ICMAB
THE INSTITUTE OF COST AND MANAGEMENT ACCOUNTANTS OF BANGLADESH

CMA JUNE, 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) Suppose you have been hired as a management accountant of a newly established footwear company in Bangladesh. What are your future challenges and how will you tackle them by using management accounting tools?

(b) CH Corporation has decided to introduce a new product. The product can be manufactured using either a capital-intensive or labor-intensive method. The manufacturing method will not affect the quality or sales of the product. The estimated manufacturing costs of the two methods are as follows:

	Capital-intensive	Labor-intensive
Variable manufacturing cost per unit	Tk. 14.00	Tk. 17.60
Fixed manufacturing cost per year	Tk. 2,440,000	Tk. 1,320,000

The company's market research department has recommended an introductory selling price of Tk. 30 per unit for the new product. The annual fixed selling and administrative expenses of the new product are Tk. 500,000. The variable selling and administrative expenses are Tk. 2 per unit regardless of how the new product is manufactured.

Required:

(i) Calculate the break-even point in units if CH Corporation uses the:
  (a) Capital-intensive manufacturing method.
  (b) Labor-intensive manufacturing method.

(ii) Determine the unit sales volume at which the net operating income is the same for the two manufacturing methods.

(iii) Assuming sales of 250,000 units, what is the degree of operating leverage if the company uses the:
  (a) Capital-intensive manufacturing method.
  (b) Labor-intensive manufacturing method.

(iv) What is your recommendation to management concerning which manufacturing method should be used?

[Marks: 4+(5+4+5+2) = 20]

Q. No. 2

(a) “Managers will always choose the alternative that maximize operating income or minimize costs in the division model” Illustrate the statement.

(b) Starfax, Inc., manufactures a small part that is widely used in various electronic products such as home computers. Operating results for the first three years of activity were as follows (absorption costing basis):

	Year 1	Year 2	Year 3
Sales	Tk. 800,000	Tk. 640,000	Tk. 800,000
Cost of goods sold	580,000	400,000	620,000
Gross margin	220,000	240,000	180,000
Selling and administrative expenses	190,000	180,000	190,000
Net operating income (loss)	Tk. 30,000	Tk. 60,000	Tk. (10,000)

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

In the latter part of Year 2, a competitor went out of business and in the process dumped a large number of units on the market. As a result, Starfax's sales dropped by 20% during Year 2 even though production increased during the year. Management had expected sales to remain constant at 50,000 units; the increased production was designed to provide the company with a buffer of protection against unexpected spurts in demand. By the start of Year 3, management could see that inventory was excessive and that spurts in demand were unlikely. To reduce the excessive inventories, Starfax cut back production during Year 3, as shown below:

	Year 1	Year 2	Year 3
Production in units	50,000	60,000	40,000
Sales in units	50,000	40,000	50,000

Additional information about the company follows:

1. The company's plant is highly automated. Variable manufacturing costs (direct materials, direct labor, and variable manufacturing overhead) total only Tk. 2.00 per unit, and fixed manufacturing overhead costs total Tk. 480,000 per year.
2. Fixed manufacturing overhead costs are applied to units of product on the basis of each year's production. That is, a new fixed manufacturing overhead rate is computed each year.
3. Variable selling and administrative expenses were Tk. 1 per unit sold in each year. Fixed selling and administrative expenses totaled Tk. 140,000 per year.
4. The company uses a FIFO inventory flow assumption.

Starfax's management can't understand why profits doubled during Year 2 when sales dropped by 20%, and why a loss was incurred during Year 3 when sales recovered to previous levels.

Required:

(i) Prepare a contribution format variable costing income statement for each year.

(ii) Refer to the absorption costing income statements above.
- (a) Compute the unit product cost in each year under absorption costing.
- (b) Reconcile the variable costing and absorption costing net operating income figures for each year.

(iii)
- (a) Explain how operations would have differed in Year 2 and year 3 if the company had been using Lean Production, with the result that ending inventory was zero.
- (b) If Lean Production had been used during year 2 and Year 3 and the predetermined overhead rate is base on 50,000 units per year, what would the company's net operating income (or loss) have been in each year under absorption costing? Explain the reason for any differences between income figures and the figures reported by the company in the statements above.

[Marks: 4+{6+(2+3)+(2+3)} = 20]

Q. No. 3

(a) Lakeshore Tours Inc., operates a large number of tours throughout the United States. A study has indicated that some of the tours are not profitable, and consideration is being given to dropping these tours in order to improve the company's overall operating performance. One such tour is a two-day Battlefields of the French and Indian Wars bus tour. An income statement from one of these tours is given below:

Ticket revenue:			
(100 seats × 45% occupancy × $80 ticket price)		$3,600	100%
Less variable expenses ($24 per person)		1,080	30%
Contribution margin		2,520	70%
Less fixed tour expenses:			
Tour promotion	$620		
Salary of bus driver	400		
Fee, tour guide	825		
Fuel for bus	100		
Depreciation of bus	400		

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

Liability insurance, bus	250	
Overnight parking fee, bus	50	
Room and meals, bus driver and tour guide	75	
Bus maintenance and preparation	325	
Total fixed tour expenses		3,045
Net operating loss		$ (525)

Dropping this tour would not affect the number of buses in the company's fleet or the number of bus drivers on the company's payroll. Buses do not wear out through use; rather, they eventually become obsolete. Bus drivers are paid fixed annual salaries; tour guides are paid for each tour conducted. The "Bus maintenance and preparation" cost above is an allocation of the salaries of mechanics and other service personnel who are responsible for keeping the company's fleet of buses in good operating condition. There would be no change in the number of mechanics and other service personnel as a result of dropping this tour. The liability insurance depends upon the number of buses in the company's fleet and not upon how much they are used.

Required:

Prepare an analysis showing what the impact will be on company profits if this tour is discontinued.

(b) Fothergill Company makes 40,000 units per year of a part it uses in the products it manufactures. The unit product cost of this part is computed as follows:

Direct materials	Tk. 23.40
Direct labor	22.30
Variable manufacturing overhead	1.40
Fixed manufacturing overhead	24.60
Unit product cost	Tk. 71.70

An outside supplier has offered to sell the company all of these parts it needs for Tk. 59.20 a unit. If the company accepts this offer, the facilities now being used to make the part could be used to make more units of a product that is in high demand. The additional contribution margin on this other product would be Tk. 352,000 per year.

If the part were purchased from the outside supplier, all of the direct labor cost of the part would be avoided. However, Tk. 21.90 of the fixed manufacturing overhead cost being applied to the part would continue even if the part were purchased from the outside supplier. This fixed manufacturing overhead cost would be applied to the company's remaining products.

Required:

(i) How much of the unit product cost of Tk. 71.70 is relevant in the decision of whether to make or buy the part?

(ii) What is the net total taka advantage (disadvantage) of purchasing the part rather than making it?

(iii) What is the maximum amount the company should be willing to pay an outside supplier per unit for the part if the supplier commits to supplying all 40,000 units required each year?

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

Q. No. 4

(a) "If a product line is generating a loss, then it should be discontinued." Do you agree? Explain.

(b) You have just been hired as a new management trainee by PQ Company, a distributor of pens to various retail outlets located in shopping malls across the country. In the past, the company has done very little in the way of budgeting and at certain times of the year has experienced a shortage of cash. Since you are well trained in budgeting, you have decided to prepare comprehensive budgets for the upcoming second quarter in order to show management the benefits that can be gained from an integrated budgeting program. To this end, you have worked with accounting and other areas to gather the information assembled below. The company sells many styles of pens, but all are sold for the same price—Tk.10 per pair. Actual sales of earrings for the last three months and budgeted sales for the next six months follow (in pairs of pens):

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

January (actual) 20,000
February (actual) . . . . … 26,000
March (actual) 40,000
April (budget) 65,000
May (budget) 100,000
June(budget) 50,000
July (budget) 30,000
August (budget) 28,000
September(budget) 25,000

The concentration of sales before and during May is due to Mother's Day. Sufficient inventory should be on hand at the end of each month to supply 40% of the pens sold in the following month. Suppliers are paid Tk.4 for a pair of pens. One-half of a month's purchases is paid for in the month of purchase; the other half is paid for in the following month. All sales are on credit, with no discount, and payable within 15 days. The company has found, however, that only 20% of a month's sales are collected in the month of sale. An additional 70% is collected in the following month, and the remaining 10% is collected in the second month following sale. Bad debts have been negligible.

Monthly operating expenses for the company are given below:

Variable:	
Sales commissions	4% of sales
Fixed:	
Advertising	Tk. 200,000
Rent	18,000
Salaries	106,000
Utilities	7,000
Insurance	3,000
Depreciation	14,000

Insurance is paid on an annual basis, in November of each year.

The company plans to purchase Tk. 16,000 in new equipment during May and Tk. 40,000 in new equipment during June; both purchases will be for cash. The company declares dividends of Tk. 15,000 each quarter, payable in the first month of the following quarter.

A listing of the company's ledger accounts as of March 31 is given below:

Assets	
Cash	Tk. 74,000
Accounts receivable (Tk. 26,000 February sales; Tk. 320,000 March sales)	346,000
Inventory	104,000
Prepaid insurance	21,000
Property and equipment (net)	950,000
Total assets	Tk. 1,495,000
Liabilities and stockholders' Equity	
Accounts payable	100,000
Dividends payable	15,000
Common stock	800,000
Retained earnings	580,000
Total liabilities and stockholders' equity	Tk. 1,495,000

The company maintains a minimum cash balance of Tk. 50,000. All borrowing is done at the beginning of a month; any repayments are made at the end of a month.

The company has an agreement with a bank that allows the company to borrow in increments of Tk. 1,000 at the beginning of each month. The interest rate on these loans is 1% per month and for simplicity we will assume that interest is not compounded. At the end of the quarter, the company would pay the bank all of the accumulated interest on the loan and as much of the loan as possible (in increments of Tk.1,000), while still retaining at least Tk.50,000 in cash.

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

Required:

(i) Prepare a cash budget. Show the budget by month and in total. Determine any borrowing that would be needed to maintain the minimum cash balance of Tk. 50,000. (Show the necessary workings)

(ii) A budgeted income statement for the three-month period ending June 30. Use the contribution approach.

[Marks: 3+(12+5) = 20]

Q. No. 5

(a) Apex, Inc., operates a chain of 44 department stores. Two years ago, the board of directors of Apex approved a large-scale remodeling of the stores to attract a more upscale clientele. Before finalizing these plans, two stores were remodeled as a test. Rabita, assistant controller, was asked to oversee the financial reporting for these test stores, and she and other management personnel were offered bonuses, based on the sales growth and profitability of these stores. While completing the financial reports, Rabita discovered a sizable inventory of outdated goods that should have been discounted for sale or returned to the manufacturer. She discussed the situation with her management colleagues: the consensus was to ignore reporting this inventory as obsolete.

Required:

(i) Based on the statement above, why do you think Rabita and her management colleagues refuse to report the obsolete inventory?

(ii) According to the Institute of Management Accountants (IMA's) Statement of Ethical Professional Practice, does Rabita follow or violate ethical code of conduct if she agrees not to report the inventory as obsolete? Relate your answer with relevant ethical behavior stipulated in the IMA guideline.

(iii) Let say, Rabita insists on writing down the obsolete inventory. In your opinion, what will happen to Rabita as a result of those actions, especially among with her management colleagues?

(b) Supreme Industries, is preparing to submit a bid for a ball-bearings order. Sandeep, controller of the Bearings Division of Supreme, has asked Rohan, the cost analyst, to prepare the bid. To determine price, Supreme's policy is to mark up the full costs of the product by 10 %. Sandeep tells Rohan that he is keen on winning the bid and that the price he calculates should be competitive.

Rohan prepares the following costs for the bid:

Direct materials		Tk. 4,00,000
Direct manufacturing labor Overhead costs		1,00,000
Design and parts administration	Tk. 40,000	
Production-order	50,000	
Setup	55,000	
Materials-handling	65,000	
General and administration	90,000	
Total overhead costs		3,00,000
Full product costs		Tk. 8,00,000

All direct costs and 30 % of overhead costs are incremental costs of the order.

Sandeep reviews the numbers and says, "Your costs are way too high. You have allocated too much overhead costs to this job. You know our fixed overhead is not going to change if we win this order and manufacture the bearings. Rework your numbers. You have got to make the costs lower."

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

Rohan verifies his numbers are correct. He knows that Sandeep wants this order because the additional revenues from the order would lead to a big bonus for Sandeep and the senior division managers. Rohan knows that if he does not come up with a lower bid, Sandeep will be very upset.

Required:

(i) Using Supreme's pricing policy and based on Rohan's estimates, calculate the price Supreme should bid for the ball-bearings order.

(ii) Calculate the incremental costs of the ball-bearing order. Why do you think Supreme uses full costs of the product rather than incremental costs in its pricing decisions?

(iii) Evaluate whether Sandeep's suggestion to Rohan to use lower cost numbers is unethical. Would it be unethical for Rohan to change his analysis so that a lower cost can be calculated? What steps should Rohan take to resolve this situation?

[Marks: 6+(4+5+5) = 20]

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