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Serial No.....

Society of Certified Management Accountants of Sri Lanka

Intermediate Stage Pilot paper

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>
Advanced Management Accounting	(AMA)

Section A

Question No: 1 (40 Marks)

Pure Care Hospital is a medium size hospital situated in the capital city of Sri Lanka. It specializes in mental health care. Most of the patients are resident in the hospital for treatment. The hospital uses budgets extensively for planning and control purposes.

The hospital has a maximum capacity of 80 beds. Budgeted information for the year ended 31 December 2005 is as follows:

- a) Budgeted cost for the year assuming 100 capacity utilization are as follows:

Costs	Rs.	Behaviour
Administration	9,200,000	100% fixed
Catering	16,400,000	70% variable, 30% fixed
Cleaning	3,200,000	20% variable, 80% fixed
Laundry	8,000,000	100% variable
Medical supervision	26,000,000	30% variable, 80% fixed
Sundry overheads	10,000,000	25% variable, 75% fixed

- b) Variable costs vary in proportion to the number of beds occupied.
- c) Fixed costs are incurred equally in each of four quarters of the year.
- d) The budgeted charges at which residents are invoiced are Rs.3 000 per day. Each quarter is treated as 90 days for invoicing purposes.
- e) The budgeted occupancy rate is 90% for the year to 31 December 2005.

The actual information for the quarter ended 30 June 2005 is as follows:

a) Actual costs incurred for the quarter are:

Costs	Variable (Rs)	Fixed (Rs)
Administration	Nil	2,200,000
Catering	2,750,000	1,240,000
Cleaning	152,500	620,000
Laundry	1,938,000	Nil
Medical supervision	1,852,500	4,360,000
Sundry overheads	600,000	1,800,000

b) Average occupancy during the quarter was 76 beds per day.

c) Fee income from residents during the quarter was increased by short-term residents who agreed to pay a premium rate of Rs.3, 500 per day and who were invoiced in total for 700 bed days.

A number of permanent changes were acknowledged at the start of the quarter ended 30 June 2005 which would affect the budgeted costs:

- A rearrangement of the administrative staff requirement reduces the salaries by Rs.200, 000 per quarter.
- Catering variable costs will be increased by 3% because of the food price increase.
- Cleaning fixed costs will increase by Rs.24, 000 per quarter in order to comply with new legislation
- Laundry costs will be reduced by 5% as the result of a policy of contracting –out the laundry service.
- Medical supervision variable costs will be reduced 5% through the rationalization of drug requirements.
- Sundry overhead fixed costs will be reduced by Rs.500,000 per quarter through a rationalization of the night duty staff requirements.

A summary operating statement for the quarter ended 30 June 2005 which recognizes planning and operational variances is presented as follows:

	Rs	Rs	Rs
Original budget contribution			12,595,500.00
Revision Variances			<u>100,300.00</u>
Revised budget contribution			12,695,800.00
Less: Fixed costs (total)			
Original budget		10,595,000.00	
Revision variances		<u>(676,000.00)</u>	<u>9,919,000.00</u>
Revised budget profit			2,776,800.00
Occupancy variance (contribution gain or loss)			705,300.00
Other variances	Variable	Fixed	
Residence fees	350,000.00	-	
Cost variances (total)	<u>(174,100.00)</u>	<u>(301,000.00)</u>	<u>(125,100.00)</u>
Actual net profit			3,357,000.00

Note: bracket represents adverse variances

As the Assistant Management Accountant of the company, you are required to;

- a) Using the information in the question, prepare detailed working to show how each of the figures in the operating statement for the quarter ended 30 June 2005 have been calculated; **(24 Marks)**
- b) Estimate the occupancy rate (%) for the six month ending 31 December 2005 which will result in a net profit of Rs.6,500,000 for the six month period if the actual costs and revenue statistics are as per those applicable in quarter 2 other than:
- i) Operational variances for costs are reduced to 40% of the rate at which they incurred in quarter 2.
 - ii) Fee income premium for short stay residents will boost overall fees by 5% of the budget bed day fee. **(08 Marks)**
- c) Explain to the hospital owners the ways in which the planning and operational variance model enhances their ability to implement feedback and feed forward control *(No quantitative data required)* **(08 Marks)**

(Total 40 Marks)

End of Section A

Section B

Answer any Two (2) questions

Question No: 2 (20 Marks)

Affordable Informatics Inc., sells handheld Windows CE TM - compatible organizers. Affordable Informatics markets three different handheld models. IPaC is a high –up version for the executive on the go; IDaC is a consumer –oriented version; and IPrO is stripped – down version for the young adult market.

You are Affordable Informatics Director-Sales & Marketing. The CEO has discovered that the total contribution margin came in lower than budget, and it is your responsibility to explain to him why actual results are different from the budget. Budgeted and actual operating data for the company’s third quarter (2003) are as follows:

Budgeted Operating Data, third quarter 2006

Type	Selling Price (Rs.)	Variable Cost (Per Unit)	Contribution (Per Unit)	Sales volume (in units)
IPaC	37,900	18,200	19,700	12,500
IDaC	26,900	9,800	17,100	37,500
IPrO	14,900	6,500	8,400	50,000
				100,000

Actual operating data, third quarter 2006

Type	Selling Price (Rs.)	Variable Cost (Per Unit)	Contribution (Per Unit)	Sales volume (in units)
IPaC	34,900	17,800	17,100	11,000
IDaC	28,500	9,200	19,300	44,000
IPrO	10,200	7,300	2,900	55,000
				100,000

You are required to;

- a) Compute the actual and budgeted contribution margins in Rupees for each product and in total. **(02 Marks)**
 - b) Calculate the actual and budgeted sales mixes for the three products. **(02 Marks)**
 - c) Calculate total sales-volume, sales-mix and sales quantity variances for the third quarter of 2006. **(04 Marks)**
 - d) Given that your CEO is known to have temper tantrums, you want to be well prepared for this meeting. In order to prepare, write a paragraph or two explaining why actual results were not as good as the budgeted amounts. **(04 Marks)**
 - e) Affordable Informatics ' Senior Vice President of marketing prepared his budget at the beginning of the third quarter for 2004 assuming a 25% market share based on total sales. The total handheld –organizer market was estimated by Predict Correct Research to reach sales of 400,000 units in Sri Lanka in the third quarter as it could be used as a mobile phone unit as well. However, actual market sales for handheld –organizer were 500,000units.
 - i. Calculate the market- share and market size variances for Affordable Informatics in the third quarter of 2003 (report all variance s in terms of contribution margins). **(02 Marks)**
 - ii. Explain what happened based on the market- share and market size variances. **(02 Marks)**
 - iii. Calculate the actual market size, in units, that would have led to no market- size variance (again using budgeted contribution margin per unit). Use this market size figure to find the actual market share that would have led to a zero market share variance. **(04 Marks)**
- (Total 20 Marks)**

Question No: 3 (20 Marks)

Racers Choice is a leading manufacturer of racing bikes. It has designed a radically new concept in racing bikes with the intention of selling them to professional racing teams.

	Rs.
Materials	5,000
Assembly Labour (50 hours at Rs.50 per hour)	2,500
Fixed Overheads (200% of Assembly labour)	5,000

	12,500
Profit (20% of total cost)	2,500

	15,000
	=====

Racers plans to sell all bikes at total cost plus 20% and the material cost per bike will remain constant irrespective of the number sold.

Racers Choice's management expects the assembly time to gradually improve with experience and has estimated an 80% learning curve.

A racing team has approached the company and asked for the following quotations:

- (i) If we were to purchase the first bike assembled, and immediately put in an order for the second, what would be the price of the second bike?
- (ii) If we waited until you had sold two bikes to another team, and then ordered the third and fourth bikes to be assembled, what would be the average price of the third and fourth bikes?
- (iii) If we decided to immediately equip our entire team with the new bike, what would be the price per bike if we placed an order for the first eight to be assembled?

You are required to;

- a) Explain Learning Curve Theory and in particular the concept of cumulative average time. **(04 Marks)**
 - b) Provide detailed price quotations for each of the three enquiries outlined above by the customers. **(09 Marks)**
 - c) Identify the major areas within management accounting where learning curve theory is likely to have consequences and suggest potential limitations of this theory. **(07 Marks)**
- (Total 20 Marks)**

Question No: 4 (20 Marks)

Prime Care is a privately owned profit seeking hospital that specializes in operations to replace hip and knee joints. Prime Care traditionally determines its prices by adding a 10% mark-up to the budgeted full cost of an operation. The fixed overheads are absorbed on the basis of operating hours using a predetermined rate.

Prime Care Operating and Financial Data for 2005

	Hip	Knee	Total
Total Operating Capacity (Hours)			10,800
Theatre utilisation ratio			70%
Average duration of operation	3.0 Hours	3.6 Hours	
Number of operations taken	*	1,270	
Total costs			Rs. 150,367,80
Fixed overheads			Rs.120,000,000

* Not given

The variable costs per operation are as budgeted.

Prime Care Budgeted Data for 2005

	Hip	Knee	Total
Fixed overhead			Rs.120,000,000
Annual operating hours			8,000
Variable cost per operation	Rs.14,500	*	

* Not given

You are required to;

- Calculate the number of hip operations undertaken during the year and the variable cost of performing a knee operation. **(5 Marks)**
- Calculate the prices that Prime Care would have charged in 2001 for:
 - A hip operation;
 - A knee operation. **(6 Marks)**
- An activity based costing study recently discovered that the fixed overheads are determined by non operating time related activities. The study revealed the following data:

Activity	Cost Driver	Hip	Knee	Fixed Overheads
Consultations with patients	Number of Consultants	3,000	2,000	Rs.89,000,000
X-rays	Number of X-rays	6,200	6,200	Rs.18,000,000
Post-operative care	Days of care	7,860	23,580	Rs.12,200,000

You are required to;

- Re-calculate the prices that would have been charged in 2001 for each knee and hip operation by using an activity based costing approach. **(5 Marks)**
- Compare the results of your calculated prices in (b) and (c-i) and suggest with reasons what pricing decisions you would recommend to the hospital. **(4 Marks)**

(Total 20 Marks)

End of Section B

Section C

Answer any one (1) question.

Question No: 5 (20 Marks)

- You are required to define the requirements of responsibility accounting. **(04 Marks)**
- You are required to explain how responsibility may be shared in respect of the cost of operating the maintenance department in an organization which has a number of production and service departments. **(04 Marks)**
- You are required to suggest ways in which the design of the management accounting system may attempt to recognize such shared responsibility. **(04 Marks)**

Traditional budgeting systems are incremental in nature and tend to focus on cost centers. Activity based budgeting links strategic planning to overall performance measurement aiming of continuous improvement.

- Describe the main features of an activity based budgeting system and comment on the advantages claimed for its use. **(08 Marks)**

(Total 20 Marks)

Question No: 6 (20 Marks)

- a) Discuss ways in which standards may be seen as useful aids in management accounting decision-making. **(08 Marks)**
- b) Suggest ways in which the use of standards may be seen as having a *dysfunctional effect* in relation to decision making about each of materials, labour and overhead cost.

(12 Marks)

(Total 20 Marks)

End of Section C

End of Question Paper
