alpha</u> | <u>Beta</u> | <u>Gamma</u> |
| | 2nd | 3rd | 1st |

Step 5: allocate the scarce resources and find the optimal plan

| Rank | Product | Units | Kgs used | Kgs remaining |
|------|---------|--|----------------------------------|------------------------------|
| 1st | Gamma | 5,000 | $(6\text{kgs} * 5,000) = 30,000$ | $(50,000 - 30,000) = 20,000$ |
| 2nd | Alpha | $(20,000\text{kgs}/5\text{kgs}) = 4,000$ | 20,000 | |
| 3rd | Beta | - | - | |

The optimal plan is to produce 5,000 units of Gamma and 4,000 units of Alpha. No units of Beta will be produced.

Step 6: find the total contribution

| Rank | Product | Optimal Plan | Cont per unit | Total contribution |
|--------------------|---------|--------------|---------------|--------------------|
| 1st | Gamma | 5,000 | 21,000 | 105,000,000 |
| 2nd | Alpha | 4,000 | 15,000 | 60,000,000 |
| 3rd | Beta | - | 8,000 | - |
| Total Contribution | | | | <u>165,000,000</u> |

b) Explain any four factors to be considered before outsourcing of services.

- 1) Quality: The quality of products or services the business is outsourcing to must be of the standard acceptable. There must be an assurance that the right quality of products or services will be provided
- 2) The management will also need to assured of continuity of supply of goods and services. There must be a guarantee that supply of what will be needed will not stop before the contract signed is expired.
- 3) There must be an agreement of a fixed price at which the products or services will be exchanged. If prices are to change, it must be clear under what conditions and the limits.
- 4) The management should investigate whether the available capacity freed up can be used to generate additional profits from a different product.
- 5) Management should consider whether labour morale will be adversely affected by a decision to outsource

b)

i. Calculate the economic order quantity (Round to nearest whole number)

| | | | |
|------------------------|-------------------|--------------------------------|--------|
| Annual demand | | 16,000 | |
| Cost per delivery | | 2,500 | |
| Holding cost per table | $(15\% * 36,000)$ | 5,400 | |
| EOQ = | | $(2 * 16,000 * 2,500) / 5,400$ | |
| | | 80,000,000 | |
| | | 5,400 | |
| | | 14,814.81 | |
| | | 121.72 | |
| | | 122 | tables |

ii. Calculate the total ordering cost

$$TOC = D/Q \times C_o$$

$$\frac{16,000 \times 2,500}{122} = 327,869 \text{ FRW}$$

122

iii. Calculate the total holding cost

$$THC = Q/2 \times h_c$$

$$122/2 \times (15\% \times 36,000) = 329,400 \text{ Frw}$$

QUESTION FIVE

MARKING GUIDE

| Qn | Criteria | Marks |
|------|---|------------------|
| a | Difference between normal loss and abnormal loss | |
| | Normal loss explanation | 1 |
| | Abnormal loss explanation | <u>1</u> |
| | Maximum marks awarded for part a | 2 |
| b. i | Process 1 account | |
| | Correct posting direct materials | 1 |
| | Correct posting direct labour | 0.5 |
| | Correct posting variable overheads | 1 |
| | Calculation of normal loss 0.5 and amount 0.5 marks | 1 |
| | Correct posting of actual output | 1 |
| | Calculation of abnormal loss/gain | 1 |
| | Cost per unit | 1 |
| | Balancing of the process account | <u>0.5</u> |
| | Maximum marks awarded for process 1 | 7 |
| ii. | Process 2 account | |
| | Correct transfer of output from process 2 | 1 |
| | Correct posting direct labour | 0.5 |
| | Correct posting variable overheads | 1 |
| | Calculation of normal loss 0.5 and amount 0.5 marks | 1 |
| | Correct posting of actual output | 1 |
| | Calculation of abnormal loss/gain | 1 |
| | Balancing of the process account | <u>0.5</u> |
| | Maximum marks awarded for process 2 | 6 |
| c | Five characteristics of relevant cost | |
| | Award 1 mark for each correct characteristic | <u>5</u> |
| | Maximum marks awarded for part b | <u>5</u> |
| | Total | <u>20</u> |

MODEL ANSWERS

a) Explain the difference between normal loss and abnormal loss as used in process costing

Normal Loss

This is the expected loss in a production process which is expressed as a percentage of input quantity. Input quantity less normal loss gives expected output which should normally be compared to actual output

Abnormal Loss

Abnormal loss is the extra loss the business suffers beyond the expected loss. Abnormal loss arises when the actual output is less than the expected output.

b.i Prepare process 1 account

| Dr | | | Process 1 account | | | | Cr |
|------------------|--------------|---------------------|-------------------|-------------------------|--------------|---------------------|-------------------|
| Particulars | <u>Units</u> | <u>Price / unit</u> | <u>Amount</u> | <u>Particulars</u> | <u>Units</u> | <u>Price / unit</u> | <u>Amount</u> |
| Direct Materials | 8,000 | 5,000 | 40,000,000 | Normal Loss (10%*8,000) | 800 | 800 | 640,000 |
| Direct Labour | | | 8,000,000 | Output | 7,000 | 7,244.44 | 50,711,111 |
| Variable OH | | | 4,800,000 | | | | |
| | | | | Abnormal Loss | <u>200</u> | <u>7,244.44</u> | <u>1,448,889</u> |
| | <u>8,000</u> | | <u>52,800,000</u> | | <u>8,000</u> | | <u>52,800,000</u> |

$$\text{Cost per unit (process 1)} = \frac{(52,800,000 - 640,000)}{(8,000 - 800)} = \frac{52,160,000}{7,200} = 7,244.44$$

ii. Prepare process 2 account

| Dr | | | Process 2 account | | | | Cr |
|------------------|--------------|--------------|-------------------|--------------------------|--------------|--------------|-------------------|
| Particulars | <u>Units</u> | <u>Price</u> | <u>Amount</u> | <u>Particulars</u> | <u>Units</u> | <u>Price</u> | <u>Amount</u> |
| Direct Materials | 7,000 | | 50,711,111 | Normal Loss (5% * 7,000) | 350 | 600 | 210,000.00 |
| Direct Labour | | | 7,920,000 | Output | 6,800 | 9,261.52 | 62,978,339 |
| Variable OH | | | <u>3,168,000</u> | | | | |
| | | | 61,799,111 | | | | |
| Abnormal Gain | <u>150</u> | 9,261.52 | <u>1,389,228</u> | | | | |
| | <u>7,150</u> | | <u>63,188,339</u> | | | | <u>63,188,339</u> |

$$\text{Cost per unit (process 2)} = \frac{(61,799,111 - 210,000)}{(7,000 - 350)} = 9,261.52$$

c) **Explain five characteristics of relevant costs considered in decision making**

- 1) **Future oriented:** Costs that will be incurred in future as a direct result of a management decision.
- 2) **Cash flow based:** Are cash transactions rather than accounting or paper transactions. They represent actual cash outflows or inflows that will occur as a result of a decision.
- 3) **Incremental / Differential:** Are costs that change or vary between different alternatives. They are not common costs.
- 4) **Opportunity costs:** The value of the alternative that is sacrificed must be considered when making a decision. It's a cost that affects the decision made.
- 5) **Avoidable costs:** Relevant cost are costs that can be avoided when a decision is not taken. They must only be incurred when a choice is made. When a choice is not made the cost will also not be incurred.
- 6) **Realizable costs:** The disposal value or market value/fair value must be considered when making a decision.

QUESTION SIX

MARKING GUIDE

| Qn | Criteria | Marks |
|-----|---|------------------|
| a | | |
| i | Explanation of two differences between MC and AC | |
| | Award 2 marks for every clear difference explained | <u>4</u> |
| | Maximum marks awarded for part a) i | 4 |
| ii | Preparation of marginal costing profit statement | |
| | For each period award 0.5 marks for sales, variable cost of sales, variable selling cost, contribution, total fixed cost and marginal profit | <u>6</u> |
| | Maximum marks awarded for part a) ii | 6 |
| iii | Preparation of absorption costing profit statement | |
| | For each period award 0.5 marks for sales, cost of sales, under/over absorption, gross profit, total non-production costs and absorption profit | <u>6</u> |
| | Maximum marks awarded for part a) ii | 6 |
| b | Purpose of preparation of management accounts | |
| | Award 0.5 marks for each listing and 0.5 marks for each explanation | <u>2</u> |
| | Maximum marks awarded for part b | <u>2</u> |
| | Total | <u>20</u> |

MODEL ANSWERS

a)

i) Explain two major differences between marginal costing and absorption costing

1) Purpose

Marginal costing enables well informed short-term decision making, and absorption costing calculates the cost of output as well as providing the closing inventory valuation for inclusion in the financial statements.

2) Calculation

Marginal costing is based on variable costs but excludes fixed costs and absorption costing includes both direct and indirect cost. Generally, if a cost is variable, it is also direct, therefore, the addition of fixed overheads to the marginal cost will give the full absorption cost.

3) Profitability

When there is closing inventory there will be a difference in the profits calculated by the two methods. The difference in profit will be explained by the difference in the value of the closing inventory.

4) Use

Marginal costing is not allowed for financial reporting purposes whereas absorption costing can be used for both financial and management accounting.

ii) Marginal Costing Profit Statement for the two periods January and February, 2025

| Details | January | | | February | | |
|----------------------------|----------------------|------------------|-------------------|--------------------|------------------|-------------------|
| | | FRW | FRW | | FRW | FRW |
| Sales | (4,000 * 25,000) | | 100,000,000 | (6,200 * 25,000) | | 155,000,000 |
| VC of Sales: | | | | | | |
| Opening Inventory | (0 * 18,000) | - | | (2,000 * 18,000) | 36,000,000 | |
| Add: Production Costs | (6,000 * 18,000) | 108,000,000 | | (4,800 * 18,000) | 86,400,000 | |
| Less: Closing Inventory | (2,000 * 18,000) | 36,000,000 | 72,000,000 | (600 * 18,000) | 10,800,000 | 111,600,000 |
| Variable Selling Costs | (2.5% * 100,000,000) | | <u>2,500,000</u> | (2.5%*155,000,000) | | <u>3,875,000</u> |
| Contribution | | | 25,500,000 | | | 39,525,000 |
| Less: Fixed Costs | | | | | | |
| Fixed Production Costs | | 12,500,000 | | | 12,500,000 | |
| Fixed Selling Costs | | 2,200,000 | | | 2,200,000 | |
| Fixed Administration Costs | | <u>1,800,000</u> | <u>16,500,000</u> | | <u>1,800,000</u> | <u>16,500,000</u> |
| Marginal Costing Profit | | | <u>9,000,000</u> | | | <u>23,025,000</u> |

Workings

| W1) Variable Cost per unit | Frw |
|-----------------------------------|---------------|
| Direct Material Cost per unit | 8,000 |
| Direct Labour Cost per unit | 5,400 |
| Variable Overhead Cost per unit | <u>4,600</u> |
| Variable Cost per unit | <u>18,000</u> |

iii) Absorption Costing Profit Statement for the two months January and February, 2025

| January | | | | February | | |
|----------------------------|----------------------|------------------|-------------------|--------------------|------------------|-------------------|
| | | FRW | FRW | | FRW | FRW |
| Sales | (4,000 * 25,000) | | 100,000,000 | (6,200 * 25,000) | | 155,000,000 |
| Cost of Sales: | | | | | | |
| Opening Inventory | (0 * 20,500) | - | | (2,000 * 20,500) | 41,000,000 | |
| Add: Production Costs | (6,000 * 20,500) | 123,000,000 | | (4,800 * 20,500) | 98,400,000 | |
| Less: Closing Inventory | (2,000 * 20,500) | 41,000,000 | 82,000,000 | (600 * 20,500) | 12,300,000 | 127,100,000 |
| Over / Under Absorption | Over Absorption | | <u>2,500,000</u> | Under Absorption | | <u>500,000</u> |
| Gross Profit | | | 20,500,000 | | | 27,400,000 |
| Less: Non-Production Costs | | | | | | |
| Variable Selling Costs | (2.5% * 100,000,000) | 2,500,000 | | (2.5%*155,000,000) | 3,875,000 | |
| Fixed Selling Costs | | 2,200,000 | | | 2,200,000 | |
| Fixed Administration Costs | | <u>1,800,000</u> | <u>6,500,000</u> | | <u>1,800,000</u> | <u>7,875,000</u> |
| Absorption Costing Profit | | | <u>14,000,000</u> | | | <u>19,525,000</u> |

| W2) Total Cost per unit | | FRW |
|--------------------------------|--------------------|---------------|
| Variable Cost per unit | | 18,000 |
| Fixed Cost per unit | (12,500,000/5,000) | <u>2,500</u> |
| Total Cost per unit | | <u>20,500</u> |

| W3) Under / Over Absorption | | | |
|------------------------------------|------------------|---------------------------|-----------------|
| | January | | February |
| Budgeted Production Units | 5,000 | Budgeted Production Units | 5,000 |
| Actual Production Units | <u>6,000</u> | Actual Production Units | <u>4,800</u> |
| Difference | 1,000 | Difference | 200 |
| Fixed Cost per unit | <u>2,500</u> | Fixed Cost per unit | <u>2,500</u> |
| Over Absorption | <u>2,500,000</u> | Under Absorption | <u>500,000</u> |

iv) Reconcile the marginal and absorption costing profits for January and February, 2025

| | January | February |
|---------------------------------|------------------|--------------------|
| Marginal Costing Profit (FRW) | 9,000,000 | 23,025,000 |
| Change in Inventory (units) | 2,000 | 1,400 |
| Fixed Cost per unit | 2,500 | 2,500 |
| Difference in Profits (FRW) | <u>5,000,000</u> | <u>(3,500,000)</u> |
| Absorption Costing Profit (FRW) | 14,000,000 | 19,525,000 |

b) Apart from decision making, explain two other purposes of preparation of management accounts

Planning and Budgeting

Management accounts gives the knowledge on how to plan and prepare budgets. Planning involves setting of goals and objectives to be achieved in the future. Budgets are quantitative plans of action prepared in advance of the period to which it relates.

Control

Control involves comparison of actual results to the plan to get the difference (variance) and investigate the cause of the difference.

Other points may include: Evaluation of performance, communication of targets, motivation of employees, allocation of resources.

QUESTION SEVEN

MARKING GUIDE

| Qn | Criteria | Marks |
|-----------|--|------------------|
| a | Differences between general and specific overhead | |
| | Award 1 marks for each explanation and 1 mark for examples | <u>4</u> |
| | Maximum marks awarded for part a | 4 |
| b | | |
| i | Identification of basis of apportionment | |
| | Award 0.5 mark for each correct basis of apportionment | <u>3</u> |
| | Maximum marks awarded for part b)i | 3 |
| ii | Allocation and apportionment of overheads | |
| | Award 2 marks for each correct overhead apportioned | 12 |
| | Award 1 mark for correct addition of the total overheads | <u>1</u> |
| | Maximum marks awarded for part b)ii | <u>13</u> |
| | Total | <u>20</u> |

MODEL ANSWERS

a) Giving examples, explain the difference between general overheads and specific overheads

General Overheads

Are overhead costs incurred in more than one cost centre. General overheads should be apportioned. Apportionment is the sharing out of the general overheads to all the departments depending on the most appropriate basis of apportionment.

Example: Rent: Rent is paid for the entire business which has more than one department.

Specific Overheads

Are overhead costs incurred in individual departments. Specific overheads should be allocated. Allocation is the transfer of specific overheads to their respective departments.

Example: Salary of Departmental staff. Staff in individual departments. Their salaries can be identified with specific departments.

b)

Identify the most appropriate basis of apportionment for each of the six overhead costs

| Overhead | Basis of Apportionment |
|---------------------------|-------------------------------|
| Rent | Area |
| Depreciation of Equipment | Plant Book Value |
| Canteen Costs | Number of Employees |
| Electricity Costs | Kilowatts |
| Water Costs | Cubic Capacity |
| Office Stationery Costs | Number of Employees |

Allocate and apportion the overhead costs using the basis of apportionment identified in b) i. above

| Overhead | Basis of Apportionment | <u>Amount</u> | Production Departments | | Service Departments | |
|-------------------------------------|-------------------------------|----------------------|-------------------------------|----------------------|----------------------------|---------------------------|
| | | | <u>Dept A</u> | <u>Dept B</u> | <u>Stores</u> | <u>Maintenance</u> |
| Rent | Area | 2,500,000 | 571,429 | 464,286 | 803,571 | 660,714 |
| Depreciation of Equipment | Plant Book Value | 6,800,000 | 1,088,000 | 1,904,000 | 2,448,000 | 1,360,000 |
| Canteen Costs | Number of Employees | 800,000 | 166,667 | 266,667 | 233,333 | 133,333 |
| Electricity Costs | Kilowatts | 1,750,000 | 486,111 | 777,778 | 233,333 | 252,778 |
| Water Costs | Cubic Capacity | 600,000 | 180,000 | 210,000 | 90,000 | 120,000 |
| Office Stationery Costs | Number of Employees | <u>1,200,000</u> | <u>250,000</u> | <u>400,000</u> | <u>350,000</u> | <u>200,000</u> |
| Allocated and Apportioned Overheads | | <u>13,650,000</u> | <u>2,742,206</u> | <u>4,022,730</u> | <u>4,158,238</u> | <u>2,726,825</u> |

| | <u>Dept A</u> | <u>Dept B</u> | <u>Stores</u> | <u>Maintenance</u> | <u>Total</u> |
|---------------------|---------------|---------------|---------------|--------------------|--------------|
| Plant Book Value | 2,000,000 | 3,500,000 | 4,500,000 | 2,500,000 | 12,500,000 |
| Kilowatts | 5,000 | 8,000 | 2,400 | 2,600 | 18,000 |
| Cubic Capacity | 360 | 420 | 180 | 240 | 1,200 |
| Number of Employees | 25 | 40 | 35 | 20 | 120 |
| Area | 3,200 | 2,600 | 4,500 | 3,700 | 14,000 |

End of Marking Guide and Model Answers