CPA

Certified Public Accountant Examination

Stage: Foundation 2.1

Subject Title: Management Accounting

Examination Format Revision Pack

ICPAR

INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS OF RWANDA

Driving Sustainable Performance

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F2.1 MANAGEMENT ACCOUNTING

FOUNDATION 2

EXAMINATION FORMAT REVISION QUESTIONS & SOLUTIONS

NOTES

Section A – Questions 1 and 2 are compulsory. You have to answer Part A **or** Part B only of Question 2. (If you provide answers to both Part(s) A and B of Question 2, you must draw a clearly distinguishable line through the answer not to be marked. Otherwise, only the first answer to hand for this question will be marked).

Section B – You are required to answer three out of Questions 3 to 6. (If you provide answers to all of Questions 3 to 6, you must draw a clearly distinguishable line through the answer not to be marked. Otherwise, only the first answers to hand for these four questions will be marked).

TIME ALLOWED:
3 hours, plus 10 minutes to read the paper.

INSTRUCTIONS:
During the reading time you may write notes on the examination paper but you may not commence writing in your answer book.

Marks for each question are shown. The pass mark required is 50% in total over the whole paper.

Start your answer to each question on a new page.

You are reminded that candidates are expected to pay particular attention to their communication skills and care must be taken regarding the format and literacy of the solutions. The marking system will take into account the content of the candidates' answers and the extent to which answers are supported with relevant legislation, case law or examples where appropriate.

List on the cover of each answer booklet, in the space provided, the number of each question(s) attempted.

Time allowed: 3 hours, plus 10 minutes to read the paper.
Answer Questions 1 and 2 **and** three out of Questions 3, 4, 5 and 6.

SECTION A - These questions are COMPULSORY

1. GIO Ltd. Manufactures three different products and the following information is available concerning these products together with other operating statistics and information. The company calculates selling price as a mark- up on cost of 10%.

   The company has total overheads of RWF748,800, which are currently allocated on a plant-wide basis using direct labour hours as the absorption base.

   GIO Ltd is considering implementing on Activity Based Costing (ABC) system and has recently identified various cost drivers and assigned costs to related activity cost pools as follows:-

Activity:	**Cost Driver:**	**Cost Pool:**
Material Inspections	Material Quantity	RWF320,000
Machine Maintenance	Machine Hours	RWF316,800
Production Scheduling	Production Set Ups	RWF112,000

   Additional information is as follows:

Products:	**Alpha**	**Beta**	**Ceta**
Production (Units)	5,000	8,000	7.500
Prime Cost	RWF64,000	RWF64,000	RWF72,000
Machine Hours	24,000	8,000	16,000
Production Set Ups	105	305	215
Raw Material (kg)	400,000	240,000	640,000
Labour Hours	32,000	16,000	48,000

Required:

a) Using the traditional approach to accounting for overheads, calculate the product cost per unit for each of the three products. **(8 Marks)**

b) Using the principles of Activity Based Costing, calculate the product cost per unit for each of the three products. **(12 Marks)**

c) Explain the difference in your answers to (a) and (b) and the potential implications for decision making in GIO Ltd. **(5 Marks)**

(Total: 25 marks)

Question 2 - Answer EITHER part (a) or part (b).

2.

(a) The Management Accountant of GL Ltd has produced a print-out showing the variances for production activity for March 2011. Unfortunately, he has just been taken ill and has been confined to hospital. However, there will be a meeting of the Board of Directors shortly and it is expected that an interpretation of the variance print-out will be delivered at the meeting.

REQUIRED:

Prepare a formal report to the Board explaining each variance listed in the print-out below identifying one possible reason for the variance in question.

Ensure that the possible reasons you provide are consistent with all the information given, and are not likely to be contradicted by any of the other variances in the print-out.

Reconciliation Report with Variances for March 2011			**RWF000**
Budgeted Profit			6,000
Sales Volume Variance		242(A)	
Sales Price Variance	225(F)		
Material Price Variance	42(F)		
Material Usage Variance		23(A)	
Labour Rate Variance		37(A)	
Labour Efficiency Variance	27(F)		
	294(F)	302(A)	8(A)
Actual Profit			5,992

[Total 15 Marks]

OR

(b) Peter Keita is a client of your firm and operates a small courier service on the east region of Rwanda. He is keen to expand the business in the future and has just attended a seminar on the usefulness of management accounting in small companies. He is aware that management accounting is common in manufacturing industries but is unsure of its relevance to service industries such as his own courier company.
Peter has asked you to write a report addressing his concerns as follows:

(i) Explain the role of management accounting in a modern business environment. **(3 marks)**

(ii) Outline two areas of difference between management accounting and financial accounting **(4 marks)**

(iii) Explain how and why management accounting may be applied in service industries with a particular emphasis on the role of the cost unit. **(5 marks)**

(iv) Advise Peter on one specific use of management accounting techniques (other than Service Costing) which will be beneficial in the future expansion of his business. **(2 marks)**

Format and Presentation **(1 mark)**

(Total 15 Marks)

SECTION B - Answer any 3 out of 4 questions.

3. The following multiple choice question contains 8 sections, each of which is followed by a choice of answers. Only one of the offered solutions is correct. Each question carries 2.5 marks. Give your answer to each section on the answer sheet provided.

1. FXR Ltd. has budgeted fixed overheads for the period of RWF150,000 to be absorbed at a predetermined rate per production unit. Actual production for the period was 92,000 units incurring an actual fixed overhead of RWF145,000.
   Normal budgeted production is for 100,000 units.
   The variances calculated by FXR Ltd. for fixed overheads are:

   (a) Expenditure RWF5,000; Volume RWF12,000.
   (b) Expenditure RWF5,000 (Fav); Volume RWF12,000 (Adv)
   (c) Expenditure RWF5,000 (Fav); Volume RWF8,000 (Adv).
   (d) Nil in all cases as fixed overheads are deemed to be fixed within the given parameters and hence, by definition, do not vary.

2. Jackson is a manual worker in Mafc Ltd., which has a standard working week of 35 hours and a number of different pay schemes in operation. In week 15, Jackson worked 43 hours and produced 120 units of product which exceeds standard production rates by 20%. Assume 50 operational weeks per standard year.

   Which of the following schemes will result in the highest take home wages for Jackson for week 15?

   (a) Basic pay of RWF8 per hour with an overtime premium of 50%.
   (b) Piece rate of RWF3 per unit with no basic pay.
   (c) Basic pay of RWF300 per week with a piece rate of RWF4 per unit produced in excess of standard production
   (d) Fixed wage of RWF372 per standard operational week.

3. Which of the following statements are **not** true in relation to service costing systems:

   (i) Service costing applies where there is no tangible output produced.
   (ii) It is sometimes difficult to establish a suitable cost unit in service costing due to the absence of a physical product.
   (iii) Service costing often involves a large proportion of overheads with relatively low direct costs.

   (a) Statements (i) and (ii).
   (b) Statements (i), (ii) and (iii).
   (c) Statement (iii) only.
   (d) None of the above.

4. SPP Ltd. recorded the following total operating costs for a two month period just ended. The Management Accountant has been advised that fixed costs increase by RWF 20,000 for monthly volumes in excess of 120,000 units due to the hire of extra storage space.

Period	**Production (Units)**	**Cost (RWF)**
Month 1	90,000	395,000
Month 2	150,000	625,000

   The estimated total costs for Month 3 when a production volume of 130,000 units is expected are:

   (a) RWF555,000.
   (b) RWF548,400.
   (c) RWF548,200.
   (d) RWF597,900.

5. Which of the following statements **are** true in relation to the role of the Management Accountant in the modern business environment?

   (i) The management accountant has a responsibility to act ethically in providing information to stakeholders
   (ii) The management accountant is always responsible for preparing the annual statutory accounts for presentation to shareholders
   (iii) The management accountant is responsible for providing information to assist in planning, control and decision making internally.

   (a) Statement (i) only.
   (b) Statement (iii) only
   (c) Statement (i) and (ii).
   (d) Statement (i) and (iii).

6. CP Ltd. have just received an order requiring the use of 100 kg of Material X which is in regular use in the factory and 100kg of Material Y which is no longer manufactured by their suppliers. The company currently has stocks of 80 kg of X purchased at RWF2 each and 80kg of Y purchased at RWF3 each five years ago.
   If not used on this new order Material Y will be obsolete to CP Ltd.

   The current cost of X is RWF2.50 per kg. Another company CLR Ltd has offered to purchase the remaining material Y from CP Ltd for RWF1 per kg or to sell their own remaining stock of 20kg to CP Ltd for RWF1.50 per kg.

   The relevant cost of all raw material for the new order is:

   (a) RWF360.
   (b) RWF500.
   (c) RWF80.
   (d) RWF160

The following information is to be used for question 7 and 8.

SKG Ltd. had the following stores record for the month of July 2011.

July 1	Stock on Hand	100 litres, valuation RWF100
July 2	Issue	60 litres
July 3	Receipt	40 litres, cost RWF1.20 per litre
July 10	Issue	30 litres
July 13	Receipt	20 litres, cost RWF1.30 per litre
July 24	Receipt	20 litres, cost RWF1.50 per litre
July 29	Issue	60 litres

7. Assuming that SKG Ltd. uses a LIFO stock pricing system, the value of the issue on July 29th is:

   a) RWF80.
   b) RWF78.
   c) RWF72.
   d) RWF60.

Assuming that SKG Ltd. uses a FIFO stock pricing system, the value of closing stock on 31st July is:

   a) RWF30.
   b) RWF43.
   c) RWF45.
   d) RWF72. **(Total: 20 marks)**

4. CLH Ltd. has just introduced a new standard marginal costing system to assist in the planning and control of the production activities on the single product which the company manufactures – "The Stand". The system became operational on 1st March 2011.

The Management Accountant has consulted with the Senior Engineer and they have agreed the following standard specifications to manufacture one unit of the product known as "The Stand".

Direct Materials	4kg @ RWF1.75 per kg
Direct Labour	2 hours @ RWF10 per hour
Variable Overhead	2 hours @ RWF8.25 per hour

The Marketing Director has advised that in CLH Ltd's industry, the budgeted selling price is normally calculated to achieve a mark up of 30% on cost.

The budgeted level of production and sales activity has been agreed with both Production managers and sales staff at 24,000 units per month.

The actual results for the month of March 2011 are as follows:-

Sales	22,000 units yielding a total revenue of RWF1,276,000
Production	23,000 units
Direct Materials	90,000 kgs at a cost of RWF162,000
Direct Labour	48,000 hours at a cost of RWF576,000
Variable Overhead	RWF350,000

Required:

(a) Identify and briefly explain three types of standard that a Management Accountant may consider when introducing a Standard Costing System. **(4 marks)**

(b) Calculate the standard selling price of one unit of "The Stand" and prepare a summary budgeted profit statement for CLH Ltd for the month of March 2011. **(2 marks)**

(c) Calculate the relevant variances for March 2011 under the headings of sales, Materials, labour and overheads. **(10 marks)**

(d) CLH Ltd. uses a standard marginal costing system and therefore fixed costs have been ignored in the calculations shown above. Assuming that the fixed costs for the company are estimated to be RWF1,879,200 per annum, calculate the monthly sales in both units and value which will be required to break-even and estimate the margin of safety, based on the current budget levels. **(4 marks)**

(Total 20 marks)

5. OCO Limited manufactures a range of products which are sold to agricultural markets. The company uses a process costing system for the manufacture of one of the company's products, "Grobig". This product involves two distinct processes – Separation and Liquidising. After the Liquidising stage is completed, the final product is packed in tins for shipping.

The company has established standards for each process as follows:

	Note	**Separation Process**	**Liquidising process**
Normal loss	1	5%	2%
Sales value of lost product		RWF1.50	RWF2.00

Note:

1. Normal loss of a process is calculated as a percentage of the sum of the total Kilograms processed in that process.

   The following data is available for the week ending 16th April in respect of each Process:

	Separation Process		**Liquidising process**	
	Qty	**RWF**	**Qty**	**RWF**
Units from previous process	Nil	Nil	1,130 kgs	
Materials added	1,200 kgs	840	2,020 kgs	4,440
Labour incurred		1,000		600
Overheads incurred		2,500		500

At the end of the liquidising process, 3,090 kilos were transferred to Finished Goods.

No opening or closing work-in-progress is held by the company.

Required:

(a) Briefly outline the typical characteristics of a process costing system. Your answer should include a clear distinction between "job/batch costing" systems and "process costing" systems. **(3 marks)**

(b) State the treatment of each of the following types of losses in a process costing System:

(i) Normal losses

(ii) Abnormal losses

Your answer should clearly indicate the valuation method of each type of loss and the treatment of sale proceeds, if any, which may arise in respect of such losses. **(3 marks)**

(c) Prepare each of the process accounts of OCO Ltd for the period. You are not required to prepare the loss accounts. **(14 marks)**

(Total 20 Marks)

6. The following information has been extracted from the monthly plans of the Management Accountant for GST Ltd for the year ended 31st December 2011. All numbers are estimates and are in RWF000s.

	Aug	**Sept**	**Oct**	**Nov**	**Dec**
Materials used in production	50	60	80	100	90
Closing material stocks req'd	80	90	100	80	60
Depr. of Plant & Equip	8	8	8	8	8
Factory expenses	10	10	10	10	10
Rent & Rates	2	2	2	2	2
Clerical wages & office Exp.	28	28	28	28	28
Advertising & Stationery	16	10	12	20	14
Direct Wages	40	30	30	40	40
Sales Commission	7	8	10	12	9
Sales	140	160	240	280	250

The following information may also be relevant:

(1) Suppliers of materials are paid on average a month after delivery of goods.
(2) Factory expenses are paid in the month incurred.
(3) Rent & Rates are paid quarterly in advance commencing in January 2011.
(4) Clerical wages and office expenses are paid as incurred
(5) Advertising and stationery is paid monthly taking one month's credit
(6) Direct wages are paid weekly in arrears (assume 4 weeks per month)
(7) Sales commission is paid one month in arrears
(8) Sales are 50% in cash and 50% on credit. Debtors take 2 months credit
(9) The cash balance at 1st October is RWF15,000
(10) In October new plant will be purchased for RWF38,000. Government grants of RWF6,000 to assist in the purchase of this plant will be received in November
(11) Corporation Tax of RWF6000 is to be paid in October
(12) Vat should be ignored

Required:

(a) Prepare a cash budge for GST Ltd for the quarter ended 31st December 2011 **(16 marks)**

(b) Zero Based Budgeting (ZBB) provides an alternative to traditional incremental budgeting. Explain this statement, contrasting the two techniques and providing an example of an area where ZBB may be appropriate **(4 marks)**

(Total 20 Marks)

END OF PAPER

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SUGGESTED SOLUTIONS

SECTION A – These questions are COMPULSORY.

SOLUTION 1

(a) Absorption Costing: Overhead absorption Rate is based on labour hours.
OAR = RWF748,800 / 96,000 hrs = RWF7.80 per labour hour.
Calculation of Product Cost (RWF):

	Alpha	**Beta**	**Ceta**
Prime Cost	64,000	64,000	72,000
Overheads	249,600	124,800	374,400
Production Cost	313,600	188,800	446,600
Quantity (units)	5,000	8,000	7,500
Cost per Unit	RWF62.72	RWF23.60	RWF59.52

(8 marks)

(b) Activity Based Costing: Overhead absorption is based on a rate per unit of cost driver.

Material Inspection:	RWF320,000 / 1,280,000 =	RWF0.25 per kg
Machine Maintenance	RWF316,800 / 48,000 =	RWF6.60 per mch hour
Production Scheduling	RWF112,000 / 625 =	RWF179.20 per set-up

	Alpha	**Beta**	**Ceta**
Prime Cost	64,000	64,000	72,000
Overheads:			
Inspection	100,000	60,000	160,000
Maintenance	158,400	52,800	105,600
Prod Scheduling	18,816	54,656	38,528
Production Cost	341,216	231,456	376,128
Quantity (units)	5,000	8,000	7,500
Cost per Unit	RWF68.24	RWF28.93	RWF50.15

(12 marks)

(c) ABC is in effect a more sophisticated adaptation of traditional absorption costing techniques. Rather than using one basis to absorb overhead costs as in part (a), ABC employs a wider variety of bases (cost drivers) to apply overheads to products based on their usage of that cost driver. Hence the cost is more closely linked to the activity that causes it. This cause/effect relationship is central to ABC techniques and should result in a fairer allocation of overhead costs. This relationship is also useful in that it directs management attention to areas of high cost-causing activities. Hence, cost can be controlled (and hopefully reduced) by focusing on the activity rather than the spend.

Where cost is used as the basis for calculating selling prices, incorrect costs can have serious implications. Taking the data from the table below it can be seen that if a traditional approach is used for cost, the resulting selling prices for Alpha and Beta are actually close to or below "true" cost (assuming ABC gives a true cost). It can also be seen that Ceta is being sold at a comparatively high price. Although this may generate better profits, there is a risk of losing business to cheaper competitors.

Table:

	Alpha	**Beta**	**Ceta**
Traditional Cost per Unit	RWF62.72	RWF23.60	RWF59.52
Selling price	RWF68.99	RWF25.96	RWF65.47
ABC Cost per Unit	RWF68.24	RWF28.93	RWF50.15
Revised Selling Price	RWF75.06	RWF31.82	RWF55.16

(5 marks)
(Total 25 marks)

SOLUTION 2 - Answer EITHER part (a) OR part (b)

(a) REPORT

To: Board of Directors, GL Ltd

From: Management Accountant

Subject: Interpretation of Variance Report

Date: xxth April 2011

Further to your request for information on the Reconciliation Report for March 2011. The profit was RWF8,000 less than expected for month as a result of the following variances. In each case I will explain the meaning of the variance and suggest a plausible reason as to why it occurred. In each case (A) indicates an Adverse result and (F) indicates a favourable result.

VARIANCE	**AMOUNT RWF '000**	**MEANING**	**POSSIBLE CAUSE**
Sales Volume	242 (A)	Profits are lower as a result of selling fewer units of the product	Market demand for the product may have fallen
Sales Price	225 (F)	Profits are higher as a result of getting a better margin on each unit	There may have been an increase in selling price
Material Price	42 (F)	Profits are higher as a result of paying less per unit of raw material than we expected	We may have received a bulk discount or used a lower grade of raw material
Material Usage	23 (A)	Profits are lower as a result of using more raw material than we expected	There may have been greater waste due to the lower quality of raw material
Labour Rate	37(A)	Profits are lower as a result of paying more wages than we expected	We may have introduced a bonus scheme or worked overtime
Labour Efficiency	27 (F)	Profits are higher as a result of the workers performing better than expected	A bonus scheme may have created an incentive to work harder

It should be noted that the causes indicated above are merely one plausible explanation for the variance calculated. In all cases further investigation and enquiry should be undertaken prior to any drastic corrective actions being implemented.

If you have any further queries in this regard, please do not hesitate to contact me.
Yours sincerely,

M. Accountant. **(6 items x 2.5 marks each = Total 15 marks)**

1 Bonus mark available for Report format.

(b) REPORT

To: Mr Peter Keita, Managing Director, Keita Couriers Ltd.
From: ICPAR Accountants
Subject: Role of Management Accounting
Date: xxth April 2011

Further to your request for information on the usefulness of management accounting in small companies with a particular emphasis on the service industry. The following report outlines information which may be of assistance to you and follows the format of the questions in your original enquiry.

(i) The Role of Management Accounting in a modern business environment.

The term Management Accounting or cost accounting as it used to be known involves calculating the budgeted and actual costs of business activities and analysing the data collected to facilitate the management of the enterprise. In the context of a modern business environment, the work of the Management Accountant may be far broader than this narrow focus on cost alone.

Management accounting is now an integral part of managing a successful commercial enterprise and may involve the identification, generation, presentation and interpretation of relevant information to:

- Inform strategic planning and decision making
- Produce operational plans for the short; medium and long term
- Decide on the capital structure and assist in raising finance
- Control operations and ensure resources are being used efficiently
- Measure performance and report to relevant stakeholders
- To simplify the above: Management Accounting is really all about providing information for planning, control and decision making.

(3 marks)

(ii) Two areas of difference between Management and Financial Accounting

There are many areas of difference but two of the more obvious are the users and the purpose of the information produced.

Financial accounting is concerned with external reporting, i.e. to shareholders, banks, creditors, Revenue authorities, Government agencies, employees and the general public. In this context, it produces financial statements which are subjected to independent audit.

Management accounting is concerned mainly with internal reporting, i.e. reporting to management. It reports and analyses past costs and attempts to predict future costs in order to assist in the planning, control and decision-making of the enterprise.

Financial accounting may be said to have an historic focus due to the importance of legislative compliance.

There is a legal requirement to keep financial accounting records and prepare financial accounts whereas there is no legal requirement for either a cost accounting or management accounting function.

Management accounting is more concerned with forward-looking reporting to assist management in the planning and control functions. The primary concern is with the present and the future, the past is often only relevant in so far as it provides a guide to the future.

(4 marks)

(iii) Management accounting applications in service industries

Traditionally, management accounting was mostly used in manufacturing industries. However, in recent years many economies have seen a downturn in the number of manufacturing companies and a dramatic increase in service type industries such as Keita Couriers Ltd.

Service costing arises where the cost unit is a unit of service (e.g. cost per tonne/mile). All the costs incurred during a period must be collected and analysed and then expressed in terms of a cost per unit of service.

In many enterprises this is straight-forward as the output is a tangible product that can be have costs assigned to. However, in service costing, the output is frequently intangible and hence harder to assign costs to.

In practice the following are some of the units used:

SERVICE	POSSIBLE UNIT OF SERVICE
Hospitals	Patient-days: number of operations
Electricity Boards	Kilowatt-hours
Factory Canteen	Meals served: cups of tea sold
Road Maintenance	Miles of road maintained
Transport Departments	Tonne miles: miles travelled
Bus Companies	Passenger-miles: seat-miles

Whatever unit of service is decided upon, the calculation of the cost per unit of service is arrived at as follows:

$$\text{Cost per unit of service} = \frac{\text{Total costs incurred for the period}}{\text{No. of units of service in the period}}$$

The value of service costing is that it facilitates valuable cost comparisons between different services on offer to the customer. This may help Keita Couriers Ltd to decide which routes are the most profitable and cost efficient and therefore allow a greater focus on these services.

We have already suggested the concepts of tonne/miles as a suitable cost unit for Keita Couriers Ltd. A tonne/mile represents one tonne carried for one mile. Thus if 10 tonnes were carried for 5 miles, this would represent 10 X 5 = 50 tonne-miles. This will be useful in deciding on the prices to charge customers for your services.

(5 marks)

(iv) Management Accounting and the future expansion of the business.

If the business is to achieve sustainable and successful growth in the future it is essential that formal, structured plans are put in place.

The use of budgeting techniques would be recommended for Keita Couriers Ltd to assist in formulating and implementing plans for future growth. Budgeting has the added benefit that it can also be used as a control mechanism by comparing budgeted and actual results and investigating any deviation from expectations.

(2 marks)

If you have any further queries in this regard, please do not hesitate to contact us.

Yours sincerely,

ICPAR Accountants.

(Total 15 marks)
1 Bonus mark available for Report format.

SECTION B - Answer any 3 out of 4 questions

SOLUTION 3 – Multiple Choice Section

1. Answer (b)

Fixed overhead expenditure variance	
Actual Expenditure	RWF145,000
Budgeted Expenditure	RWF150,000 = 5,000 Fav
Fixed overhead volume variance	
Budgeted Expenditure	150,000
Overhead Absorbed (92,000 x 1.50)	138,000 = 12,000 Adv

2. Answer (c).

Note: Option (c) and (d) both give equal pay amounts of RWF380 per week however, option (d) is not a real option as manual workers are paid a wage not a salary.

3. Answer (d).

All statements are in fact true.

4. Answer (a).

At 150,000 units, cost is RWF625,000. At 90,000 units, cost is RWF395,000
Difference is RWF230,000 for 60,000 extra units.

But the stepped fixed cost of RWF20,000 must be eliminated giving an increase of RWF210,000 for 60,000 units which is entirely variable.

Hence variable cost per unit is RWF210,000 = RWF3.50 per unit
60,000

At 150,000 units Total Cost is	RWF625,000
Variable Cost is (150,000 x 3.50)	RWF525,000
Hence Fixed Cost is	RWF100,000 (including step)
Add new Variable Cost (130,000 x 3.50)	RWF455,000
New Total Cost	RWF555,000

5. Answer (d).

6. Answer (a).

Material X : 100 kg @ RWF2.50 = RWF250
(replacement cost as the material is in regular use hence will have to be replaced)
Material Y: 80 kg @ RWF1 (Opportunity Cost) = RWF80
Additional supplies from Clipper Ltd 20 kg @ RWF1.50 = RWF30 RWF110
Total Relevant Cost of Raw Materials for new order RWF360

7. Answer (b).

8. Answer (b).

(8 x 2.5 marks = Total 20 marks)

SOLUTION 4

Part (a)

When choosing a standard, the enterprise is faced with the choice of which performance level to select.
There are three main bases (or types) described below:

1. Ideal standards

These standards are based on perfect operating conditions. If such standards were to apply there would not be any inefficiencies, wastage etc. As employees would rarely achieve such a standard the performance variances would continuously be adverse. Such a situation would have an unfavourable impact on employees' motivation. Employees would not view the standards as legitimate and would cease attempting to attain the standard required.

2. Current standards

These standards are based on current operating conditions, and may be used over a short period of time.
Management, however, would hope to improve efficiency levels on current operating conditions.

3. Attainable standards

These standards are based on normal operating conditions. Allowance is made for normal wastage and inefficiencies. Standards set on this basis should provide encouragement to employees to improve on existing efficiency. The standard must be realistic and attainable; otherwise it will have the same pitfalls as ideal standards. Standards are normally reviewed annually to see if any changes are required, e.g. prices, inflation, efficiency.

(1 mark for identifying and 1 mark each for explanations = 4 marks)

Part (b)

The standard selling price of one unit of "The Stand" is as follows:

	RWF
Direct materials (4kg @ RWF1.75/kg)	7.00
Direct labour (2 hrs @ RWF10/hr)	20.00
Variable overhead (2 hrs @ RWF8.25/hr)	16.50
Standard marginal cost	43.50
Standard Contribution (Mark-up on cost 30% x RWF43.50)	13.05
Standard selling price	56.55

(1 mark)

CLH Ltd – Budgeted Profit Statement for month ended 31st July 2010

	RWF	RWF
Sales (24,000 units @ RWF56.55)		1,357,200
Direct materials (24,000 units @ RWF7)	168,000	
Direct labour (24,000 units @ RWF20)	480,000	
Variable overhead (24,000 units @ RWF16.50)	396,000	
		1,044,000
Budgeted profit		313,200

(1 mark)

Part (c)

	RWF
Sales Price Variance	
Did sell (22,000 units for)	1,276,000
Expected to sell (22,000 x RWF56.55)	1,244,100
	RWF31,900 (Fav)
Sales Volume Variance (based on lost contribution)	
Did sell 22,000 units	
Expected to sell 24,000 units	
2,000 units @ RWF13.05 =	26,100 (Adv)
Materials Price Variance	
Did pay	162,000
Expected to pay (90,000 x RWF1.75)	157,500
	4,500 (Adv)
Materials Usage Variance	
Did use	90,000 kgs
Expected to use (23,000 x 4)	92,000 kgs
2,000 kgs @ RWF1.75 =	3,500 (Fav)
Labour Rate Variance	
Did pay	576,000
Expected to pay (48,000 x RWF10)	480,000
	96,000 (Adv)
Labour Efficiency Variance	
Did take	48,000 hours
Expected to take (23,000 x 2)	46,000 hours
2,000 hours @ RWF10	20,000 (Adv)
Overhead Expenditure Variance	
Did cost	350,000
Expected to cost (48,000 x RWF8.25)	396,000
	46,000 (Fav)
Overhead Efficiency Variance	
Did base on	48,000 hours
Expected to base on (23,000 x 2)	46,000 hours
2,000 hours @ RWF8.25	16,500 (Adv)

(10 marks)

Part (d)

Break Even Point (BEP)

If annual fixed costs are RWF1,879,200 then the monthly level of fixed costs will be RWF156,600. Standard contribution per unit is RWF13.05 (from part (b) above).

Based on standard contribution the BEP will be 156,600 = 13.05 — 12,000 units

In terms of revenue values (12,000 units @ RWF56.55 each) = RWF678,600.

Alternative method:

Contribution to Sales Ratio is 13.05/56.55 = 23.077%

F.C. = RWF156,600 = RWF678,598 (approx RWF678,600)

C/S Ratio 0.23077

Margin of Safety

Sales required to break even = 12,000 units

Budgeted level of sales = 24,000 units

Margin of Safety 2,000 / 24,000 = 50%

This means sales can drop by 50% before there is any risk of losses occurring.

(BEP – 3 marks, MOS – 1 mark = 4 marks)

(Total 20 marks)

SOLUTION 5

(a) A process costing system is suitable for situations having the following characteristics:

- The production process is continuous and typically involves a series of activities.
- The products are standardised/ homogeneous.
- The finished output from a process is used as the raw input to a later process.

Typical examples of industries where a process costing system is used include the chemicals industry (e.g. paint manufacturing) or the food processing industry (e.g. canned foods).

In contrast, a job costing system is a method used when the units manufactured vary significantly from one another if the jobs were virtually identical, it is likely that a process costing system would be more relevant. Job costing accumulates costs by jobs rather than by processes.

(3 marks)

(b) The typical treatment of normal loss depends on whether there is a sales or scrap value attaching to the loss. The various treatments are as follows:

1. If the loss has no scrap value:

   The quantity of loss is credited to the process account. No value is ascribed to the loss. Good output bears the cost of the normal loss.

2. If the loss has a scrap value:

   The scrap value is deducted from the total costs of the process. The net process costs are used to determine the cost of good production.

   The treatment of abnormal loss differs from that applying to normal loss. In essence, abnormal loss is not charged as a cost of the process. Instead, the loss is transferred out of the process account and into an 'Abnormal Losses' account. Such losses are valued at the same amount as good production.

(3 marks)

(c)

SEPARATION PROCESS

	Kilos	**RWF**		**Kilos**	**RWF**
Materials	1,200	840	Normal Loss		
Labour		1,000	(W)	60	90
Overheads		2,500	To Liquidising (W)	1,130	4,212.72
			Abnormal loss	10	37.28
	1,200	**4,340**		**1,200**	**4,340**

LIQUIDISING PROCESS

	Kilos	**RWF**		**Kilos**	**RWF**
From Process 1	1,130	4212.72	Normal Loss	63	126
Materials	2,020	4,440.00	(W)		
Labour		600.00	To finished		
Overheads		585.00	Goods (W)	3,090	9636.08
Abnormal Gain	3	9.36			
	3,153	**9762.08**		**3,153**	**9,762.08**

Workings:

Separation

Normal Loss Calculation	5% * 1,200
Abnormal Loss/(gain) calculation	(1,200*95%)-1,130
Value of good product	RWF4,340-RWF90/(1,200*95%)

Liquidising

Normal Loss Calculation	2% * (1,130+2,020)
Abnormal Loss/(gain) calculation	(3,150*98%)-3,090
Value of good product	RWF 9,752.72-RWF126/(3,150*98%)

(14 marks)

(Total 20 marks)

SOLUTION 6

GST Ltd – Cash Budget for Quarter ended 31st December 2011.

	October	**November**	**December**
	RWF	**RWF**	**RWF**
INFLOW			
Sales receipts			
• Cash	120	140	125
• Credit	70	80	120
Government Grant	-	6	-
Total Inflow	190	226	245
OUTFLOW			
Materials ***(Note 1)***	70	90	80
Depreciation	-	-	-
Factory Expenses	10	10	10
Rent & Rates	6	-	-
Clerical Wages & Office Expenses	28	28	28
Advertising & Stationery	10	12	20
Direct Wages	30	37	40
Sales Commission	8	10	12
Capital Expenditure	38	-	-
Corporation Tax	6	-	-
Total Outflow	206	187	190
Net Movement	-16	+39	+55
Opening Balance	15	-1	+38
Closing Balance	-1	+38	+93

Note 1 – payments to suppliers of materials (RWF 000)

	Sept	**Oct**	**Nov**	**Dec**
	RWF	**RWF**	**RWF**	**RWF**
Closing Stock	90	100	80	60
Add: Usage	60	80	100	90
	150	180	180	150
Less: Op Stock	80	90	100	80
Purchases	70	90	80	70
Paid for in		70	90	80

(16 marks)

Part (b)

Under ZBB the budget for each activity in the organisation is initially set to zero. It is very useful in an area of discretionary spending such as advertising. The assumption is that no spend should happen unless its benefit can be assessed in advance.

To receive funding during the budgeting process, each activity must be justified in terms of its continued or prospective usefulness. The ZBB approach forces management to rethink each phase of an organisation's operations before allocating resources and question whether an adequate return can be expected as a result of agreeing to the expenditure.

This approach can be contrasted with the traditional incremental approach where the previous year's budget is taken as the starting point in the annual budgeting process. The existing activities are taken as a given and no attempt is made to rigorously analyse and justify them. As a result, new activities may have to struggle to obtain resources since the existing activities remain unquestioned and have first claim.

(4 marks)

(Total 20 marks)

END OF SOLUTIONS

F2.1 MANAGEMENT ACCOUNTING
Foundation 2

Examination Format Revision Questions & Solutions

Section A- Questions 1 and 2 are compulsory. You have to answer Part A **or** Part B **only** of Question 2. (If you provide answers to both Part(s) A and B of Question2, you must draw a clearly distinguishable line through the answer not to be marked. Otherwise, only the first answer to hand for this question will be marked).

Section B – You are required to answer any **three** out of Questions 3 to 6. (If you provide answers to all of Questions 3 to 6, you must draw a clearly distinguishable line through the answer not to be marked. Otherwise, only the first three answers to hand for these four questions will be marked).

TIME ALLOWED:
3 hours, plus 10 minutes to read the paper

INSTRUCTIONS
During the reading time you may write notes on the examination paper but you may not commence writing on your answer book. **PLEASE READ EACH QUESTION CAREFULLY**.

Marks for each question are shown. The pass mark required is 50% in total over the whole paper.

Start your answer to each question on a new page.

You are reminded that candidates are expected to pay particular attention to their communication skills and care must be taken regarding the format and literacy of the solutions. The marking system will take into account the content of the candidates' answers and the extent to which answers are supported with relevant legislation, case law or examples where appropriate.

List on the cover of each answer booklet, in the space provided, the number of each question(s) attempted.

Section A - Questions 1 and 2 are COMPULSORY

1. Paul Sarr worked as a woodwork teacher for the past twenty years in Kigali, Integrated Polytechnic Regional Centre (IPRC). In June 2011, he decided to accept voluntary redundancy and establish a company, Woodenpieces Ltd. Woodenpieces Ltd. will produce and sell wooden sculptures in the Rwandan marketplace. The company will commence trading on 1 January 2012. Mr Paul Sarr plans to invest all of his redundancy money, RWF75,000, into the company. Mr Paul Sarr has prepared the following budgeted information for the first six months of trading:

i. Sales of wooden sculptures can be broken down into two categories, large wooden sculptures and small wooden sculptures. Sales of small wooden sculptures will be made on a cash basis only. Sales of the large wooden sculptures will be on a credit basis with 50% of sales received within one month of sale and these qualify for a 5% early settlement discount. Of the remaining credit sales, 10% will become bad debts and the balance will be received equally in the second and third month after sale. Small wooden sculptures will have a selling price of RWF50 per unit and large wooden sculptures will have a selling price of RWF200 per unit. The projected sales, in units, of each are as follows:

Month	**Sales (in units) of small wooden sculptures**	**Sales (in units) of large wooden sculptures**
Jan.	50	0
Feb.	55	30
March	50	35
April	60	40
May	65	50
June	65	70

ii. Small wooden sculptures will be produced in the month they are sold. The variable production cost of one small wooden sculpture will be RWF25 and this will be paid in the month incurred.

iii. Production of large wooden sculptures will be in the month prior to sale. The production cost of one large wooden sculpture will be RWF130 and 60% of this will be paid the month after it is incurred with the balance been paid one month later.

iv. In January, Mr Paul Sarr will purchase equipment, costing RWF60,000 and this will be paid for in April. This equipment will have a useful life of five years. Depreciation will be assumed to be on a straight line basis.

v. Fixed production overheads are projected at RWF3,000 per month and will include the monthly depreciation charge for the equipment.

vi. Mr Paul Sarr has organised for a bank loan, of RWF25,000, to be received on 1 February. For the first year only, Mr Paul Sarr will only make monthly interest repayment at a rate of 10% per annum. Thereafter, Mr Paul Sarr will have to start making capital repayments on the loan.

vii. Mr Paul Sarr will employ one sales person, commencing on 1 January, who will receive a monthly salary of RWF2,500 plus sales commission of 4% of the total sales value made during the period. The salary will be paid in the month incurred while the sales commission will be paid one month in arrears.

REQUIRED:

a) Describe three benefits a company can obtain from implementing an effective budgeting system. **(6 marks)**

b) Prepare a cash budget for Wooden Piece Ltd., on a monthly basis, for the six month period commencing 1 January 2012, showing clearly the closing cash balance at the end of each month.

(15 marks)

c) Explain why the closing cash balance at the end of the six month period will be different to the net profit reported for the same six month period.

(4 marks)

(Total: 25 Marks)

2.

a) MLL Ltd. is currently in the process of reviewing its material control system. The Chief Executive Officer of

MLL Ltd., Mrs. Grace Gill, stated at a recent board meeting that "stock holding costs appear excessive and the company has too much money tied up in inventories of raw materials and finished goods". Having undertaken further research Mrs. Gill now believes that the company should consider implementing either the Just-In-Time (JIT) or the Economic Order Quantity (EOQ) model to reduce stock holding costs.

REQUIRED:

Write a memorandum to Mrs. Gill addressing the following issues:

i. Explain the concept of the Economic Order Quantity (EOQ) model and state four assumptions underpinning it.

(5 marks)

ii. In relation to Just-in-Time (JIT) principles explain each of the following:
   (1) Elimination of non-value added costs
   (2) Factory layout
   (3) Batch sizes of one
   (4) Zero defects
   (5) Revision of purchasing arrangements. **(10 marks)**

(**Total: 15 marks)**

OR

b) OFA Ltd., a company involved in the production of animal foodstuff, is currently in the process of expanding both the range of its products and the number of staff employed. At a recent board meeting Mr. Peter Chahine, the Financial Director, stated "that the time has come for the company to produce monthly management accounts". Mr. S. Muller, the Managing Director, replied "that before such a decision would be made he needed more information about the benefits of committing to such an undertaking".

REQUIRED:

Write a memorandum to Mr. Muller in which you:

i. Identify and describe the differences between financial accounting and management accounting. **(6 marks)**

ii. Describe the functions of management accounting. **(6 marks)**

iii. List and briefly describe three characteristics of management accounting information. **(3 marks)**

(Total: 15 marks)

Section B - Answer any three questions.

3. Attempt each of these multiple-choice questions. Only one of the offered solutions is correct. Each question carries equal marks. Give your answers to each section on the answer sheet provided.

i. Pono Ltd. is preparing its budget for the next financial period. The company has prepared budgets based on four different activity levels and has provided the following summary in relation to these:

Activity level:	**Total costs**:
14,000 units	RWF95,000
15,500 units	RWF102,500
16,300 units	RWF106,500
16,800 units	RWF109,000

What is the budgeted value of fixed costs for the forthcoming period?

(a) RWF7,500
(b) RWF11,500
(c) RWF25,000
(d) RWF28,000

ii. The following information is provided for both direct and indirect workers of WLW Ltd.:

	Direct workers	**Indirect factory workers**
Basic hours	2,000 hours	500 hours
Total hours worked	2,100 hours	550 hours
Basic rate per hour	RWF12	RWF10
Overtime premium	50%	50%

The total hours worked of the direct workers include paid idle time of 110 hours, which occurred during the normal working day and all overtime worked was part of the normal monthly requirement.

How much of the above wages should be classified as production overheads?

(a) RWF3,120
(b) RWF3,870
(c) RWF8,120
(d) RWF8,870

iii. BLY Ltd. uses 1,000 units, of Material X, per month in its factory. These units cost RWF2.40 each from the supplier.
The cost of placing an order is RWF40 and the holding cost is equal to 20% of the unit costs for Material X.

What is the Economic Order Quantity (EOQ) for Material X? (Answers are rounded to the nearest whole number)

(a) 1,528 units
(b) 1,846 units
(c) 1,414 units
(d) 315 units

iv. Which of the following statements is correct?

a) Financial statements prepared by companies for external publication must use marginal costing principles.
b) Financial statements prepared by companies for external publication must use absorption costing principles.
c) Absorption costing principles are used internally in a company for decision making purposes only.
d) A company can use either absorption costing principles or marginal costing principles when preparing their financial statements for external publication purposes.

v. JHN Ltd. has just completed an analysis of the variances that occurred in June 2011. A summary of the material variances are as follows:

Material price variance	RWF12,500 Adverse
Material usage variance	RWF12,250 Favourable

Which of the following statements provides a possible reason for the results achieved?

a) The company purchased a lower quality material which lead to increased wastage.
b) The company purchased higher quality materials but this increased the cost of materials.
c) The company used ideal standards for the establishment of material standards.
d) The company purchased in bulk in order to avail of a larger discount and this lead to an increase in wastage.

vi. TTO Ltd. is currently preparing a tender for a once-off contract in Butare. The contract requires 5,000 units of Material C, which is used regularly by TTO Ltd. TTO Ltd. has 6,000 units of Material C in stock, which cost RWF10 per unit. The current replacement cost for Material C is RWF12 per unit. The net realisable value for the quantity of Material C in stock is RWF9 per unit.

Using relevant costing principles, what value should be applied to Material C in the tender submission?

(a) RWF60,000
(b) RWF50,000
(c) RWF45,000
(d) RWF0

vii. MTT Ltd. absorbs overheads on the basis of machine hours. Details of budgeted and actual figures for the latest period are as follows:

	Budget	**Actual**
Overheads	RWF600,000	RWF550,000
Output	50,000 units	58,000 units
Machine hours	20,000 hours	20,500 hours

Which one of the following statements is correct?

a) Overheads were under-absorbed by RWF50,000.
b) Overheads were over-absorbed by RWF50,000.
c) Overheads were under-absorbed by RWF65,000.
d) Overheads were over-absorbed by RWF65,000.

viii. DFK2 Ltd. operates a process costing system, where the output of Process 1 is transferred to Process 2. The following information relates to Process 1 for the period just ended:

Material input	10,000 kgs at RWF5 per kg
Direct labour	5,000 hours at RWF12 per hour
Production overheads	Absorbed at 100% of direct labour cost
Normal loss	5% of input
Scrap value	RWF7.50 per kg
Actual loss	600 kgs

There was no opening or closing work-in-progress in Process 1 in the period. What was the value of the output transferred to Process 2 during the period?

(a) RWF164,500
(b) RWF166,250
(c) RWF170,000
(d) RWF168,211

(Total: 20 Marks)

4. LKY Ltd. manufactures and sells components used in the computer hardware industry. The company currently charge overheads to products using a plant-wide rate based on direct labour hours. This method was introduced in 1988 when the company was established and the company only produced one product. Since 1988, the company has invested heavily in advanced manufacturing technologies and has increased their product range. LKY Ltd. operates in a very competitive market and due to current economic conditions they are coming under increasing pressure by their customers to reduce their prices. The company are considering the introduction of an Activity Based Costing (ABC) system and has provided the following information in relation to their three products:

	Product A	**Product B**	**Product C**
Direct materials per unit	RWF100	RWF120	RWF150
Direct labour hours per unit	10 hrs	8 hrs	9 hrs
Machine hours per unit	4 hrs	6 hrs	3 hrs
Production/sales in units	10,000	4,000	6,000

Direct labour is paid at RWF14 per labour hour. The company calculates selling price by applying a mark-up on cost of 25%.

Details of the overheads of LKY Ltd. are as follows:

	RWF
Machine related costs	246,000
Set-up costs	180,000
Delivery costs	68,000
Quality related costs	64,000

Further information in relation to all three products is given as follows:

	Product A	**Product B**	**Product C**
Number of set-ups	100	30	20
Number of deliveries	1,000	550	450
Number of inspections	200	100	100

REQUIRED:

a) Calculate the unit production cost and unit profit using the traditional approach to costing. **(3 marks)**

b) Calculate the unit production cost and unit profit based on Activity Based Costing principles. **(11 marks)**

c) Identify three reasons why LKY Ltd. should implement an Activity Based Costing system. **(6 marks)**

[Note: Figures to be rounded to two decimal places]

(Total: 20 Marks)

5. DDK Ltd. manufactures paint by means of two processes, Mixing and Finishing. Raw materials are introduced at the start of the Mixing Process and the completed output of the Mixing Process is transferred to the Finishing Process where additional raw materials are added at the start of this process. Conversion costs are incurred evenly throughout both processes. DDK Ltd. uses the First In First Out (FIFO) method for inventory valuation purposes.

   You are provided with the following information for the most recent financial period for both the Mixing Process and the Finishing Process:

   Mixing Process

Materials input	2,000 kg at RWF5 per kg
Direct labour cost	RWF41,940
Production overheads	RWF20,760
Normal loss	5% of input
Scrap value	RWF5 per unit
Actual loss in period	200 kg

There was no work-in-progress at either the beginning or end of the period.

Finishing Process

Opening work-in-progress

There were 1,200 kgs in opening work-in-progress, which were 60% complete, and these units had the following costs attached to them; Mixing Process costs RWF44,400, added materials in Finishing Process RWF2,280 and conversion costs in Finishing Process RWF2,740.

Inputs in period

Materials added in period	RWF39,600
Conversion costs	RWF75,200

Closing work-in-progress

There were 800 kgs of closing work-in-progress, which were 50% complete. No losses occurred in Process 2.

REQUIRED:

a) Prepare the following completed accounts for the most recent financial period:
   (i) Mixing Process Account
   (ii) Normal Loss Account
   (iii) Abnormal Loss / Abnormal Gain Account
   (iv) Finishing Process Account **(18 marks)**

b) Explain the difference between a normal loss and an abnormal loss. **(2 marks)**

(Total: 20 Marks)

6. MNN Ltd. is a medium sized company engaged in the production and sale of garden furniture. During the past financial year demand for all three of their products, Benches, Tables and Loungers increased significantly. The company is currently preparing its budget for the forthcoming period and has just received information from their Ugandan material supplier, that the amount of wood available next year will be 25% less than was available in the current year.

   The following information in relation to all three products is provided:

	Bench	**Table**	**Lounger**
Selling Price per unit	RWF200	RWF250	RWF180
Cost per unit			
Direct material – Wood	RWF100	RWF80	RWF60
Direct Labour	RWF40	RWF60	RWF40
Variable Overheads	RWF10	RWF20	RWF20
Fixed Overheads	RWF10	RWF10	RWF10

Notes:

1. The amount of material that was available in the current year was 80,000 square metres and the price per square metre was RWF10. The price of the wood will not increase in the forthcoming year.

2. Fixed overheads are absorbed into products on a unit basis. Total fixed overheads are estimated at RWF110,000 for the forthcoming year.

3. Demand for each of the products is forecast as follows for the forthcoming year:
   Bench 2,000 units
   Table 5,000 units
   Lounger 4,000 units

4. The marketing manager of MNN Ltd. has suggested that the company should concentrate on producing and selling Tables as these have the highest profit per unit.

REQUIRED:

a) Comment on the suggestion by the marketing manager of MNN Ltd. **(3 marks)**

b) Determine the optimum production plan for MNN Ltd. and state the profit that it would yield. **(12 marks)**

c) What is the maximum amount that MNN Ltd. would be willing to pay to purchase 3,000 extra square metres of wood?

(2 marks)

a) Briefly discuss the following statement: "fixed costs are never relevant for decision making scenarios". **(3 marks)**

(Total: 20 Marks)

END OF PAPER

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SUGGESTED SOLUTIONS

SOLUTION 1

(a)

i. Compel planning

Budgets compel planning. The budgeting process forces management to look ahead, set targets, anticipate problems and give the organisation purpose and direction. Without the annual budgeting process, the pressures of day-to-day operational problems may tempt managers not to plan for future operations. The budgeting process encourages managers to anticipate problems before they arise, and hasty decisions that are made on the spur of the moment, based on expediency rather than reasoned judgements, will be minimised.

ii. Co-ordination

The budget serves as a vehicle through which the actions of the different parts of an organisation can be brought together and reconciled into a common plan. Without any guidance, managers may each make their own decisions believing that they are working in the best interests of the organisation. A sound budgeting system helps to co- ordinate the different activities of the business and to ensure that they are in harmony with each other.

iii. Improve control

The budget provides the plan against which actual results can be compared. Results which are out-of-line with budget can be further investigated and corrected.

Tutorial note

Any other relevant benefit will also be awarded marks.

b)

Working 1: Sales of small wooden sculptures

Month of sale	Units sold	Sales value (RWF)
Jan	50	2,500
Feb	55	2,750
Mar	50	2,500
Apr	60	3,000
May	65	3,250
June	65	3,250

All sales of small wooden objects are on a cash basis and are therefore received in the month of sale.

Working 2: Sales of large wooden sculptures

			Month of Receipt					
Month of Sale	Units Sold	Sales Value	Jan (RWF)	Feb (RWF)	Mar (RWF)	Apr (RWF)	May (RWF)	June (RWF)
Jan	0	0	-	-	-	-	-	-
Feb	30	6,000	-	-	2,850	1,350	1,350	
Mar	35	7,000	-	-	-	3,325	1,575	1,575
Apr	40	8,000	-	-	-	-	3,800	1,800
May	50	10,000	-	-	-	-	-	4,750
			-	-	2,850	4,675	6,725	8,125

Working 3: Variable production cost for small wooden sculptures

Month of cost	Units produced	Cost per unit (RWF)	Sales value (RWF)
Jan	50	25	1,250
Feb	55	25	1,375
Mar	50	25	1,250
Apr	60	25	1,500
May	65	25	1,625
June	65	25	1,625

Working 4: Variable production cost for large wooden sculptures

			Month of Payment					
Month of Production	Units Produced	Cost	Jan (RWF)	Feb (RWF)	Mar (RWF)	Apr (RWF)	May (RWF)	June (RWF)
Jan	30	3,900	-	2,340	1,560	-	-	-
Feb	35	4,550	-	-	2,730	1,820	-	-
Mar	40	5,200	-	-	-	3,120	2,080	-
Apr	50	6,500	-	-	-	-	3,900	2,600
May	70	9,100	-	-	-	-	-	5,460
		-	2,340	4,290	4,940	5,980	8,060	

Working 5: Fixed production overheads

Monthly depreciation charge	[60,000/5yrs/12months]	RWF1,000
Cash fixed production overheads per month	[3,000 – 1,000**]	RWF2,000

** Depreciation is not included in a cash budget as it is not a cash item.

Working 6: Interest charge

Annual interest charge	[24,000 x 10%]	RWF2,400
Monthly interest charge	[2,400 / 12 months]	RWF200

Working 7: Sales commission

Month	Total Sales (RWF)	Commission (RWF) – 4%	Month paid
Jan	2,500	100	Feb
Feb	8,750	350	Mar
Mar	9,500	380	Apr
Apr	11,000	440	May
May	13,250	530	June

Cash Budget

Cash inflows	**Jan (RWF)**	**Feb (RWF)**	**Mar (RWF)**	**Apr (RWF)**	**May (RWF)**	**June (RWF)**
Redundancy	75,000					
Loan	25,000					
Sales – small (W1)	2,500	2,750	2,500	3,000	3,250	3,250
Sales – large (W2)	-	-	2,850	4,675	6,725	8,125
Total inflows	**77,500**	**27,750**	**5,350**	**7,675**	**9,975**	**11,375**
Cash outflows						
Var. prod o/h's small (W3)	1,250	1,375	1,250	1,500	1,625	1,625
Var. prod o/h's large (W4)	-	2,340	4,290	4,940	5,980	8,060
Equipment				60,000		
Fixed prod. o/h's (W5)	2,000	2,000	2,000	2,000	2,000	2,000
Interest Charges (W6)		200	200	200	200	200
Sales person wages	2,500	2,500	2,500	2,500	2,500	2,500
Sales Commission (W7)	-	100	350	380	440	530
Total outflows	**5,750**	**8,515**	**10,590**	**71,520**	**12,745**	**14,915**
O/bal	0	71,750	90,985	85,745	21,900	19,130

Inflow / (outflow)	71,550	19,235	(5,240)	(63,845)	(2,770)	(3,540)
C/bal	71,750	90,985	85,745	21,900	19,130	15,590

c) The cash budget only records cash inflows and cash outflows. The above cash flow includes the introduction of capital, the receipt of a loan and the purchase of equipment, all of which will be recorded in the statement of financial position.

Net profit for the period will include all costs and revenues that relates to the six month period. Financial accounts are prepared using the accruals concept and includes both cash and non-cash items such as depreciation.

SOLUTION 2

a) Memorandum

To: Mrs. G Gill
From: Trainee CPAR
Re: Material control system

i. The Economic Order Quantity (EOQ) is the quantity of goods that a company should order, each time they place an order, in order to minimise cost.

Four assumptions of EOQ are as follows:

- Annual demand is known
- Holding cost per unit is known
- Cost of placing an order is known
- On average the company holds half of the EOQ in stock.

ii. Elimination of non-value added activities

JIT aims to eliminate waste. The lead time involved in a product includes process time, inspection time, move time, queue time and storage time. Each stage accumulates cost but only process time adds value.

Factory layout

With JIT the factory floor would be rearranged so that all products manufactured by an orgainsation are grouped into families of similar production requirements. The factory floor is then arranged so that each product family is manufactured in a production group cell. This eliminates a build up of WIP, storage costs and queue costs.

Batch sizes of one

By changing the factory floor and investing in AMT a company can respond to an order quickly and produce the required amount in one production run. By having set-up times approaching zero there are no advantages in producing in batches thus the optimal size is one.

Zero defects

Traditional manufacturing companies tended to carry safety stock (buffer stock) to protect against defective materials and to be able to meet new customer orders. With JIT there is a hugh emphasis on quality. JIT recognises that by purchasing quality materials total costs will be reduced (less wastage, storage costs ect). A key component of JIT is the undertaking of regular preventive maintenance.

Revision of purchasing arrangements

JIT encourages the development of closer relationships with fewer, reliable suppliers and placing longer term purchase orders.. Inventories held held will be eliminated by arranging more frequent deliveries.

iii. Reduction in inventory costs

Reduction in the risk of inventory obsolescence

Reduction in total manufacturing costs and lower set-up costs

b) Memorandum

To: Mr . Muller

From: Certified Public Accountant Rwanda

Re: Production of management accounts

i. Differences between financial and management accounts

There is a legal requirement to prepare financial accounts. There is no legal requirement to prepare management accounts.

Financial accounts are prepared for parties external to an organisation, e.g. banks, revenue and shareholders. Management accounts are prepared to provide information to internal parties to help them with making decisions, e.g. senior management.

Financial accounts must be prepared annually and are usually prepared for a twelve-month time period. Management accounts can be prepared as often as is required.

Financial accounts only include financial information. Management accounts can include both financial and non- financial information, e.g. both the cost and the length of time it takes to make a product.

Financial accounts report on past events, there are usually prepared based on the twelve-months just finished. Management accounts can analyse the past, present or prepare forecasts for the future.

Financial accounts cover the whole organisation, e.g. a company must prepare an Income statement and Statement of Financial Position for the company as a whole.Management accounts can be prepared based on individual products, divisions or activities.

ii. Functions of management accounting

- *Allocation of costs for internal and external profit reporting*
  In the preparation of financial accounts the figure for cost of goods and inventory remaining in inventory is required. This information is also required internally by managers for costing purposes and inventory management.

- *Provision of relevant information for decision making*
  This type of information may be routine or non-routine in nature. Routine information relates to profitability of products, services, customers, customers and distribution channels. Non-routine relates to strategic decisions and includes investment decisions, introduction of new products and negotiations of long term contracts with both suppliers and customers.

- *Provisions of information for planning, control and performance measurement*
  Planning involves using activities and resources to meet the goals and objectives of an organisation. Control involves the comparison of actual outcomes against planned outcomes. Performance measurement involves the use of financial indicators to assess performance.

iii. Three characteristics of management accounting information

- *Relevant*
  The information must relate to the decision being taken.

- *Accurate*
  If accounting information is not accurate then misinformed decisions will inevitably result.

- *Timely*
  For effective decisions to be taken, information needs to be reported to management on a timely basis.

SOLUTION 3

i. Answer C

Tutorial note:

	Units	**Total cost**
High	16,800	109,000
Low	14,000	95,000
	2,800	14,000

Variable cost per unit [RWF14,000/2,800 units] RWF5

Fixed cost will be the same at all levels.

At 16,800 units fixed costs = (16,800*RWF5) + Fixed cost = RWF109,000

Fixed costs = RWF25,000

ii. Answer D

Tutorial note:

Indirect factory workers		RWF
Basic time	[500 hours*RWF10]	5,000
Overtime	[50 hours* RWF15]	750
Direct workers		
Idle time	[110 hours*RWF12]	1,320
Overtime	[100 hours*RWF18]	1,800
		8,870

iii. Answer C

Tutorial working

$$\sqrt{\frac{2*RWF40*(1{,}000 \text{ units}*12\text{months})}{(RWF2.40*20\%)}}$$

iv. Answer B

v. Answer B

vi. Answer A

vii. Answer D

Tutorial note:

Predetermined overhead rate: RWF600,000/20,000 machine hours = RWF30 per machine hour

		RWF
Actual overhead cost		550,000
Overheads absorbed	[20,500 MH* RWF30]	615,000
Over-absorbed overheads		65,000

viii. Answer A

Tutorial note

Process 1 account

	kg	**RWF**		**kg**	**RWF**
Materials	10,000	50,000	Normal Loss	500	3,750
Direct Labour		60,000	Abnormal Loss	100	1,750
Production overheads		60,000	Process 2	9,400	164,500
	10,000	**170,000**		**10,000**	**170,000**

SOLUTION 4

a) Total production o/h's [246,000 + 180,000 + 68,000 + 64,000] RWF558,000
Total direct labour hours [(10,000*10) +(4,000*8) + (6,000 *9)] 186,000

Production overhead recovery rate [RWF558,000/186,000 DLH's] RWF3 per DLH

	Product A	**Product B**	**Product C**
	RWF	RWF	RWF
Direct materials	100	120	150
Direct labour (RWF14 per hour)	140	112	126
Prime cost	240	232	276
Production overheads - (RWF3 per DLH)	30	24	27
Production cost	270	256	303
Mark-up 25% - (profit)	67.50	64	75.75
Selling price	337.50	320	378.75

b)

	Cost Pool	**Cost Driver**	**Cost Driver Rate**
Machine Related Costs	RWF 246,000	82,000 M/H's **	RWF3 per M/H
Set-up Costs	RWF 180,000	150 set-ups	RWF 1,200 per set-up
Delivery Costs	RWF 68,000	2,000 deliveries	RWF 34 per delivery
Quality related costs	RWF 64,000	400 inspections	RWF 160 per inspection

** Machine hours[(10,000*4M/H) + (4,000*6 M/H's) + (6,000*3 M/H's)]

	Product A	**Product B**	**Product C**
	RWF	**RWF**	**RWF**
Machine related costs (RWF 3)	120,000	72,000	54,000
Set-up costs (RWF 1,200)	120,000	36,000	24,000
Delivery costs (RWF 34)	34,000	18,700	15,300
Quality related costs (RWF 160)	32,000	16,000	16,000
Total Overheads	306,000	142,700	109,300
Total Units	10,000	4,000	6,000
Production overhead per unit	30.60	35.68	18.22
Prime cost	240.00	232.00	276.00
Production cost per unit	270.60	267.68	294.22
Mark-up 25% (profit)	67.65	66.92	73.56
Selling price	338.25	334.60	367.78

c) The current system of apportioning overheads using direct labour hours was introduced when the company produced one product only. Since then the company has introduced a range of products and invested heavily in advanced manufacturing technologies.

The company is operating in a highly competitive environment. This means that they need a full understanding of the cost structure of each product. ABC provides this as it examines the overheads that each product consumes.

ABC will help with the establishment of selling prices. As company is operating in a competitive market the use of cost plus for the establishment of selling prices may not be appropriate. If LKY Ltd has to react to competitors change in selling prices they can only do so by fully understand the minimum selling price (cost).

SOLUTION 5

a)

i. Mixing Process Account

	kg	RWF		kg	RWF
Materials	2,000	10,000	Normal Loss	100	500
Direct Labour		41,940	Abnormal Loss	100	3,800
Production overheads		20,760	Finishing process	1,800	68,400
	2,000	72,700		2,000	72,700

ii. Normal Loss Account

	kg	RWF		kg	RWF
Mixing process	100	500			
Abnormal loss	100	500	Bank	200	1,000
	200	1,000		200	1,000

iii. Abnormal Loss Account

	kg	RWF		kg	RWF
Mixing process	100	3,800	Normal Loss	100	500
			Income statement		3,300
	100	3,800		100	3,800

iv. Statement of equivalent units

Units	**Units**	**Mixing Process**	**Added Materials**	**Conversion Costs**
Opening WIP	1,200	-	-	480
Completed this period	1,000	1,000	1,000	1,000
Closing WIP	800	800	800	400
Total Equivalent Units		**1,800**	**1,800**	**1,880**
Costs this period		**68,400**	**39,600**	**75,200**
Cost per element		**RWF 38**	**RWF 22**	**RWF 40**

Cost of fully completed unit [38 + 22 + 40] RWF100

Working 1: Value of finished goods

Value of opening inventory		49,420
Value of completing opening inventory		
Conversion costs	[480 *RWF40]	19,200
Started and completed during period		
1,000 units * RWF100		100,000
168,620		

Working 2: Value of closing work-in-progress

Mixing process materials	[800 units*RWF38]	30,400
Added materials	[800 units*RWF22]	17,600
Conversion costs	[400 units*RWF40]	16,000
		64,000

Finishing Process Account

	kg	RWF		kg	RWF
Open WIP	1,200	49,420			
Mixing Process	1,800	68,400			
Added Materials		39,600	Finished goods (W1)	2,200	168,620
Conversion Costs	2,000	75,200	Closing WIP (W2)	800	64,000
	3,000	**232,620**		**3,000**	**232,620**

b) Normal loss is the loss that is expected under normal working conditions. For example evaporation of liquid materials during production. Normal loss must be monitored on a regular basis to ensure it can be fully explained and does not hide any excess wastage.

Abnormal loss is the loss that occurs above the expected target level of normal loss. This loss must be investigated fully and corrective action should be taken to reduce the risk of re-occurrence.

SOLUTION 6

a) Short term decisions should be based on the principle of relevant costs. A relevant cost is a "future, incremental cash-flow". The marketing manager suggests that a short term decision, limiting factor, should be based on profit. Profit is based on the accruals principle, includes non-cash items and if the company follows this proposal they will not maximise contribution.

b)

	Garden Bench	**Garden Table**	**Garden Lounger**
Selling price per unit	RWF 200	RWF 250	RWF180
Less variable costs			
Wood	(RWF 100)	(RWF 80)	(RWF 60)
Direct Labour	(RWF 40)	(RWF 60)	(RWF 40)
Variable overheads	(RWF 10)	(RWF 20)	(RWF 20)
Contribution per unit	RWF 50	RWF 90	RWF 60
Square metre of wood per unit	(100/10) 10	(80/10) 8	(60/10) 6
Contribution per square metre	RWF 5	RWF 11.25	RWF 10
Ranking	3	1	2

Amount of wood available:60,000 square metres

		Square metre used	Square metre left
Garden table	[5,000*8]	40,000	20,000
Garden lounger	[20,000/6] 3,333		
Tables	[5,000*90]	450,000	
Lounger	[3,333*60]	199,980	
Contribution		649,980	
Less fixed costs		(110,000)	
Profit		539,980	

c) 3,000 extra square metres would be used to produce Garden loungers. The contribution per square metre of wood used in the lounger is 10. Therefore the maximum amount that MNN Ltd would be willing to pay for the 3,000 extra square metres is [3,000*(10+10)] 60,000

d) Short term decisions are made using relevant costing principles. A relevant cost is a future, incremental cash-flow. For short term decision making existing fixed overheads are ignored but incremental cash fixed overheads that relates to the decision must be taken into account.

END OF SOLUTIONS