

**THE PUBLIC ACCOUNTANTS EXAMINATIONS BOARD**

*A Committee of the Council of ICPAU*

**MANAGEMENT DECISION AND CONTROL - PAPER 12**

**JUNE 2000**

**INSTRUCTIONS TO CANDIDATES**

1. Time allowed: 3 hours
2. Attempt **two** questions in Section A; both questions are compulsory. 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:**

Afrocable has been manufacturing a product called Calibre which is used in a variety of electrical items. Although the Calibre is still in demand, the technology for its design has become obsolete. Afrocable's engineers have now developed a new product called Dequist which is based on new technology. The Dequist is smaller and quite reliable than Calibre but interestingly perform exactly the same function.

The management of Afrocable has for sometime been considering whether to continue production of Calibre or discontinue the Calibre and start production of the Dequist. Unfortunately, Afrocable does not have the means to produce both the Calibre and the Dequist simultaneously.

If the Calibre is produced, the unit sales in year 1 are expected to be 24,000 but declining by 4000 units in each subsequent year. Additional new equipment costing Shs.70,000,000 must be purchased immediately if the Calibre is to continue. If the Dequist is produced, the unit sales in year 1 are forecast to be 6000 with a rapid increase in unit sales being expected thereafter. Additional equipment costing Shs.620,000,000 must be purchased immediately if the Dequist production is to start.

**Details of the two products are:**

	<b>Calibre</b>	<b>Dequist</b>
	<b>Shs.</b>	<b>Shs.</b>
Variable cost per unit	25,000	50,000
Selling price per unit	55,000	105,000

Afrocable normally appraises investments using 12% per annum compound cost of money and ignores cash flows beyond five years from the start of the investment.

**Required:**

- a) Advise management on the minimum annual growth in unit sales of the Dequist to justify starting Dequist production now – using Afroables Normal Investment Appraisal rules. Support your advice with full financial evaluation. (12 marks)
- b) Advise Afroable's management on the number of years in which the investment appraisal time horizon (currently five years) would have to be extended in order to justify starting Dequist production now if the forecast annual increase in Dequist sales is 2,800 units. (12 marks)
- c) State and explain any factors not included in your financial evaluation that Afroable Ltd. should consider in making its decision. (6 marks)

**(Total 30 marks)**

Note: Ignore inflation and residual value of the equipment.

**Question 2:**

The Balanced Scorecard is described as the instrument that managers need to navigate to success. It is seen as a new framework for integrating measures driven from strategy. Four such basic perspectives of the Balanced Scorecard are:

- Selected financial measures of past performance and the organisational mission and strategy.
- The drivers of future performance which encompass customers and internal business processes.
- Growth and learning and the financial.

**Required:**

Briefly explain the four basic perspectives of the Balanced Scorecard mentioned above.

**(10 Marks)**

SECTION B

Question 3:

Cyclesid is an International Investor who recently found a new market for his products on the Uganda Market in particular and the Great Lakes Region in general. Cyclesid supports the concept of terotechnology or life cycle costing for new investment decisions covering its engineering activities. The financial side of this philosophy is now well established and its principles extend to all other areas of decision making. Cyclesid had installed second hand equipment when it started its operations in Uganda. Cyclesid is now considering replacing the obsolete equipment, the Production Manager is torn between the Rock Machine and a more expensive machine with a life cycle of 12 years, and the Sid machine with an estimated life of 6 years. If the Sid machine is chosen, it is likely to be replaced at the end of year 6 by yet another Sid machine. The maintenance and running costs pattern differs between the two types of machine and the relevant data of the machines is as follows:-

	Rock Shs.billion	Sid Shs.billion
Purchase price	19.0	13.0
Trade in value	3.0	3.0
Annual repair costs	2.0	2.6
Overhaul costs at year (8)	4.0 (at year 4)	2.0
Estimated financing costs averaged over machine life	10% p.a	10% p.a

Required:

- With supporting figures, recommend to the management of Cyclesid which machine to purchase, stating any assumptions made. (10 Marks)
  - Explain life cycle costing and give the benefits that are likely to accrue from its use. Explain with examples of changes in practice that could occur from adopting this philosophy. (6 Marks)
  - Describe an appropriate method of comparing replacement proposals with unequal lives. (4 Marks)
- (Total 20 Marks)

**Question 4:**

The finance director has provided you with the following operating statements which represents an attempt to compare the actual performance for the quarter which has just ended with the budget.

	<b>Budget</b>	<b>Actual</b>	<b>Variance</b>
Number of units sold	<u>640,000</u>	<u>720,000</u>	<u>80,000</u>
	<b>Shs.million</b>	<b>Shs.million</b>	<b>Shs.million</b>
Sales	<u>1,024</u>	<u>1,071</u>	<u>47</u>
<b>Cost of sales (all variable)</b>			
Materials	168	144	
Labour	240	288	
Overheads	<u>32</u>	<u>36</u>	
	<u>440</u>	<u>468</u>	<u>(28)</u>
Fixed labour costs	100	94	6
<b>Selling and distribution costs:</b>			
Fixed	72	83	(11)
Variable	144	153	(9)
<b>Administrative costs</b>			
Fixed	184	176	8
Variable	<u>48</u>	<u>54</u>	<u>(6)</u>
	<u>548</u>	<u>560</u>	<u>(12)</u>
Net Profit	<u>36</u>	<u>43</u>	<u>7</u>

**Required:**

- a) Use the flexible budgeting approach to re-draft the operating statement so as to provide a more realistic indication of the variances and comment briefly on the possible reasons (other than inflation) why they have occurred.
- b) Discuss the problems associated with the forecasting of figures which are to be used in flexible budgeting.
- c) Explain why the original operating statement was of little use to management.

(9 marks)

(6 marks)

(5 marks)

**Question 5:**

- a) Briefly explain the main objectives which transfer prices should meet.

(9 marks)

- b) Mukwano Ltd. produces a variety of products and some of the products are sold within the division of the company at full cost transfer pricing.

Division Omega sells to division Alpha at full cost +  $33\frac{1}{3}\%$  and division B sells externally at a similar mark up. The following data is available.

Division Omega		Division Alpha	
	Shs.		Shs.
Variable cost per unit	26,000	Transfer price	48,000
Fixed costs per unit	<u>10,000</u>	Own variable costs	15,000
Total cost per unit	36,000	Fixed costs per unit	<u>9,000</u>
Mark up	12,000	Total cost	72,000
		Mark up	<u>24,000</u>
Transfer price	<u>48,000</u>	Transfer price	<u>96,000</u>

**Required:**

- i) Using the above data, explain why taking the full cost (or cost plus) by the buying division (Alpha) in determining external price decisions (if based on cost) may not be set at an optimal price as far as the firm as a whole is concerned.

(6 marks)

- ii) Outline the other limitations of using cost plus pricing.

(5 marks)

(Total 20 marks)

**Question 6:**

- a) Compare and contrast the use of residual and return on investment in divisional performance measurement, stating the advantages and disadvantages of each.

**(8 Marks)**

- b) KTM Ltd. has been in business for a long time selling different types of merchandise. KTM Ltd. employed BP as Managing Director to run the Westgate division. BP has prepared the forecast for the year 2001 as follows:-

	Shs.
Profit before depreciation	100,000,000
Depreciation	25,000,000
Net current assets at 1/1/2001	50,000,000
Net book value of fixed assets at 1/1/2001	200,000,000

The Company's cost of capital is 10%.

BP is contemplating selling a fixed asset with a net book value of Shs.7,500,000, which after depreciation of Shs.600,000 generates a profit of Shs.3,000,000 per year. The proceeds and a subsidy from head office (KTM Ltd.) would be used to purchase the new machine for Shs.20,000,000 to generate an annual profit of Shs.6,000,000 after a depreciation of Shs.1,500,000.

**Required:**

- i) Assuming that KTM does not sell and replace the machine, using opening year balance sheet values, calculate both Westgate's Return on Investment and its residual income.
- ii) If KTM does sell and replace the machine, calculate Westgate's Return on Investment and residual income.

**(5 Marks)**

**(7 Marks)**

**(Total 20 Marks)**