



# ICPAR

Unlimited possibilities

---

---

## **CERTIFIED PUBLIC ACCOUNTANT FOUNDATION LEVEL 2 EXAMINATIONS**

### **F2.1: MANAGEMENT ACCOUNTING**

**DATE: WEDNESDAY, 27 JULY 2022**

---

---

### **INSTRUCTIONS:**

- 1. Time Allowed: 3 hours 15 minutes** (15 minutes reading and 3 hours writing).
- This examination has **seven** questions and only **FIVE** questions **should be attempted**.
- Marks allocated to each question are shown at the end of the question.
- Show all your workings where necessary.
- The question paper should not be taken out of the examination room.



## QUESTION ONE

- a) Define the term Process costing. (2 Marks)
- b) Outline five key steps followed in process costing. (5 Marks)

c) Kandonga Ltd produces an item which is manufactured in two consecutive processes. Information related to process 2 during march 2021 is as follows:

Opening inventory 8000 units

Detail	Degree of completion	FRW
Process 1 materials	100%	47,000
Added materials	40%	6,000
Conversion	30%	10,000
<b>Total</b>		<b><u>63,000</u></b>

During March 2021, 30,000 units were transferred from process 1 at a valuation of FRW 181,000. Added materials costs FRW 96,000 and conversion costs were FRW 118,000.

Closing inventory at 31<sup>st</sup> March 2021 amounting to 10,000 units which were 100% complete with respect to process 1 materials and 60% complete with respect to added materials, conversion work was 40% complete. Kandonga Ltd uses weighted averages costing system for valuation of output and closing inventory.

### Required:

- i. Prepare separate equivalent units statement and cost per unit statement for March 2021. (7 Marks)
- ii. Prepare process 2 account for March 2021. (6 Marks)
- (Total: 20 Marks)**

## QUESTION TWO

Kubaho Hotel Ltd is situated in a major city of Nyarugenge close to many theatres and restaurants in the middle of Kigali. Kubaho Hotel Ltd has 25 double bedrooms and it charges guests FRW180, 000 per room per night, regardless of single or double occupancy.

The hotel's variable cost is FRW 60,000 per occupied room per night. Kubaho Hotel is open for 365 days a year and has a 70% budgeted occupancy rate. Fixed costs are budgeted at FRW 600,000,000 a year and accrue evenly throughout the year.

During the first quarter (Q1) of the year the room occupancy rates are significantly below the levels expected at other times of the year with the Kubaho Hotel expecting to sell 900 occupied room nights during Q1. Options to improve profitability are being considered, including closing the hotel for the duration of Q1 or adopting one of two possible projects as follows:

### Project 1: Theatre package

For Q1 only the Kubaho Hotel management would offer guests a 'theatre package'. Couples who pay for two consecutive nights at a special rate of FRW 67,500 per room night will also receive a pair of theatre tickets for a payment of FRW 100,000. The theatre tickets are very

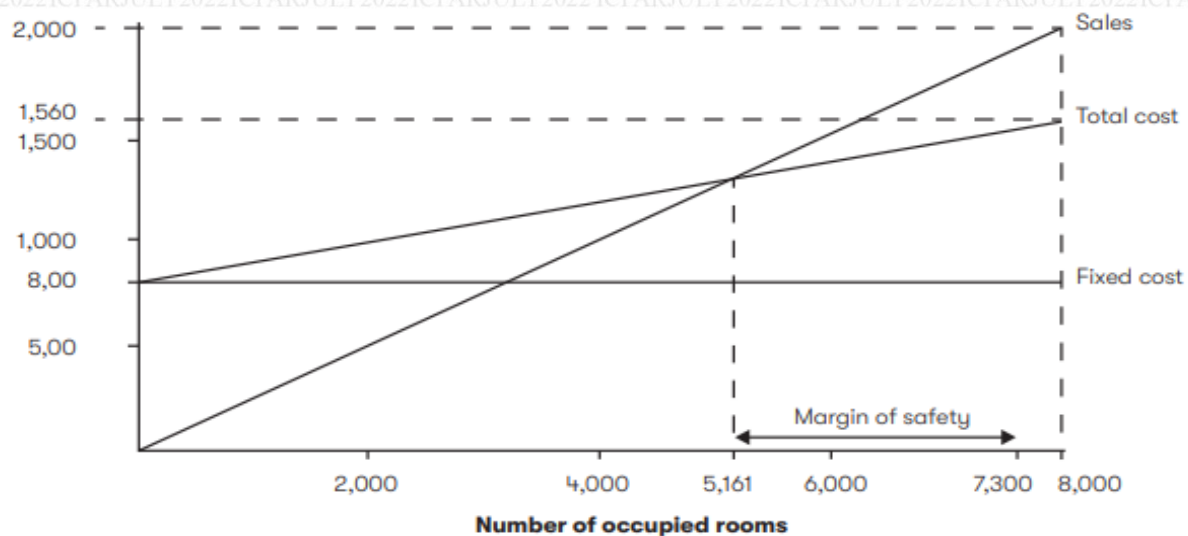


good value and are the result of long negotiation between the Kubaho Hotel management and the local theatre. The theatre tickets cost Kubaho Hotel FRW 95,000 a pair. Kubaho Hotel's fixed costs specific to this project (marketing and administration) are budgeted at FRW 20,000,000. The hotel's management believes that the 'theatre package' will have no effect on their usual Q1 customers, who are all business travelers and who have no interest in theatre tickets, but will still require their usual rooms.

## Project 2: Restaurant

There is scope to extend the Kubaho Hotel and create enough space to operate a restaurant for the benefit of its guests. The annual costs, revenues and volumes for the combined restaurant and hotel are illustrated in the following graph:

**Breakeven chart for combined restaurant and hotel operations: FRW millions**



**Note.** The graph does not include the effect of the 'Theatre package' offer.

## Required

- Using the current annual budgeted figures, and ignoring the two proposed projects, calculate the breakeven number of occupied room nights and the margin of safety as a percentage. (4 Marks)
- Ignoring the two proposed projects, calculate the budgeted profit or loss for Q1 and advise whether the hotel should close for the duration of Q1. (4 Marks)
- Calculate the breakeven point in sales value of Project 1 and advise whether the hotel should adopt the project. (4 Marks)
- Using the graph, quantify and comment on the financial effect of Project 2 on the Kubaho Hotel. (8 Marks)

**(Total: 20 Marks)**



### QUESTION THREE

Turyeneza Ltd which manufactures and sells one product is preparing its budget for the Three months, July, August and September, 2019.

Forecast sales are as follows:

Month	Units
July	18,000
August	22,000
September	24,000
October	20,000
November	21,000

The company aims:

- To carry finished goods stock equal to 50% of the following month's sales at the end of each month.
- To maintain raw material stocks at the end of each month equal to 20% of the next month's production requirements.

Stocks on 30 June are expected to be:

Finished goods	9,000 units
Material A01	8,000 kgs
Material B01	12,000 kgs

Standard products details, forecast prices and fixed overheads for the next 3 months are:

Material A01	FRW 4 per kg
Material B01	FRW 6 per kg
Direct labor 1.5 hours at	FRW 4 per hour
Variables production overheads	FRW 2 per labor hour.
Variable selling & distribution	2.5% of sales value
Selling price	FRW 50 per unit
Fixed overheads for 3 months:	
Production	FRW 324,000
Selling and distribution	FRW 125,000
Administration	FRW 105,000

Materials usage per unit of A01 is 2 kgs per unit produced and 3 kgs per unit produced for B01.

**Required:**

**a) Prepare the following budgets for each month July, August & September**

**(i) Production budget in units** (5 Marks)

**(ii) Materials purchase budget for A01 in kg and FRW.** (6 Marks)

**b) Prepare a budgeted profit and loss account in Marginal costing format for the 3 months for the period ending 30 September assuming the Variable production cost per unit is FRW 35.** (9 Marks)

**(Total: 20 Marks)**



#### QUESTION FOUR

a) Twambarane Textile Ltd is a manufacturer of a single product. Twambarane Company's income statements for the last two years are given below:

Detail	This Year	Last Year
Sales units	300,000	240,000
Sales revenue (FRW)	1,500,000	1,200,000
Less: Cost of goods sold	(800,000)	(740,000)
Gross margin	700,000	460,000
Less: Operating expenses	(450,000)	(420,000)
Net Income	250,000	40,000

**Required:**

- Using the high-low method, calculate the variable cost per unit and fixed cost for cost of goods sold (4 Marks)
  - Using the high – low method, calculate the variable cost per units and fixed cost for operating expenses. (4 Marks)
  - Formulate the total cost equation for both cost of goods sold and operating expenses. (2 Marks)
- b) A company is able to produce four products and is planning its production mix for the following period. Relevant data is given below:

Detail	A	B	C	D
Selling price per unit (FRW)	3,800	5,000	8,000	10,000
Labor cost per unit (FRW)	1,200	2,400	3,600	4,800
Material cost per unit (FRW)	1,800	1,800	3,000	3,200
Maximum demand (units)	1,000	5,000	4,000	2,000

Labor is paid FRW 1,200 per hour and labor hours are limited to 12,000 hours in the period.

**Required:**

- Determine whether labour is a limiting factor or not. (2 Marks)
- Determine the optimal production plan and calculate the total contribution it earns for the company. (8 Marks)

**(Total: 20 Marks)**



## QUESTION FIVE

a) Volkswagen Rwanda Ltd has been vying Rwandan market and is about to launch its first electric farming trucks on Rwandan Market. The Management has recently hired the two professionals who will be tasked to run the electric farming truck project namely Bikorimana and Habimana who have recently completed their training on Electric Car Manufacturing. The management accounting team of Volkswagen Rwanda Ltd has been assigned the task of determining the total emoluments to the two specialists (Bikorimana and Habimana) under the Straight Piece Rate System and Taylor's Differential Piece Rate System given below information.

Standard Production: 30 Trucks per hour

Normal time rate: FRW 150,000 per hour

Differential piece rate to be applied are 80% and 120% of piece rate for below and above standard performance respectively.

During the period of concern, Bikorimana produced 260 units of electric trucks and Habimana produced 320 units of electric trucks in a day of 10 hours.

### Required:

Assuming you are among the management accounting team of Volkswagen Rwanda Ltd, **calculate total emoluments for Bikorimana and Hakorimana on Straight Piece Rate System and Taylor's Differential Piece Rate System.** (5 Marks)

b) If Volkswagen Rwanda Ltd would opt for Merrick's Multiple or Differential Piece rate system (D.P.R System) and hires the three Specialists with below production and a normal piece rate of FRW 5,000

- KAZI: 240 Trucks
- VUBA: 280 Trucks
- TAYALI: 350 Trucks

Note: Merrick's Piece Rates:

Level of performance	Piece rate
<83% of std. output	Ordinary piece rate
83%-100% of std. output	110% of ordinary piece rate
>100% of std. output	120% of ordinary piece rate

### Required:

**Calculate the earnings of three workers (KAZI, VUBA, and TAYALI)** (3 Marks)

c) Volkswagen Rwanda Limited has paid its workers on a time basis since the company commenced operations in Rwanda Five years ago. In the aftermath of COVID 19, the company is experiencing financial difficulties and is keen to adopt cost saving initiatives on salaries and wages spend. A recent article in an accountancy journal suggested that alternative remuneration methods could help to reduce costs and improve productivity. You have been tasked to provide more information to Volkswagen Rwanda limited.



**Required:**

Draft a memorandum for Volkswagen's management that

- i) **Lists the advantages and disadvantages of piece rate remuneration systems.** (4 Marks)
  - ii) **Describes incentive schemes.** (4 Marks)
  - iii) **Outlines the conditions necessary for successful operation of incentive schemes.** (4 Marks)
- (Total: 20 Marks)**

**QUESTION SIX**

a) 200 kgs of a certain material valued at FRW 50 per kg were issued from the stores department to the production department. During transit, 2 kg physically disappeared due to shrinkage (1% shrinkage is considered normal). In the production process, the yield of good output was 80% of the input. 8% of the input had a slightly substandard dimension and this can be sold as seconds in the market at a discount of 25% of the selling price of good output which is FRW 300 per kg. 12% of the input emerged as trimmings in the process. This was collected and can be sold in the market at a net price of FRW 20 per kg. Which is credited to the manufacturing overhead as per the company's practice.

**Required:**

- i) **Explain with reasons the quantities that you will classify as Waste, Scrap and Spoilage** (3 Marks)
  - ii) **What will be the material cost per unit of the good output? (A simply computed value will suffice and a detailed statement is not required).** (3 Marks)
- b) A factory has three production departments A, B and C and also two service departments 'X' and 'Y'. The primary distribution of the estimated overheads in the factory has just been completed. These details and the quantum of service rendered by the service departments, to the other departments are given below:

<b>Detail</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>X</b>	<b>Y</b>
Primary distribution (FRW)	240,000	210,000	250,000	140,000	96,000
Service rendered by					
Dept. X	30%	20%	35%	-	15%
Dept. Y	25%	40%	25%	10%	-

**Required:**

- i) **Prepare a statement showing the distribution of service dept. overheads to the production departments, by the simultaneous equation method.** (10 Marks)
  - ii) **Giving examples in each case, explain the difference between overhead allocation and overhead apportionment** (4 Marks)
- (Total: 20 Marks)**



## QUESTION SEVEN

a) Kabuga company Ltd is a company which operates in Rwamagana center. Kabuga Co budgeted to sell 250,000 units of a new product during the year. The budgeted sales price was FRW 80 per unit, and the variable cost FRW 40 per unit. Actual sales during the year were 220,000 units and variable costs of sales were FRW 880,000. Sales revenue was only FRW 90 per unit. With the benefit of hindsight, it is realized that the budgeted sales price of FRW 80 was too low, and a price of FRW 100 per unit would have been much more realistic.

### Required:

- i) What is the sales price planning variance? (2Marks)
- ii) What is the sales price operational variance? (2Marks)

b) In a subsequent year, the cost of labor was FRW 730,000. 4,000 hours were worked. The budgeted cost of labor was FRW 150 per labor hour.

### Required:

What is the adverse labor rate variance for this subsequent year? (2 Marks)

c) Tangawizi Ltd manufactures a single product whose standard cost structure is given below:

Detail	FRW	FRW
Direct materials:		
Material A (2 kgs at FRW 25/kg)	50	
Material B (3 kgs at FRW 75/kg)	225	275
Direct labour (4 hours at FRW 30/hour)		120
Variable overheads		80
Fixed overheads		25
Total cost per unit		500

The variable and fixed overheads are absorbed on the basis of the direct labour hours. During the year ended 31 October 2020, the company produced and sold 40,000 units and incurred the following costs:

Detail	FRW	FRW
Direct materials:		
Material A (78,000 kgs)	205,000	
Material B (121,000 kgs)	6,800,000	7,005,000
Direct labour (156,000 hours)		4,900,000
Variable overheads		3,000,000
Fixed overheads		900,000
Total cost		15,805,000

### Required:

- i) Material mix and yield variances and its interpretations (4 Marks)
  - ii) Variable overhead expenditure and efficiency variances its interpretations. (4 Marks)
  - iii) Standard cost card for 40,000 units. (6 Marks)
- (Total: 20 Marks)**

**End of question paper**