ICMAB
THE INSTITUTE OF COST AND MANAGEMENT ACCOUNTANTS OF BANGLADESH

CMA DECEMBER, 2019 EXAMINATION
PROFESSIONAL LEVEL-II
SUBJECT: 202. MANAGEMENT ACCOUNTING

Time: Three hours | Full Marks: 100

- All questions are to be attempted.
- Show computations, where necessary.
- Answer must be brief, relevant, neat and clean.
- Start answering each question from a fresh sheet.

Q. No. 1

(a) What are the key factors in identifying benchmarking partners? Explain why these factors are important.

(b) Last month, Compact Capacitor Company sold capacitors to its distributors for Tk. 250 per capacitor. The sales level of 3,000 capacitors per month was less than the single-shift capacity of 4,400 capacitors at its plant located in Savar, Dhaka. Variable production costs were Tk. 100 per capacitor, and fixed production costs were Tk. 200,000 per month. In addition, variable selling and distribution costs are Tk. 20 per capacitor, and fixed selling and distribution costs are Tk. 62,500 per month. At the suggestion of the marketing department, this month Compact reduced the sales price to Tk. 200 and increased the monthly advertising budget by Tk. 17,500. Sales are expected to increase to 6,800 capacitors per month. If the demand exceeds the single-shift capacity of 4,400 capacitors, the plant needs to be operated in two shifts. Two-shift operation will increase monthly fixed production costs to Tk. 310,000.

Requirements:

(i) Determine the contribution margin per capacitor last month.

(ii) Determine the sales level in number of capacitors at which the profit-to-sales ratio would be 10% for last month.

(iii) Determine the two breakeven points for this month.

(iv) Determine the sales level in number of capacitors at which the profit-to-sales ratio this month is the same as the actual profit-to-sales ratio last month. Is there more than one possible sales level at which this equality would occur?

[Marks: 5+(3+4+4+4) = 20]

Q. No. 2

(a) Walker Construction acts as the general contractor on building projects ranging from Tk. 500,000 to Tk. 5 million. Each job requires a bid that includes Walker's direct costs and subcontractor costs as well as an amount referred to as "overhead and profit." Walker's bidding policy is to estimate the direct materials cost, direct labor cost, and subcontractors' costs. These are totaled, and a markup is applied to cover overhead and profit. In the coming year, the company believes it will be the successful bidder on 10 jobs with the following total revenues and costs (Tk.):

Revenue		23,580,000
Direct materials	6,500,000	
Direct labor	4,316,000	
Subcontractors	8,834,000	
		19,650,000
Overhead and profit		3,930,000

Requirements:

(i) Given the preceding information, what is the markup percentage on total direct costs?

(ii) Suppose Walker is asked to bid on a job with estimated direct costs of Tk.980,000. What is the bid? If the customer complains that the profit seems pretty high, how might Walker counter that accusation?

Q. No. 2(cont'd...)

(b) Wedmark Corporation's Cumilla, plant manufactures chips used in personal computers. Its practical capacity is 2,000 chips per week, and fixed costs are Tk. 75,000 per week. The selling price is Tk. 500 per chip. Production this quarter is 1,600 chips per week. At this level of production, variable costs are Tk. 720,000 per week.

Requirements:

(i) What will the plant's profit per week be if it operates at practical capacity?

(ii) Suppose that a new customer offers Tk. 480 per chip for an order of 200 chips per week for delivery beginning this quarter. If this order is accepted, production will increase from 1,600 chips at present to 1,800 chips per week. What is the estimated change in the company's profit if it accepts the order?

(iii) Suppose that the new customer in part (ii) offered Tk. 480 per chip for an order of 600 chips per week and that Wedmark cannot schedule overtime production. Consequently, it would have to give up some of its current sales to fill the new order for 600 chips per week. What is the estimated change in Wedmark's profit if it accepts this order for 600 chips per week?

[Marks: (3+5)+(3+4+5) = 20]

Q. No. 3

(a) You are willing to donate to worthy organizations. However, you believe strongly that each request for a donation should be evaluated on the basis of its own merits. You would not feel bad in any year if you donated nothing. What approach to budgeting are you using? Justify your answer.

(b) The following budget information for the year ending December 31, 2018, pertains to Rust Manufacturing Company's operations:

	PRODUCT		
BUDGET ITEM	ACE	BELL	TOTALCOSTS
Budgeted sales in units	200,000	100,000	
Selling price per unit	Tk.40	Tk.20	
Direct materials cost per unit	Tk.8	Tk.3	
Direct labor hours per unit	2	1	
Depreciation			Tk.200,000
Rent			Tk.130,000
Other manufacturing support costs			Tk.500,000
Selling costs			Tk.180,000
General and administrative costs			Tk.40,000

The following information is also provided:

(1) Rust has no beginning inventory. Production is planned so that it will equal the number of units sold.

(2) The cost of direct labor is Tk.5 per hour.

(3) Depreciation and rent are fixed costs within the relevant range of production. Additional costs would be incurred for extra machinery and factory space if production is increased beyond current available capacity.

(4) Rust allocates depreciation proportional to machinery use and rent proportional to factory space. Budgeted usage is as follows:

	ACE	BELL
Machinery	70%	30%
Factory space	60%	40%

Q. No. 3(cont'd...)

(5) Other manufacturing support costs include variable costs equal to 10% of direct labor cost and also include various fixed costs. None of the miscellaneous fixed manufacturing support costs depend on the level of activity, although support costs attributable to a specific product are avoidable if that product's production ceases. The fixed-cost portion of other manufacturing support costs is allocated between Ace and Bell on the basis of a percentage of budgeted direct labor cost.

(6) Rust's selling and general and administrative costs are committed in the intermediate term.

(7) Rust allocates selling costs on the basis of number of units sold at Ace and Bell.

(8) Rust allocates general and administrative costs on the basis of sales revenue.

Requirements:

(i) Prepare a schedule, using separate columns for Ace and Bell, showing budgeted sales, variable costs, contribution margin, fixed costs, and pretax operating profit for the year ending December 31, 2018.

(ii) Calculate the contribution margin per unit and the pretax operating profit per unit for Ace and for Bell.

(iii) Calculate the effect on pretax operating profit resulting from a 10% decrease in sales and production of each product.

(iv) What may be a problem with the above analysis?

[Marks: 3+(10+2+2+2+3) = 20]

Q. No. 4

(a) Why do some firms measure customer profitability? In what situation(s) would a firm not want to measure customer profitability?

(b) Prime Insurance Company has three lines of insurance: automobile, property, and life. The life insurance segment has been losing money for the past five quarters, and Leah Harper, Prime's controller, has done an analysis of that segment. She has discovered that the commission paid to the agent for the first year the policy is in place is 55 percent of the first-year premium. The second-year commission is 20 percent, and all succeeding years a commission equal to 5 percent of premiums is paid. No salaries are paid to agents; however, Prime does advertise on television and in magazines. Last year, the advertising expense was Tk. 500,000. The loss rate (payout on claims) averages 50 percent. Administrative expenses equal Tk. 450,000 per year. Revenue last year was Tk. 10,000,000 (premiums). The percentage of policies of various lengths is as follows:

First year in force	65%
Second year	25
More than two years in force	10

Experience has shown that if a policy remains in effect for more than two years, it is rarely cancelled. Leah is considering two alternative plans to turn this segment around. Plan 1 requires spending Tk. 250,000 on improved customer claim service in hopes that the percentage of policies in effect will take on the following distribution:

First year in force	50%
Second year	15
More than two years in force	35

Total premiums would remain constant at Tk. 10,000,000, and there are no other changes in fixed or variable cost behavior. Plan 2 involves dropping the independent agent and commission system and having potential policyholders phone in requests for coverage. Leah estimates that revenue would drop to Tk. 7,000,000. Commissions would be zero, but administrative expenses would rise by Tk. 1,200,000, and advertising (including direct mail solicitation) would increase by Tk. 1,000,000.

Q. No. 4(cont'd...)

Requirements:

(i) Prepare a variable-costing income statement for last year for the life insurance segment of Prime Insurance Company.

(ii) What impact would Plan 1 have on income?

(iii) What impact would Plan 2 have on income?

[Marks: 3+(7+5+5) = 20]

Q. No. 5

(a) Discuss the similarities and differences between activity-based costing and the theory of constraints, as well as situations in which one approach might be preferable to the other.

(b) Mrs. Agaths Spencer- Atwood is managing director of the British company. Imperial reflections Ltd. The company makes reproductions of antique dressing room mirrors. Mrs. Spencer-Atwood would like guidance on the advisability of eliminating the Kensington line of mirrors. These mirrors have never been among the company's best-selling products, although their sales have been stable for many years.

Below is a condensed statement of operating income for the company and for the Kensington product line for the quarter ended June 30:

	Total Company	Kensington Product Line
Sales	£ 5000,000	£ 480,000
Cost of Sales:		
Direct materials	420,000	32,000
Direct labor	1600,000	200,000
Fringe benefits (30% of labor)	480,000	60,000
Variable manufacturing overhead	340,000	30,000
Building rent and maintenance	120,000	15,000
Depreciation	80,000	10,000
Royalties (5% of sales)	250,000	24,000
Total Cost of Sales	3290,000	371,000
Gross margin	1710,000	109,000
Selling and administrative expenses:		
Product-line managers salaries	75,000	8,000
Sales commissions (10% of sales)	500,000	48,000
Fringe benefits (30% of salaries and commissions)	172,500	16,800
Shipping	120,000	10,000
Advertising	350,000	15,000
General Administrative expenses	250,000	24,000
Total selling and administrative expenses	1,467,500	121,800
Net operating income (loss)	£ 242,500	£ (12,800)

The following additional data have been supplied by the company:

(1) The company pays royalties to the owners of the original pieces of furniture from which the reproductions are copied.

(2) All of the company's products are manufactured in the same facility and use the same equipment. The building rent and maintenance and the depreciation are allocated to products on the basis of direct labor dollars. The equipment does not wear cut through use: rather it eventual becomes obsolete.

(3) There is ample capacity to fill all orders.

(4) Dropping the Kensington product line would have little (if any) effect on sales.

Q. No. 5(cont'd...)

(5) All products are made to order, so there are no inventories.

(6) Shipping costs are traced to the product lines.

(7) Advertising costs are for ads to promote specific product lines. These costs have been traced directly to the product lines.

(8) General administrative expenses are allocated to products on the basis of sales dollars, there would be no effect on the total general administrative expenses if the Kensington product line were dropped.

Requirements:

(i) Would you recommend that the Kensington product line be dropped given the current level of sales? Prepare appropriate computations to support your answer.

(ii) What would sales of the Kensington product line have to be at a minimum to justify retaining the product line? Explain your answer.

[Marks: 4+(8+8) = 20]

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