

# THE PUBLIC ACCOUNTANTS EXAMINATIONS BOARD

*A Committee of the Council of ICPAU*

## CPA(U) EXAMINATIONS

### LEVEL TWO

#### MANAGEMENT DECISION AND CONTROL - PAPER 10

**FRIDAY, 10 DECEMBER 2010**

#### **INSTRUCTIONS TO CANDIDATES:**

1. Time allowed: **3 hours 15 minutes.**

The first 15 minutes of this examination have been designated for reading time. You may not start to write your answer during this time.

2. Section **A** has **one** compulsory question carrying 30 marks.
3. Section **B** has **four** questions and only **three** questions are to be attempted. Each question carries 20 marks.
4. Section **C** has **two** questions and only **one** question is to be attempted. Each question carries 10 marks.
5. Please read further instructions on the answer book, before attempting any question.

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## SECTION A

### Question 1

For the 2010/11 financial period, the peacekeeping mission in Kongo (the MINUK) was appropriated Shs 36,995,680,000 to fund the total budget for its activities. This included specific resources for support to the first post-conflict elections in Kongo. The elections were scheduled to be held in phases and one-time election related resources were approved in MINUK's budget to support this as follows:

- An additional 200 international civilian personnel to be temporarily deployed for the two months prior to and nine months after the elections to assist in the organization and monitoring of the elections, and in the immediate post-election transition phase.
- In addition to MINUK's current fleet of three helicopters, three civilian helicopters were added. The additional helicopters were deployed for a total of three months to provide logistical support in the two months leading up to the elections and for the full month of September 2010 when the elections were due to be held.

It is now October 2010, and elections have been postponed to the month of March 2011 to allow further time for the registration of both political parties and voters. In recognition of these developments, the security council has decided to temporarily increase the authorized number of military personnel from 8,000 to 8,800.

It has also been decided that because of the temporary nature of the deployment, new camps will not be constructed for the additional 800 troops, but rather the additional troops will be accommodated within the existing MINUK camps, with additional accommodation requirements limited to prefabricated units and electricity generators at a standard ratio of one accommodation unit for every 10 personnel and one generator for every 200 personnel.

The following tables give a summary of the original budget of MINUK approved for the 2010/11 budget period.

**Cost Category I: Military personnel**

	Estimates (Shs '000)	Remarks / Assumptions
Standard troop cost reimbursement	108,480	8,000 troops deployed for the full 12 months budget period at a standard rate of Shs 1,130 per troop per month.
Daily allowance	3,648,000	Paid at an average rate of Shs 38,000 per troop per month for each month of deployment in MINUK
Contingent-owned equipment: self-sustainability	10,200	Reimbursement to countries contributing troops to MINUK for the sustenance of their personnel in the mission including stationery, cleaning materials etc. Reimbursements are based on an average rate of Shs 85,000 per battalion per month. (A battalion = 800 troops)
Sub-total	3,766,680	

**Cost Category II: International civilian personnel**

	Estimates (Shs '000)	Remarks / Assumptions
International staff salaries	32,400,000	Provides for a staffing complement of 700 international staff for a year plus an additional 200 international staff at Shs 3 million per staff.
Sub-total	32,400,000	

**Cost Category III: Operational costs**

	Estimates (Shs '000)	Remarks / Assumptions
Rental of premises	96,000	Leases have been signed for the rental of 4 identical facilities for all international civilian staff at a rate of Shs 2,000,000 per month per facility for 12 months from July 2010.
Stationery and office supplies	162,000	Estimated at Shs15,000 per person per month for each international civilian staff member deployed to MINUK. Military contingents are responsible for their own supplies.
Rental and operation of helicopters.	261,000	Requirements are based on an approved fleet of 3 civilian helicopters leased at a cost per helicopter of Shs 5,000,000 per month with an additional charge of Shs 20,000 per flight hour. Each helicopter is leased to fly up to 40 hours per month.
Fuel, oil and lubricants (helicopters)	270,000	Estimates are based on each helicopter consuming 100 litres of fuel per flight hour at a cost of Shs 1,500 per litre.
Sub-total	789,000	
Grand total	36,955,680	

On your appointment as the finance and budget officer, you have been asked to prepare an analysis of the implications for MINUK of the security council's latest decision with regard to Kongo, compared to the budget already approved for the Kongo mission.

**Required:**

- (a) Identify the net impact on MINUK in 2010/11 of the changed schedule for the 200 additional international civilian staff to be recruited to provide support to the elections.  
**(10 marks)**
  - (b) Based on a monthly average for the period of deployment during 2010/11, compare the costs to MINUK, under the category of military personnel costs and operational costs, for the deployment of the additional battalion.  
**(10 marks)**
  - (c) Write a memo to your supervisor, the Chief Finance Officer, explaining to him the benefits and pitfalls of flexible budgeting.  
**(10 marks)**
- (Total 30 marks)**

**SECTION B**

**Question 2**

Katala Ltd can produce a product using either labour intensive or machine intensive operations. Costs of production for each method are as follows:

	Labour Intensive Shs '000'	Machine Intensive Shs '000'
Variable costs per unit	2	3
Fixed costs	9,000	12,400

The marketing manager has informed you that demand for the product and the selling price are uncertain. The following possible outcomes and associated probabilities have been provided by the business analyst.

Demand		Unit Selling Price	
Number of units	Probability	Price (Shs)	Probability
150,000	0.4	2,000	0.3
200,000	0.1	2,300	0.3
250,000	0.3	2,500	0.4

300,000                      0.2

**Required:**

- (a) Develop a probability tree to show the possible profits from labour intensive and machine intensive operations **(8 marks)**
  - (b) Determine the following for each production method:
    - (i) Expected profits. **(4 marks)**
    - (ii) Probability of at least breaking even. **(4 marks)**
  - (c) Discuss other factors that the management of Katala Ltd should consider before deciding on the production method. **(4 marks)**
- (Total 20 marks)**

**Question 3**

The production manager of Ugantiko Ltd has approached you for costing advice on a project he has code-named Ntiko. Due to confidentiality issues, Ntiko is a one-off order from overseas that Ugantiko Ltd intends to tender for. The costs associated with the project are as follows:

	Shs
	'000'
Material RT	4,000
Material RX	8,000
Direct Labour	6,000
Supervision	4,000
Overheads	<u>12,000</u>
	<u>32,000</u>

The following information has also been provided:

1. Material RT is in stock and the above was what it cost. There is no other use for the material, other than the above project, within the factory and it would cost Shs 1,750 per unit to dispose of. Material RX would have to be purchased at the cost shown above.
2. Direct labour costs of Shs 6 million relate to workers that would have to be transferred to this project from another project. Extra labour will need to be recruited to the other project at a cost of Shs 7 million.
3. Supervision costs are chargeable to the project at a rate of 66.7% of labour costs and will be carried out by the existing staff within their normal duties.
4. The company is currently operating at a point above break-even
5. Overheads are chargeable at 200% of labour costs.

6. The project will require utilization of machinery that will have no other use to the company after the project is completed. The machinery will have to be purchased at a cost of Shs 10 million and then disposed of for Shs 5,250,000 at the end of the project.

The production manager has informed you that the foreign customer is prepared to pay up to a maximum of Shs 30 million, and that a competitor is prepared to accept the order at that price. He has also informed you that the minimum he can charge is Shs 40 million because the cost of production as shown above is Shs 32 million excluding the cost of the machine and the profit to be taken on the project.

**Required:**

- (a) Determine the cost for Ntiko, clearly showing how you arrive at those figures. **(12 marks)**
- (b) Write a report to the production manager stating whether the organization should go ahead with the tender for the project. **(4 marks)**
- (c) State four non-monetary factors that should be taken into account before tendering for the project. **(4 marks)**
- (Total 20 marks)**

**Question 4**

Arap Ltd manufactures a product Zedi and the production manager has provided you with the following information which relates to the period which has just ended:

Estimated standard cost per batch of Zedi

Input materials	Kg	Price per kg (Shs '000)	(Shs '000)
Ferrous	15	4	60
Peroxide	12	3	36
Potassium	8	6	<u>48</u>
			<u>144</u>
	Hours	Rate per hour (Shs '000)	(Shs '000)
Production department	4	10	40
Sales department	2	6	<u>12</u>

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The production manager has further estimated that the standard loss for the materials will be 3 kg. Furthermore, the sales manager estimates that the sales for the period will be 4,096 kg at Shs 16,000 per kg.

However, the actual material and labour used for 120 batches of Zedi were as follows:

Input materials	Kg	Price per kg (Shs '000')	(Shs '000')
	1,680		
Ferrous	0	4.25	7,140
	1,650		
Peroxide	0	2.8	4,620
Potassium	870	6.4	<u>5,568</u>
			<u>17,328</u>
	Hours	Rate per hour (Shs '000')	(Shs '000')
Production department	600	10.6	6,360
Sales department	270	5.6	<u>1,512</u>
			<u>7,872</u>

The production manager further informs you that the actual loss for the 120 batches of Zedi was 552 kg. In addition the sales manager has just informed management that due to the scarcity of the product on the market, each kg of Zedi was sold at Shs 16,750 per kg.

**Required:**

(a) Calculate the following material variances.

- (i) Price.
- (ii) Usage.
- (iii) Mix.
- (iv) Yield.

**(8 marks)**

(b) For each department of the company, calculate the following labour variances:

- (i) Cost
- (ii) Efficiency
- (iii) Rate



**(6 marks)**

- (c) Explain the major motivational factors that influence managers in their actions to eliminate variances from budgets.

**(6 marks)**

**(Total 20 marks)**

**Question 5**

- (a) Mr. Giya is a Ugandan based businessman who supplies products to other two markets of Rwanda and Sudan. He charges higher prices to the home market in Uganda than the external markets. He justifies this by stating that this pricing policy is geared towards earning foreign exchange from foreign markets and recover his research and developmental costs against home demand.

**Required:**

Critically explain the rationale for such a pricing policy.

**(8 marks)**

- (b) Rigways Ltd is investigating the viability of introducing a new product, the Riba. The Riba is a short-life product for which market has been identified. It is expected that the product will have a life span of 12 months.

The following estimates are provided in respect of Riba:

- (i) Sales of 120,000 units for the year to be sold in batches of 100 units.
- (ii) An 80% learning curve has been set for the first batch of 700 units, after which a steady state production time will apply, with the labour time per batch after the first 700 units equal to the 700th batch. The cost of the first batch was Shs 2,500. This took 500 hours at Shs 5 per hour.
- (iii) Variable overheads are estimated at Shs 2 per hour.
- (iv) Direct materials will be Shs 500 per batch of Riba for the first 200 units produced. The second 200 batches will cost 90% of the cost per batch of the first 200 batches. All batches from then on will cost 90% of the batch cost for each of the second 200 batches
- (v) At a learning rate of 80%, the learning factor  $b$  is -0.3219.

**Required:**

Prepare a detailed calculation to show how much product Riba should be sold at, per batch, if the company is to break even.

**(12 marks)**

**(Total 20 marks)**

### SECTION C

#### Question 6

"Japanese companies that have used the just-in-time (JIT) philosophy for five or more years are reporting close to 30% increase in labour productivity, a 60% reduction in inventories, a 90% reduction in quality rejection rates and a 15% reduction in necessary plant space. However, implementing JIT does not occur overnight. It took Toyota over twenty years to develop the system and realize significant benefits from it."

*Source: Summer C Aggrawal, Harvard Business Review (9/85)*

#### **Required:**

Explain how the benefits claimed for JIT in the above quotation are achieved and why it takes so long to achieve those benefits, as well as the advantages and disadvantages of implementing each.

**(10 marks)**

#### Question 7

Various attempts have been made in the public sector to achieve a more stabilizing term planning base in contrast to the traditional short-term annual budgeting approach with its emphasis on flexibility.

#### **Required;**

(a) Explain **four** deficiencies of the traditional approach to planning which led to attempts to introduce programme planning and budgeting system (programme budgeting) (PPBS).

**(5 marks)**

(b) Discuss at least **three** problems which have made it difficult in practice to introduce PPBS.

**(5 marks)**

**(Total 10 marks)**