ICMAB
THE INSTITUTE OF COST AND MANAGEMENT ACCOUNTANTS OF BANGLADESH

CMA DECEMBER, 2019 EXAMINATION
MANAGEMENT LEVEL
SUBJECT: P2. PERFORMANCE MANAGEMENT

Time Allocated: Three hours | Total Marks: 100

Instructions to Candidates

There are three sections (that is A, B & C) in this paper. You are required to answer ALL questions.
Answers should be properly structured, relevant and computations need to be shown wherever necessary.
You are strongly advised to carefully read ALL the question requirements before attempting the question concerned (that is all parts and/or sub-questions).
ALL answers must be written in the answer book. Answers written on the question paper will not be submitted for marking.
Start answering each question from a fresh sheet. Your answers should be clearly numbered with the sub-question number then ruled off, so that the markers know which sub-question you are answering.

Section	No of questions in the Section	No of sub-questions in the Section	Marks allocation
A	01	08	20%
B	01	05	30%
C	02		50%

TURN OVER

SECTION A – 20 MARKS
This section consists of 1 question and 8 sub-questions.
You are advised to spend no longer than 36 minutes on this section. Section will carry 20 marks and one sub-question will carry 2.5 marks each.

QUESTION 01

(a) Give two examples of pricing decision with a short-run focus.

(2 ½ Marks)

(b) State four management decisions for which ABC information is used to implement ABM.

(2 ½ Marks)

(c) Why are financial performance measures not sufficient in themselves?

(2 ½ Marks)

(d) Name three benefits and two costs of decentralization.

(2 ½ Marks)

(e) What is value-based pricing?

(2 ½ Marks)

(f) Discuss the various types of value that are used in Value Engineering.

(2 ½ Marks)

(g) Discuss the significance of Shadow pricing

(2 ½ Marks)

(h) Explain the term “Multinational Transfer Pricing”.

(2 ½ Marks)

END OF SECTION A

SECTION B Starts on page 3

Section B– 30 MARKS

This section consists of 1 question and 5 sub-questions.
You are advised to spend no longer than 9 minutes on each sub-question in this section. Section will carry 30 marks and one sub-question will carry 6 marks each.

QUESTION 02

(a) RSM is reviewing the selling price of one of its products. The current selling price of the product is Tk.45 per unit and annual demand is forecast to be 130,000 units at this price. Market research shows that the level of demand would be affected by any change in the selling price Detailed analysis of this research shows that for every Tk.1 increase in selling price, annual demand would reduce by 10,000 units and that for every Tk.1 decrease in selling price, annual demand would increase by 10,000 units. A forecast of the costs that would be incurred by RSM in respect of this product at differing activity levels is as follows:

Annual Production and Sales (units)	100,000	160,000	200,000
	Tk.'000	Tk.'000	Tk.'000
Direct Materials	280	448	560
Direct Labour	780	1,248	1,560
Variable Overhead	815	1,304	1,630
Fixed Overhead	360	360	360

The company seeks your help in determining the optimum selling price to maximize its profits.

Required:

Calculate the optimum forecast annual profit from the product.

[Marks: 6]

(b) Consider the following cases independently:

Case-1: Bert's Boats sells three standard boats for every one deluxe model boat. The standard boats sell for Tk.2,000 and have variable costs of Tk.750. The deluxe model boats sell for Tk.3,500 and have variable costs of Tk.1,400. If Bert's fixed costs total Tk.702,000, how many boats must be sold in order for the company to break even? How many of these boats will be standard boats and how many will be the deluxe model?

Case-2: Star Company sells a single product at a price of Tk.57 per unit. Variable costs per unit are Tk.35 and total fixed costs are Tk.719,400. Star is considering the purchase of a new piece of equipment that would increase the fixed costs to Tk.1,023,700, but decrease the variable costs per unit to Tk.28. If Star Company expects to sell 40,000 units next year, should they purchase this new equipment?

[Marks: 6]

(c) Seven's Cookhouse is a popular restaurant located at Dhanmondi, Dhaka. The owner of the restaurant has been trying to better understand costs at the restaurant and has hired a student intern to conduct an activity based costing study. The intern, in consultation with the owner, identified three major activities. She then completed the first stage allocations of costs to the activity cost pools, using data from last month's operations. The results appear below:

Activity cost pool	Activity Measure	Total Cost	Total Activity
Serving a party of diners	Number of parties served	Tk. 12,000	5,000 parties
Serving a diner	Number of diners served	Tk. 90,000	12,000 diners
Serving a drink	Number of drinks ordered	Tk. 26,000	10,000 drinks

SECTION B Continues on page 4

The above costs include all of the costs of the restaurant except for organization sustaining cost such as rent, property taxes and top management salaries. A group of diners who ask to sit at the same table are counted as a party. Some cost such as the costs of cleaning linen, are the same whether one person is at a table or the table is full. Other costs, such as washing dishes depend on the number of diners served.

Prior to the activity based costing study, the owner knew very little about the costs of the restaurant. He knew that the total cost for the month (including organization sustaining costs) was Tk. 180,000 and that 12,000 diners had been served. Therefore, the average cost per diner was Tk. 15.

Required:

1. According to the activity based costing system, what is the total cost of serving each of the following parties of diners?
   (i) A party of four diners who order three drinks in total.
   (ii) A party of two diners who do not order any drinks.
   (iii) A lone diner who orders two drinks.
2. Convert the total costs you computed in (1) above to costs per diner, In other words, what is the average cost per diner for serving each of the following parties of diners?
   (i) A party of four diners who order three drinks in total.
   (ii) A party of two diners who do not order any drinks.
   (iii) A lone diner who orders two drinks.

[Marks: 6]

(d) Durranto Company has had great difficulty in controlling manufacturing overhead costs. At a recent convention, the president heard about a control device for overhead costs known as a flexible budget and he has hired you to implement this budgeting program in Durranto company. After some effort, you have developed the following cost formulas for the company's Machining Department. These costs are based on a normal operating range of 10,000 machine hours per month:

Overhead Cost	Cost Formula
Utilities	Tk. 0.70 per machine-hour
Lubricants	Tk. 1.00 per machine –hour plus Tk. 8,000 per month
Machine setup	Tk. 0.20 per machine-hour
Indirect labor	Tk. 0.60 per machine- hour plus Tk. 120,000 per month
Depreciation	Tk. 32,000 per month

During March, the first month after your preparation of the above data, The Machining Department worked 18,000 machine-hours and produced 9,000 units of product. The actual manufacturing overhead costs of this production were as follows:

Utilities	Tk. 12,000
Lubricants	24,500
Machine setup	4,800
Indirect labor	132,500
Depreciation	32,000
Total manufacturing overhead costs	Tk.205,800

Fixed costs had no budget variances. The department had originally been budgeted to work 20,000 machine-hours during March.

SECTION B Continues on page 5

Required:

1. Prepare an overhead performance report for the Machining Department for the month of March. Include both variable and fixed costs in the report (in separate sections). Show only a spending variance on the report.
2. What additional information would you need to compute an overhead efficiency variance for the department?

[Marks: 6]

(e) A family friend has asked your help in analyzing the operations of three anonymous companies. Supply the missing data in the tabulation below:

	Company		
	A	B	C
Sales	Tk. 400,000	Tk. 750,000	Tk. 600,000
Net operating Income	?	Tk.45,000	?
Average operating assets	Tk.160,000	?	Tk.150,000
Return on investment (ROI)	20%	18%	?
Minimum required rate of return:			
Percentage	15%	?	12%
Taka amount	Tk. ?	Tk. 50,000	Tk. ?
Residual income	?	?	Tk.6,000

You are required to complete the above table.

[Marks: 6]

END OF SECTION B

SECTION C Starts on page 6

Section C– 50 MARKS
This section consists of 2 questions.
You are advised to spend no longer than 45 minutes on each question in this section. Section will carry 50 marks (each question carries 25 marks) and allocation of marks for each sub-question is indicated next to the sub-question.

QUESTION 03

MS comprises two trading divisions. Both divisions use the same accounting policies. The following statement shows the performance of each division for the year ended 31 August:

Division	**M** **Tk.000**	**S** **Tk.000**
Sales	3,600,000	3,840,000
Variable Cost	1,440,000	1,536,000
Contribution	2,160,000	2,304,000
Fixed Costs	1,830,000	1,950,000
Operating Profit	330,000	354,000
Capital Employed	3,167,500	5,500,00

Division S manufactures a single component which it sells to Division M and to external customers. During the year to 31 August Division S operated at 80% capacity and produced 200,000 components. 25% of the components were sold to Division M at a transfer price of Tk.15,360 per component. Division M manufactures a single product. It uses one of the components that it buys from Division S in each unit of its finished product, which it sells to an external market.

Investment by Division M

Division M is currently operating its full capacity of 50,000 units per year and is considering investing in new equipment which would increase its present capacity by 25%. The machine has a useful life of 3 years. This would enable Division M to expand its business into new markets. However, to achieve this it would have to sell these additional units of its product at a discounted price of Tk.60,000 per unit. The capital cost of the investment is Tk.1.35 billion and the equipment can be sold for Tk.400 million at the end of 3 years. Division M believes that there would be no changes to its cost structure as a result of the expansion and that it would be able to sell all of the products that it could produce from the extra capacity. It is company policy of MS that all divisions use a 10% cost of capital to evaluate investments.

Required:

(a) Prepare an analysis of the sales made by Division S for the year ended 31 August to show the contribution earned from external sales and from internal sales.

(b) Assuming that the current transfer pricing policy continues,
   - (i) Evaluate, using NPV, the investment in the new equipment from the perspective of Division M;
   - (ii) Evaluate, using NPV, the investment in the new equipment from the perspective of MS.

   Ignore taxation and inflation for both cases.

(c) Discuss the appropriateness of the current transfer pricing policy from the perspective of each of the divisional managers and the company as a whole.

[Marks: 3+(8+4)+10 = 25]

SECTION C Continues on page 7

QUESTION 04

"The situation is slowly turning around." declared Bill Aiken, president of Datex, Inc. "This Tk.42,500 loss for June is our smallest yet. If we can just strengthen product Lines A and C somehow, we'll soon be making a profit." Mr. Aiken was referring to the company's latest monthly income statement presented below (absorption costing basis):

Datex, Inc.
Income Statement

	Total	Line A	Line B	Line C
Sales	Tk.10,00,000	400,000	250,000	350,000
Cost of goods add	742,500	300,000	180,000	262,500
Gross margin	257,500	100,000	70,000	87,500
Less operating expenses:				
Selling	150,000	60,000	22,500	67,500
Administrative.....	150,000	60,000	37,500	52,500
Total operating expenses.....	300,000	120,000	60,000	120,000
Net operating income (loss) ...	Tk.(42,500)	(20,000)	10,000	(32,500)

"How's that new business graduate doing that we just hired?" asked Mr. Aiken. "He's supposed to be well trained in internal reporting; can he help us pinpoint what's wrong with lines A and C?" "He claims it's partly the way we make up our segmented statements," declared Margie Nelson, the controller. "Here are a lot of data he's prepared on what he calls traceable and common costs that he thinks we ought to be isolating in our reports." The data to which Ms. Nelson was referring are shown below:

	Line A	Line B	Line C
Variable costs*:			
Production (materials, labor, and variable overhead)	20%	30%	25%
Selling	5%	5%	5%
Traceable fixed costs:			
Production	Tk.107,000	Tk. 30,000	Tk. 63,000
Selling.....	40,000	10,000	50,000

*As a percentage of line sales.

Additional information:

a. Fixed production costs total Tk. 500,000 per month. Part of this amount is traceable directly to the product lines, as shown in the tabulation above. The remainder is common to the product lines.

b. All administrative costs are common to the three product lines.

c. Work in process and finished goods inventories are negligible and can be ignored.

d. Lines A and B each sell for Tk. 100 per unit, and line C Sells for Tk. 80 per unit. Strong market demand exists for all three products.

"I don't get it," said Mr. Aiken. "Our CPAs assure us that we're following good absorption costing methods, and we're segmenting our statements like they want us to do. So what could be wrong'?"

SECTION C Continues on page 8

At that moment, John Young, the production superintendent, came bursting into the room. "Word has just come that Gen Zip Company, the supplier of our type B4 chips, has just gone out on strike. They'll be out for a least a month, and our inventory of B4 chips is low. We'll have to cut back production of either line A or B, since that chip is used in both products." (A single B4 chip is used per unit of each product.) Mr. Aiken looked at the latest monthly statement and declared, "Thank goodness for these segmented statements. It's pretty obvious that we should cut back production of line A. Pass the word, and concentrate all of our B4 chip inventory on production of line B."

Required:

(a) Prepare a new income statement segmented by product lines. Using the contribution approach. Show both Amount and Percent columns for the company in total and for each of the product lines. (Carry percentages to one decimal place.)

(b) Do you agree with Mr. Aiken's decision to cut back production of line A? Why or why not?

(c) Assume that the company's executive committee is considering the elimination of line C, due to its poor showing. If you were serving on this committee, what points would you make for or against elimination of the line?

(d) Line C is sold in both a home and a foreign market, with sales and cost data as follows:

	Home Market	Foreign Market
Sales	Tk.3,00,000	Tk.50,000
Traceable fixed costs:		
Selling	10,000	40,000

The fixed production costs of line C are considered to be common to the markets in which the product is sold. Variable expense relationships in the markets are the same as those shown in the main body of the problem for line C.

(i) Prepare a segmented income statement showing line C segmented by markets. Show both Amount and Percent columns for line C in total and for both of the markets.

(ii) What points revealed by this statement would you be particularly anxious to bring to the attention of management?

[Marks: (6+5+4)+(6+4) = 25]

*** End of Question Paper ***