

# THE PUBLIC ACCOUNTANTS EXAMINATIONS BOARD

A Committee of the Council of ICPAU

## CPA(U) EXAMINATIONS

### LEVEL THREE

#### MANAGEMENT DECISION AND CONTROL - PAPER 12

MONDAY, 15 DECEMBER 2003

#### INSTRUCTIONS TO CANDIDATES:

1. Time allowed: **3 hours**
2. Section **A** has two compulsory questions. Question **one** carries 30 marks and question **two** carries 10 marks.
3. Section **B** has **four** questions and only **three** questions are to be attempted. Each question carries 20 marks.
4. Please read further instructions on the answer book.

## SECTION A

## Question 1

Kabale Transporters Ltd is a local transport company that has buses plying Kampala – Kisoro route. One of its buses got an accident and was written off. So it has got to be replaced. Therefore, Kabale Transporters Ltd is in the process of acquiring a new bus. It has two options: buying a strong Scania at Shs 132 million or an Isuzu coach at Shs 77 million. Each option would require Shs 25 million as working capital that would be released at the end of its useful life.

The Scania is assumed to be a strong bus even though it has not been tested by the company before. It is estimated to be on the road for 6 years while for an Isuzu it has been confirmed by experience that its useful life is 4 years. They both have no residual value after their useful lives.

The estimated revenues before tax for each of the buses are follows;

Year	Scania Shs millions	Isuzu Shs millions
1	67.2	38.6
2	47.3	29.0
3	39.9	27.0
4	38.6	33.0
5	32.0	-
6	29.3	-

The Isuzu bus has been proven on the Ugandan roads as a dependable bus and the company has been discounting the cash flows of its Isuzu buses at 13%. It is going to be the first time for the company to use a Scania bus. It is not sure of the estimated cash flow as well as the estimated useful life of this bus therefore the company has agreed to discount the cash flows from the Scania at 2% above their normal (usual) rate to take care of this extra uncertainty.

Kabale Transporters Ltd intends to purchase the bus using a loan from the East African Development Bank at a borrowing rate of 10% per annum.

Uganda Revenue Authority charges a tax of 30% on operating cash flows, one year in arrears. It allows a capital allowance of 25% per annum on reducing balance basis.

**Required:**

- (a) For both the Scania and Isuzu buses:
- (i) Calculate the pay back period. (4 marks)
  - (ii) Calculate the Net Present Value. (10 marks)
  - (iii) Based on your answers in (i) and (ii) above recommend the type of bus that Kabale Transporters Ltd should purchase. (3 marks)

- (b) DFCU Leasing Co. has approached Kabale Transporters Ltd with an offer to give them an Isuzu bus under a finance lease arrangement at an annual rental of Shs 23 million for 4 years payable at year-end. Assuming that Kabale Transporters Ltd decided that it is better to use the Isuzu bus since that is the bus on which they have experience, it is favoured by both the drivers and their mechanics therefore the decision has been approved to use an Isuzu.

**Required:**

Recommend, giving reasons, whether Kabale Transporters Ltd should use a loan or finance lease in financing the project.

**(8 marks)**

- (c) It has been argued that IRR is a better measure of investment appraisal than NPV. Comment.

**(5 marks)**

**(Total 30 marks)**

**Question 2**

A Management Accountant may make use of opportunity cost in:

- (a) the setting of transfer prices from one division to another.
- (b) deciding whether or not to accept a contract.

**Required:**

Discuss the relevance of the use of opportunity cost in each of the above applications.

**(10 marks)**

## SECTION B

### Question 3

- (a) There is a general assumption that management by exception is the most effective system of routine reporting. In your view, raise legitimate doubts about the validity of this assumption. (10 marks)
- (b) A company has developed a new product. Market research has provided the following estimates for the coming period:
- The minimum target sales volume should be 30,000 units.
  - The forecast price for Sales of 30,000 units is Shs. 2,000 each.
  - Variations in price of Shs. 100 per unit (both up and down) will affect forecast sales by 1,000 units.

The Costing Department provided the following estimates:

- Fixed costs per period Shs. 2,000,000.
- Variable costs per unit Shs. 900.

**Required:**

- (i) Calculate the optimum level of sales above the minimum target, the price of these sales and the resulting profit on sales.
- (ii) What effect would a change in variable costs have upon the above answers if they:
  - rise by Shs. 20 per unit.
  - fall by Shs. 20 per unit.

(10 marks)  
(Total 20 marks)

### Question 4

Most management decisions are made under uncertainty. To appraise uncertainty, managers use techniques such as decision trees and pay off matrices. Given the following pay off matrix, answer the questions below:

(State of the World) Level of Demand	Decision Alternatives (Undertaken Project)		
	X (Shs)	Y (Shs)	Z (Shs)
Low	1,000,000	1,800,000	2,000,000
Medium	1,500,000	1,400,000	2,100,000
High	2,000,000	1,900,000	2,500,000

**Note:** The pay offs in the matrix represent net cash flows.

**Required:**

- (a) Select the alternative which maximizes the minimum pay off achievable. (2 marks)
- (b) Calculate the:
- (i) Minimax Value. (2 marks)
  - (ii) Maximax Value. (2 marks)
  - (iii) Minimax Regret Value. (5 marks)
- (c) C Ltd, with a cost of capital of 10.50% has Shs. 40,000,000 available for investment in year 0. Four divisible projects are available:

Project	Outlay (Shs)	Receipts (Cashflows) Shs			
		Year 1	Year 2	Year 3	Year 4
A	100,000,000	40,000,000	100,000,000	80,000,000	60,000,000
B	30,000,000	40,000,000	40,000,000	40,000,000	40,000,000
C	20,000,000	40,000,000	30,000,000	40,000,000	50,000,000
D	40,000,000	20,000,000	30,000,000	30,000,000	30,000,000

For each project, calculate the:

- (i) Net Present Value. (4 marks)
  - (ii) Profitability Index. (5 marks)
- (Total 20 marks)

**Question 5**

- (a) The following are stages in the setting up of a management accounting system. Suggest one reason why each stage is needed.
- (i) Expected costs of the new system.
  - (ii) Given that costs are acceptable, proceed to specify information required.
  - (iii) Define sources of data to provide that information.
  - (i) Define how to collect that data. (8 marks)
- (b) Management accounting information should comply with a number of criteria including Verifiability, Objectivity, Timeliness, Comparability, Reliability, Understandability and Relevance if it is to be useful in planning, controlling and decision-making.

**Required:**

Explain the meaning of each criterion named above and give a specific example to illustrate each.

(12 marks)  
(Total 20 marks)

**Question 6**

- (a) Budgetary control and standard costing systems are essentially concerned with encouraging individuals within an organization to alter their behaviour so that the overall aims of the organization are effectively attained.

**Required:**

In the context of this objective, you are required to discuss:

- (i) How budgeting can cause behavioral conflict. **(5 marks)**
  - (ii) How this behavioral conflict can be overcome. **(5 marks)**
- (b) Bunga Industries Limited is preparing a budget for 2004. Two of its processes are concerned with the manufacture of three components, which are used in several of the company's products. Capacity in each of the two processes is limited to 4,000 machine hours.

	Component A	Component B	Component C
	Shs 000	Shs 000	Shs 000
Direct Materials	30	37	9
Direct Labour	24	25	16
Variable Overheads	12	12.5	8
Fixed Overheads:			
Process 7	12	12	9
Process 8	21	21	7

- In 2004, the Company will require 300 units of A, 300 units of B and 450 units of C.
- Fixed overheads are absorbed on the basis of machine hours at Shs 3,000 per hour in Process 7 and Shs 3,500 per hour in Process 8.
- Component A could be obtained from an outside supplier at Shs 90,000 per unit and Component C at Shs 46,000 per unit.

**Required:**

- (i) Prove that there is insufficient capacity to produce the required components A, B and C in 2004 and calculate the extent of the shortfall. **(4 marks)**
- (ii) Determine the required components to be produced by the company and what is to be bought from outside in order to satisfy demand and at the same time minimize costs. **(6 marks)**

**(Total 20 marks)**