



THE INSTITUTE OF COST AND MANAGEMENT ACCOUNTANTS OF BANGLADESH  
CMA JUNE, 2016 EXAMINATION  
PROFESSIONAL LEVEL-III  
SUBJECT : 302. ADVANCED COST ACCOUNTING.

Reading Time: 15 minutes

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 concentrated liquid fertilizer is manufactured by passing chemicals through two consecutive processes. Stores record cards for the chemical ingredients used exclusively by the first process show the following data for May 2000.

Opening Stock	4000 Litres	Tk.10,800
Closing Stock	8000 Litres	Tk. 24, 200
Receipts into Store	20000 Litres	Tk. 61,000

Other process data for May is tabulated below:

	Process 1	Process 2
Direct Labor	4880	6000
Direct Expenses	4270	--
Other absorption rates	250% of Direct Labor	100% of Direct Labor
Output	8000 litres	7500 litres
Opening Stock of Working in process	--	--
Closing stock of work in process	5600 litres	--
Normal yield	85% of input	90% of input
Scrap of loss	--	--

In process 1 the closing stock of work in process has just passed through inspection, which is at the stage where materials and conversion costs are 100% and 75% completed respectively. In process 2 inspection is the final operation.

**Required:**

- (i) Prepare the relevant accounts to show the results of the process for May 2000 and present a detailed working paper showing your calculations and any assumptions in arriving at the data shown in those accounts.
- (ii) If supplies of the required chemicals are severely restricted and all production can be sold immediately, briefly explain how you would calculate total loss to the company if, at beginning of June, 100 litres of the correct mix of chemicals were split on issue to Process 1.

**[Marks: (16+4) = 20]**

**Q. No. 2.**

- (a) Cost-Plus pricing is losing its relevance in the face of fast changing technology and taste of the consumers. Still Cost-Plus pricing is widely used. What are the different Cost-Plus pricing methods are commonly used to derive selling prices? What are the limitations of Cost-Plus Pricing approach? What are alternative pricing techniques are available to derive selling prices of the products or services.

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

- (b) XXX uses a standard marginal costing system. Data relating to Y, the only product that it manufactures are as follows:

Standard cost per unit of Y		\$
Materials	6 kg @ \$10 per kg	60
Labour	5 hours @ \$9 per hour	45
Variable overhead	6 machine hours @ \$5 per machine hour	<u>30</u>
Total variable production cost		<u>135</u>

Based on the above standard cost data the following out-turn performance report was produced for February:

	Budget	Actual
Output(units)	1,100	1,100
	\$	\$
Materials	66,000	69,240
Labour	49,500	57,820
Variables overheads	33,000	35,000
Total Variable Costs	1,48,500	1,62,060

The Production Director has criticised the above report because "It does not give me the information I need to be able to make informed decisions. It tells me that the costs were higher but I need to be able to identify areas of responsibility".

You have been asked to provide a statement that is better suited to the needs of the Production Director. You have obtained the following information:

**Materials:** 5,770 kg were purchased and used.

**Labour:** The standard rate of \$9 per hour had not been updated to incorporate a 5% pay rise. The 5,900 hours that were paid included 460 hours of idle time.

**Variable overhead:** 6,400 machine hours were used.

**Required:**

**Prepare** a statement that reconciles the budget variable production cost with the actual variable production cost. Your statement should show the variances in as much detail as possible.

[Marks: (10+10) = 20]

Q. No. 3.

- (a) RS has recently introduced an activity based costing system. RS manufactures two products, details of which are given below:

	Product R	Product S
Budgeted production per annum (units)	80,000	60,000
Batch size (units)	100	50
Machine set-ups per batch	3	3
Processing time per unit (minutes)	3	5

The budgeted annual costs for two activities are as follows:

Machine set-up	\$180,000
Processing	\$108,000

**Required:**

- Calculate** (i) The budgeted processing cost per unit of **Product R**.  
 (ii) The budgeted machine set-up cost per unit of **Product S**.

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

- (b) EF sells personal computers on which it gives a one year warranty. EF is estimating the cost of warranty claims for next year.

If all products under warranty need minor repairs the total cost is estimated to be \$2 million. If all products under warranty need major repairs it would cost \$6 million. If all products under warranty need to be replaced it would cost \$10 million.

Based on past experience EF has estimated that 80% of products under warranty will require no repairs, 15% will require minor repairs, 3% will require major repairs and 2% will need to be replaced.

**Required:**

**Calculate** the expected value of the cost of warranty claims for next year.

- (c) A marketing manager is deciding which of four potential selling prices to charge for a new product. The market for the product is uncertain and reaction from competitors may be strong, medium or weak. The manager has prepared a payoff table showing the forecast profit for each of the possible outcomes

Competitor Reaction	Selling Price			
	\$80	\$90	\$100	\$110
Strong	\$70,000	\$80,000	\$70,000	\$75,000
Medium	\$50,000	\$60,000	\$70,000	\$80,000
Weak	\$90,000	\$100,000	\$90,000	\$80,000

**Required:**

**Identify** the selling price that would be chosen if the manager applies the maximin criterion to make the decision.

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

**Q. No. 4.**

- (a) A manufacturer has three products, A, B, and C. Currently sales, cost, and selling price details and processing time requirement are as follows:

	Product A	Product B	Product C
Annual Sales (units)	6000	6000	750
Selling Price (Tk.)	20.00	31.00	39.00
Unit Cost (Tk.)	18.00	24.00	30.00
Processing Time required per unit	1	1	2

The firm is working at full capacity (13500 processing hours per year). Fixed manufacturing overheads are absorbed into unit costs by a charge of 200% of variable cost. This procedure fully absorbs the fixed manufacturing overhead.

Additional Information/Assumptions:

- Processing time can be switched from one product line to another,
- The selling prices are not altered.
- The demand at current selling price is:

Product A	Product B	Product C
11000	8000	2000

**Required:**

You are required to IDENTIFY the shadow price of a processing hour and CALCULATE the best production programme for the next operating period and INDICATE the increase in NET PROFIT that should yield.

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

- (b) The marketing director of your company has expressed concern about Product X, which for some time has shown a loss and has stated that some action will have to be taken. Product X is produced from Material A which is one of the two raw materials jointly produced by passing chemicals through process.

**Representative data for the process is as follows:**

Material A	Output (kg) 10000
Material B	Output (kg) 30000

Raw Material costing of Tk. 83,600.00 and conversion costs of Tk. 58,000.00 is required in the Process B.

Joint costs are apportioned to the two raw materials according to the weight of output.

Production costs incurred in converting Material A into product X are Tk.1.80 per kg of Raw Material A used. A yield of 90% is achieved. Product X is sold for Tk.5.60 per Kg. Material B is sold without further processing for Tk.6.00 per Kg.

**Required:**

- (i) Calculate the profit/loss per kg of Product X and Material B, respectively
- (ii) Comment upon the marketing director's concern, him whether you consider any action should be taken.
- (iii) Demonstrate alternative joint cost apportionment of product X and comment briefly upon this alternative method of apportionment.

**[Marks: (8+12) = 20]**

**Q. No. 5.**

- (a) C plc is a holding company which has a number of divisions. One of the divisions, A, manufactures a component, A1, which is transferred to another division, B, where it is incorporated in product BZ. Division A is working at full capacity. The following information is available:

	<i>Component A1</i> <i>Tk. per unit</i>	<i>Product BZ</i> <i>Tk. per unit</i>
Component A1	-	18
Variable costs	13	30
Fixed costs	<u>5</u>	<u>12</u>
	18	60
Selling price		<u>80</u>
Profit		20

An external customer has asked C plc to sell it 10,000 units of component A1. If C plc agrees, Division A will incur £50,000 of additional inspection costs.

The directors of C plc are keen to supply the external customer as they believe other orders will follow.

Assuming that there is no other available supply of component A1,

**Required:**

**What** is the minimum price that C plc would have to charge per component if it did not want to suffer a reduction in profits?

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

- (b) A company is considering the launch of a new product which it estimates has a 75% chance of success if no marketing is undertaken.

The company believes that if it undertakes a marketing campaign costing \$50,000 the probability of success of the product will increase to 90%.

If successful, the product will make a profit of \$300,000, before marketing costs.

However, if it is unsuccessful, the product will make a loss of \$80,000 before marketing costs.

**Required:**

**Calculate** whether it is worthwhile for the company to undertake the marketing campaign.

- (c) ZZ manufactures and sells electronic personal grooming and beauty products. The products are sold throughout the world and 90% of ZZ's total revenue comes from export sales. The production takes place in one factory. Materials are sourced from a variety of suppliers.

The company is keen to build a reputation for quality and gives a five year guarantee with all of its products. The Managing Director of ZZ recently issued a memo to all of the company's managers which stated "My objective for the forthcoming year is to reduce our quality costs in each of the primary activities in our value chain".

**Required:**

- (i) **State** the primary activities in the value chain of a manufacturing company.
- (ii) **Explain**, by giving examples, how each of the FOUR types of quality cost could be reduced. You should identify in which primary activity each one of your examples would occur in ZZ's value chain.

**[Marks: 5+8 +(3+4) = 20]**

**= THE END =**