

**CMA JANUARY 2022 EXAMINATION  
 ADVANCED LEVEL I  
 STRATEGIC COST & MANAGEMENT ACCOUNTING**

Course Code : CM341	Total Marks : 100
Reading Time : 15 minutes	Writing Time : 180 minutes

**Instructions to Candidates**

- You **MUST NOT** write anything during the reading time.
- There are 5 (five) questions.
- You should attempt ALL questions.
- Answers should be properly structured and relevant.
- Show all relevant computation.
- Carefully read ALL the requirements and sub-questions before attempting a specific question.
- ALL answers must be written in the answer book.
- **AVOID WRITING/MARKING** on the question paper at any time which may cause disciplinary action.
- Start answering each question from a fresh sheet.
- Answers should be clearly numbered with the sub-question number.

**Allowable Materials**

- Writing Stationaries
- Non-programmable Calculator

**Assessment Structure**

		<i>Sub-question</i>	<i>Marks</i>	<i>Expected Time Required</i>
Question 1	Essay/Computational/Case	3	20	35 minutes
Question 2	Essay/Computational/Case	2	20	35 minutes
Question 3	Essay/Computational/Case	-	20	35 minutes
Question 4	Essay/Computational/Case	2	20	35 minutes
Question 5	Essay/Computational/Case	-	20	35 minutes
	Revision			5 minutes
	Total		100	180 minutes

**RESTRICTED USE**

This paper MUST NOT BE REMOVED from the examination venue

***Do not turn the page until instructed***

**QUESTION 1**
**[MARKS: 4+(6+2)+(6+2) = 20]**

- (a) Strategic cost management results from a blending of three underlying themes of strategic management. Explain the statement with particular emphasis on the external orientation strategic cost and management accounting focuses on.
- (b) Cruise Ltd sells a single product to wholesale and business-sales customers. Total sales revenue during 2021 were BDT 1,000,000 of which 65% are from wholesale customers and the rest are from the business-sales customers. The selling price to its four wholesale customers is different because of trade discounts offered. The data below concern individual customer requirements:

	Wholesale Customers			
	A	B	C	D
Sales revenue net of trade discount	160,000	220,000	100,000	170,000
Number of units sold	20,000	30,000	13,000	22,000
Cost of sales %	48	65	40	55
Number of sales visits	2	4	6	5
Number of purchase orders	50	20	40	25
Number of deliveries	12	15	25	18
Kilometers per journey	26	32	16	44
Number of rush deliveries	1	2	0	3

The management accountant has made the following activity-cost estimates:

Sales visit	BDT 220 per visit
Order placing	60 per order
Product handling	2 per unit
Normal delivery cost	5 per kilometer
Rush delivery cost	300 per delivery

**Required:**

- (i) Perform customer profitability analysis for each of the four customers.
- (ii) Recommend which customer should be given priority in allowing discounts and why.
- (c) In today's competitive environment, businesses do not have substantial control on the price of the goods and therefore costs become the basis for creating competitive advantage in many industries. Considering this reality, XML Ltd- a computer manufacturer- decided to analyze its direct competitors cost structures in addition to its own cost structure. The company seeks for consultancy service from expert in this arena and found a 'Cost and Management Accountant' firm that intends to provide such services.

**Required:**

- (i) As the consultant of the firm, advise what steps XML Ltd should follow to analyze its competitors cost structures.
- (ii) Suggest possible sources that XML should use to collect needed information to perform such analysis.

**QUESTION 2**
**[MARKS: 4+ (14+2) = 20]**

- (a) "The success of a manufacturing company is largely dependent on the success of its major long-term investment in plant and machinery. Accordingly, each of the cash flows associated with investment projects should be aligned to the strategy pursued by the company." Explain the statement in the light of strategic positioning and capital budgeting decisions.

**TURN OVER**

- (b) Comfort Limited has produced and marketed traveling bags for several years. In the recent months, several of its competitors have introduced much lighter bags to the market. The company is concerned about the effect this will have on its sales in the near future. Accordingly, the company is considering investing in new technology that would enable them to produce a much lighter and more compact bags. Production of lighter bags will require the purchase of new machinery at a cost of BDT 5,750,000 and is expected to have a life of four years with a scrap value of BDT 150,000. Tax depreciation of 25% on reducing balance is available on this machinery. The machinery is expected to produce 30,000 units per annum. In addition, an investment of BDT 180,000 in working capital will be required initially.

Production costs of each bag (at year 1 prices) are estimated as follows:

Direct material	BDT 10.00
Direct labor	12.00
Variable overheads	15.00

In addition, fixed production costs (at year 1 prices), excluding depreciation on plant and machinery, will amount to BDT 250,000 per annum.

The selling price of each unit will be BDT 200.00 per unit (at year 1 prices). Demand is expected to be 28,000 units per annum for the next four years. The retail price index is expected to be at 6% per annum for the next four years and the selling price of bags is expected to increase at the same rate. Annual inflation rates for production costs are expected to be as follows:

Direct material	12%
Direct labor	8%
Variable overheads	4%
Fixed costs	6%

The company's cost of capital in money terms is expected to be 16%. Corporate tax is charged at 30% and is paid in two installments, with half of the tax payable in the year in which it arises, and the balance paid in the following year.

**Required:**

- Recommend whether Comfort Limited should invest in new machinery to produce lighter bags.
- Comment on the sensitivity of result computed in (i) above to the initial investment.

**QUESTION 3**

**[Marks: 6+8+3+3 = 20]**

During the current year AB Ltd planned to produce 160,000 units of its main product, a cordless hand drill. Nearing the end of the current year, activity so far has corresponded to budget and it is anticipated that average costs for the whole year will be as shown below:

Average cost per unit (for 160,000 activity level)

Direct material	BDT 20
Direct labor	10
Variable overhead	12
Fixed overhead	8
Unit cost	<u>50</u>

The budget for the next year is being developed and the following cost changes have been forecast:

**TURN OVER**

Direct material: price increase of 40%; direct labor: rate increase of 10%; variable overhead: increase of 5%; fixed overhead: increase of 15%. The substantial price increase for materials is causing concern and alternative sources are being considered. One source quotes a material cost per unit of BDT 22 but tests on samples show that the cheaper materials would increase labor costs by an additional BDT 2 per unit and would lead to a reject rate of 5%. It would also be necessary to install a test and inspection department at the end of manufacturing to identify the faulty items. This would increase fixed costs by an additional BDT 250,000 per year.

Selling prices are also considered when the budget is being developed. Normally, selling prices are determined on a cost-plus basis, the mark-up being 40% on unit cost, but there is concern that this is too inflexible as it would lead a substantial price for next year. The sales director estimates that demand varies with price thus:

Price (in BDT)/unit	64	68	72	76	80	84	88
Demand (000 units)	190	170	150	140	125	110	95

**Required:**

- (i) Calculate which type of material- regular or cheaper- would minimize cost. Explain your result.
- (ii) On the basis of your answer to (i), calculate what selling price would maximize profit for next year.
- (iii) It has been realized that, through better organization, it would be possible to reduce the extra fixed costs of 250,000 originally estimated in connection with the cheaper materials. Calculate, using the price/demand you have recommended in part (ii), the level of fixed costs at which the company would be indifferent as to its choice of materials.
- (iv) Comment on any other factors which should be considered before final decisions are made.

**QUESTION 4**

**[Marks: 5+(3x5) = 20]**

- (a) "A **Balanced Score Card** is a performance management tool that evaluate whether strategies have been translated into business goals"- Explain
- (b) Valley Company has two divisions, Computer Services and Management Advisory Services. In addition to their external customers, each division performs work for the other division. The external fees earned by each division in 2015 were Tk.200,000 for Computer Services and Tk.350,000 for Management Advisory Services. Computer Services worked 3,000 hours for Management Advisory Services, who, in turn, worked 1,200 hours for Computer Services. The total costs of external services performed by Computer Services were Tk.110,000 and Tk.240,000 by Management Advisory Services.

**Required:**

- (i) Determine the operating income for each division and for the company as a whole if the transfer price from Computer Services to Management Advisory Services is Tk.15 per hour and the transfer price from Management Advisory Services to Computer Services is Tk.12.50 per hour.
- (ii) Determine the operating income for each division and for the company as a whole if the transfer price between divisions is Tk.15 per hour.
- (iii) What are the operating income results for each division and for the company as a whole if the two divisions net the hours worked for each other and charge Tk.12.50 per hour for the one with the excess? Which division manager prefers this arrangement?

**TURN OVER**

**QUESTION 5**
**[Marks: (5+2+3+4+2+2+2) = 20]**

Coyle Pharmaceuticals produces two organic chemicals (Org AB, and Org XY) used in the production of two of its most wide-selling anti-cancer drugs. The controller and environmental manager have identified the following environmental activities and costs associated with the two products:

	Org AB	Org XY
Pounds produced	7,500,000	18,750,000
Packaging materials (pounds)	2,250,000	1,125,000
Energy usage (kilowatt-hours)	750,000	375,000
Toxic releases (pounds into air)	1,875,000	375,000
Pollution control (machine hours)	300,000	75,000
<b>Costs of activities:</b>		
Using packaging materials	Tk.3,375,000	
Using energy	900,000	
Releasing toxins (fines)	450,000	
Operating pollution control equipment	1,050,000	

**Required:**

- (i) Calculate the environmental cost per pound for each product. Which of the two products appears to cause the most degradation to the environment?
- (ii) In which environmental category would you classify excessive use of materials and energy?
- (iii) Suppose that the toxin releases cause health problems for those who live near the chemical plant. The costs, due to missed work and medical treatments, are estimated at Tk.2,025,000 per year. How would assignment of these costs change the unit cost? Should they be assigned?

Suppose that Coyle's manager decides to launch an environmental performance improvement program. First, efforts were made to reduce the amount of packaging. The demand for packaging materials was reduced by 10 percent.

Second, a way was found to reuse the packaging materials. Usage of packaging materials changed from one time to two times. Both changes together saved Tk.1,856,250 in packaging costs.

Third, the manufacturing processes were redesigned to produce a reduced environmental load. The new processes were able to reduce emissions by 50 percent and private emission costs by 75 percent. The new processes also reduced the demand for energy by one-third. Energy costs were also reduced by the same amount. There was no change in the demand or cost of operating pollution control equipment.

The cost of implementing the changes was Tk.753,750 (salaries of Tk.450,000 for hiring six environmental engineers and Tk.303,750 for treating the packaging materials so they can be reused). Engineering hours used for each process are 11,250 for the Org AB process and 3,750 for the Org XY process.

**Required:**

- (iv) Calculate the new cost per pound for each product. Assume that the environmental reductions for each product are in the same proportions as the total reductions.
- (v) Calculate the net savings produced by the environmental changes for each product, in total, and on a per unit basis. Does this support the concept of eco-efficiency?
- (vi) Classify the activities as prevention, detection, internal failure, or external failure.
- (vii) Describe how the environmental improvements can contribute to improving the firm's competitive position.

**END OF QUESTION**