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Serial No.....

## Society of Certified Management Accountants of Sri Lanka

### Professional II Stage March 2007 Examination

Examination Date : 24<sup>th</sup> March 2007

Number of Pages : 07

Examination Time : 9.30a.m.-12.30p.m.

Number of Questions : 06

#### Instructions to candidates:

1. Time allowed is **three (3) hours**.
2. Answer **all** questions in **Section A**, **any two (2)** questions from **Section B** and **any one (1)** question from **Section C**
3. Answers should be entirely in the **English language**.

<u>Subject</u>	<u>Subject Code</u>
<b>Strategic Management Accounting</b>	<b>(SMA)</b>

#### **Section A**

##### **Question No: 1 (40 Marks)**

Z-Tel is a company manufacturing high-profile equipment for customer premises, in the telecom industry in Sri Lanka. Although it is not the market leader, it produces high-quality reliable products for highly demanding customers.

The following scenario relates to the development and launch of a new product called “My-Mate”.

##### **January 2004**

In early January 2004, Z-Tel Ltd considered making a new product called My-Mate. Up to that time, Rs.75.0 million had been spent on researching to develop the product.

The company expects that it would take two further years to develop the product to the point of production and by that time it would probably have a lead of 18 months over its primary competitors. Z-Tel expected to launch the product on 1<sup>st</sup> January 2006 and to produce and sell 100,000 units in the first year if Rs.150.0 million was spent on pre-launch advertising. During the first year of production Z-Tel planned to spend Rs.75.0 million on advertising; and this level of expenditure would be maintained each year.

From the second year onwards, the market was expected to increase between 160,000 units and 200,000 units. Once a competitor entered the market, it was thought that the competitor would win 50% market share very quickly because of their reputation.

The development and engineering costs of My-Mate were estimated to be Rs.600.0 million, Rs.200.0 million of which would be incurred in the first year of development, 2004. A special piece of equipment costing Rs.50.0 million would be required for the production and this was to be installed at the commencement of production.

Z-Tel planned to set a price of Rs.24, 900 a unit on the basis of variable manufacturing and distribution costs, expected to be Rs.12, 200 per unit. The company normally sets selling prices so that the contribution/sales ratio is 50% or slightly higher. The fixed costs relating to the product were estimated to be Rs.750.0 million per annum. It was also estimated that working capital of Rs.250.0 million would be needed at the start of production in January 2006.

The product was expected to have a life span of about five years at which time the equipment would be scrapped as having no value.

### **January 2007**

Development of My-Mate took six months longer than planned. This was mainly due to delay in recruiting two engineers who are specialist in the product.

The engineering department did not have a budget for this in year 1 (2004) and therefore the employment was delayed until the start of the second year, January 2005, when the budgets for extra funds have been approved. This caused the planned expenditure on development for year 2 to be spread over the 18-month period from the start of the second year to the middle of year 3. The two new members of staff were employed at a salary of Rs.4.50 million each and the employment costs were estimated to be 100% of the first year salary. As a result, production started six months late in June 2006 and only 55,000 units were sold in 2006.

As expected, a competitor has decided to enter the market and is launching its rival product ULTRA-MATE in January 2007.

Z-Tel now predicts the market for 2007 to be 150,000 units and its share to be 50%. Thereafter the market size will be as forecasted previously, which is between 160,000 and 200,000 units each year, and the product life cycle will stop at the same date as planned previously. The monetary value of all expenditure and revenues to date has been very close to the estimates and there is no reason to revise future forecasts in this respect.

### **Other information**

The company's cost of capital is 12% after tax. The equipment will be entitled for capital allowances at 25% on a straight line basis. The tax rate is 30%. The tax will be paid/ (received) in the same year in which revenues and costs were earned/ (incurred).

### **You are required to:**

- (a) Calculate the net present value of the project as perceived at the beginning of January 2004, when Z-Tel decided to make "My-Mate". State clearly any assumptions you make.  
**(17 Marks)**
- (b) Calculate the revised net present value of the project as perceived at the beginning of January 2007.  
**(11 Marks)**
- (c) Using the above scenario as an example, explain how each of the following could be incorporated to the project appraisal.
  - (i) Learning and experience curve benefits.
  - (ii) Life-Cycle costing
  - (iii) Target-costing**(04 x 03 = 12 Marks)**

**(Total 40 Marks)**

End of Section A

## Section B

Answer any two (2) questions

### Question No: 2 (20 Marks)

F Ltd is a mechanical engineering company specializing in the manufacture of brass valves using general purpose lathes. Its cost of capital is 12%.

A number of lathes have reached the end of their useful lives and F Ltd is in the process of replacing the lathes.

Currently, two alternative models are being considered for replacement. The cost details of the two models are given below:

Model	Useful life	Purchase price Rs.	Maintenance cost per year		
			1-5 Rs.	6-10 Rs.	11-15 Rs.
A	15 years	6,000,000	200,000	280,000	390,000
B	10 years	4,500,000	310,000	530,000	-

The residual value of a lathe drops by one-third of its purchase price during the first year of its ownership and thereafter declines by 4% of purchase price of model A and 6% of purchase price of model B, per year.

Model B can also be rented on the following terms:

- ◆ Annual rentals (including maintenance costs) paid in advance is Rs.1,020,000 (for the first year), Rs.1,025,000 (for subsequent four years) and Rs.1,099,500 (for final five years); the lathes are returned to the hirer at the end of ten years.
- ◆ The rental may be terminated at any time on payment of a penalty of Rs.1, 000,000, declining by Rs.100, 000 per year with each year of the rental agreement completed.

**You are required to advice on suitable replacement strategies as follows:**

- (a) Which option (purchase A, purchase B, rent B) is most economical assuming the brass valve production continues for at least 20 years. **(09 Marks)**
- (b) Advice which option (purchase A, purchase B, rent B) is most economical assuming the brass valve production continues for five years. **(07 Marks)**
- (c) Explain the non-financial factors that might be relevant to the decision making? **(04 Marks)**  
**(Total 20 Marks)**

**Question No: 3 (20 Marks)**

F Ltd is considering launching a new monthly magazine at a selling price of Rs.100.00 per copy. Sales of the magazines are expected to be 500,000 copies per month. However, it is possible that actual sales could differ significantly from this estimate.

Two different methods of producing the magazines are being considered and neither method would involve any additional capital expenditure. The estimated production costs for each of the two methods of manufacture, together with additional marketing and distribution costs of selling the new magazine are given below:

	<b>Method A</b>	<b>Method B</b>
Variable costs	Rs.55.00 per copy	Rs.50.00 per copy
Specific fixed costs	Rs.8.0 million per month	Rs.8.0 million per month
Semi-variable costs		
- 350,000 copies	Rs.5.50 million per month	Rs.4.75 million per month
- 450,000 copies	Rs.6.50 million per month	Rs.5.25 million per month
- 650,000 copies	Rs.8.50 million per month.	Rs.6.25 million per month

It may be assumed that the fixed cost content of the semi-variable cost will remain constant throughout the range of activities shown above.

The company currently sells a magazine covering related topics to those who will be included in the new publication and consequently it is anticipated that the sales of the existing magazine will be adversely affected. It is estimated that for every ten copies of the new magazine, sales of the existing magazine will be reduced by one copy.

Sales and costs of the existing magazines are shown below:

Sales	-	220,000 copies
Selling price	-	Rs.85.00 per copy
Variable costs	-	Rs.35.00 per copy.
Specific fixed costs	-	Rs.8.0 million per month

**You are required to:**

(a) Calculate for each production method, the net increase in the company profits which will result from the introduction of the new magazine, at each of the following levels of activities:

- 500,000 copies
- 400,000 copies
- 600,000 copies

**(12 Marks)**

(b) Calculate, for each production method, the amount by which sales volume of the new magazine could decline from the anticipated 500,000 copies per month, before the company makes no additional profit from the introduction of the new publication.

**(08 Marks)**

**(Total 20 Marks)**

**Question No: 4 (20 Marks)**

STAR is a high- quality perishable product which cannot be stored and is produced in one department of EFP Ltd. Because of its high-quality, STAR is sold at a premium price in the market.

The department is fully engaged in making of STAR and employs only one grade of labour. At present there are 105 operatives in the department, all working a 40-hour week and overtime is not permitted. The operatives are paid Rs.300 per hour with a guaranteed wage of Rs.12, 000 per week. The production capacity of the department is frequently restricted because additional operatives of the required skills cannot be recruited.

Demand for STAR is variable, the minimum weekly demand is 6,000 units and the maximum is 9,000 units per week.

The estimated production costs, selling price and the consequent profit per unit of STAR are given below:

	Rs.	Rs.
Selling price		500.00
Material	100.00	
Labour (0.6 hours * Rs.300)	180.00	
Variable overhead	60.00	
Fixed overhead	<u>90.00</u>	<u>430.00</u>
Profit		<u>70.00</u>

*Variable overhead vary with the units produced, the fixed overhead absorption rate is based upon an activity level of 7,000 units per week.*

The department manager was rather puzzled by a recent remark made by the accountant. The accountant has been referring to the cost of machine breakdowns which had resulted in operatives being idle for 210 hours in two successive weeks. In the first week, when demand for STAR had been 6,500 units, the accountant claimed that the cost of the 210 hours idle time was zero. In the second week, when the demand for STAR had been 7,500 units, the accountant claimed that the cost of the idle time had been Rs.119, 000.00.

**You are required to:**

- (a) Carefully explain to the department manager how the accountant has calculated the cost of idle time for each of the two weeks described above. **(10 Marks)**

The department manager is considering two alternative proposals for extending the capacity, to satisfy potential demand for STAR. These are:

- (i) Introduce an incentive scheme, for all STAR produced in the department. Operatives would be paid Rs.200.00 for each unit produced. The manufacturing time would be reduced to 0.50 hours per unit and the guaranteed weekly wage would be withdrawn.
- (ii) When demand exceeds current capacity, purchase frozen STAR from another supplier at Rs.400.00 per unit. Hence further processing would not be required and the product could, be sold to the customers under its own label.

**You are required to:**

- (b) Calculate the profitability on each of the schemes suggested and recommended by the department Manager. Which scheme is suitable? **(06 Marks)**

- (c) Comment on any other factors to be considered before a final decision is to be made?

**(04 Marks)**

**(Total 20 Marks)**

End of Section B

## Section C

### Answer only one (1) question

**Question No: 5 (20 Marks)** (Use the information from the scenario in question 1 to answer this question)

- (a) Explain the concept of the life-cycle costing and give reasons why it may be important to use it. **(05 Marks)**
  - (b) Using the figures from the proposal made in January 2004, draw a life cycle chart for “My-Mate”. (Precision is not required) **(03 Marks)**
  - (c) Discuss the importance or otherwise of a post-project audit, to the successful use of life-cycle costing techniques. **(07 Marks)**
  - (d) Discuss the difficulties of using life-cycle costing techniques in an organization with a heavy reliance on periodic reporting. **(05 Marks)**
- (Total 20 Marks)**

### **Question No: 6 (20 Marks)**

- (a) Identify and discuss the circumstances that have brought about the proposition that traditional management accounting control systems have lost their ‘relevance’ to today’s manufacturing and organizational environment. **(5 Marks)**
- (b) Evaluate strategic cost management initiatives which may be used in order to restore the ‘relevance’ of management accounting control systems in today’s manufacturing and organizational environment. **(15 Marks)**

**(Total 20 Marks)**

End of Section C

End of Question Paper

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