



THE INSTITUTE OF COST AND MANAGEMENT ACCOUNTANTS OF BANGLADESH
CMA DECEMBER, 2017 EXAMINATION
PROFESSIONAL LEVEL-I
SUBJECT: 102. COST 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) Differentiate between:
- (i) Financial Accounting and Cost Accounting
 - (ii) Variable Cost and Fixed Cost.
 - (iii) Sunk cost and Opportunity cost.
 - (iv) Joint cost and Common cost
- (b) All product costs unexpired costs and all period costs expired costs? Do you agree, why or why not? Explain.
- (c) Distinguish among the cost accounting uses of historical costs, replacement costs and budgeted costs.
- (d) The controller of Moffatt Products, Inc. presented the following income statement for the year ended June 30, 20A, to the board of directors:

Particulars	Taka	Taka
Sales		12,000,000
Costs of goods sold:		
Direct materials	3,800,000	
Direct labor	2,900,000	
Factory overhead	2,450,000	9,150,000
Gross profit		2,850,000
Commercial expenses		
Marketing expenses	1,350,000	
Administrative expenses	1,000,000	2,350,000
Operating income		<u>500,000</u>

The board discussed the ratio of operating income to sales and decided that for the year ending June 30, 20B, an increase of at least 25% of the present profit is desirable. An expected sales volume increase of 20% will cause all costs except marketing and administrative expenses to increase accordingly. In addition to this increase resulting from the volume change, costs are expected to increase as follows: direct materials, 8%; direct labor, 10%; factory overhead, 3%; marketing expenses, 4%; administrative expenses, 2%. The 3% increase in factory overhead applies to the variable factory overhead only. Fixed factory overhead is considered to remain at the present level of Tk.1,250,000. Ignore income tax.

Required:

Prepare a forecast income statement for the year ending June 30, 20B, incorporating all cost increases as well as management's goal for a higher operating income.

[Marks: (4+3+3+10) = 20]

Q. No. 2

- (a) Patterson Company buys 500 boxes of Item X-100 every 2 months. Order costs are Tk.380 per order; carrying costs are Tk.1 per unit, and vary directly with inventory investment. Currently the company purchases the item for Tk.5 each.

Required:

- (i) Determine ordering and carrying costs under current policy.
- (ii) Determine the economic order quantity and related ordering and carrying costs
- (iii) What is the order-size decision Patterson should make, if the supplier offers a 5% discount for order sizes of 3,000 units?

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

- (b) For Product D, ordered 5 times per year, stock out cost per occurrence is Tk.80 and safety stock carrying cost is Tk. 2 per unit. Available options are:

Units of Safety Stock	Probability of Running Out of Safety Stock (%)
10	50
20	40
30	30
40	20
50	10
55	5

Required:

Compute the safety stock resulting in the lowest cost.

- (c) Helmi company has developed the following costs and other data pertaining to one of its raw materials:

Normal use per day 400 units
Maximum use per day 600 units
Minimum use per day 100 units
Working days per year 250
Lead time 8 days
Cost of placing one order Tk. 20
Cost per unit of material Tk. 2.5
Carrying cost percentage 10%

Required:

Compute the following:

- (i) Economic order quantity; (iv) Safety stock;
 (ii) Reorder point; (v) Normal maximum inventory;
 (iii) Absolute maximum inventory; (vi) Average normal inventory.
- (d) Quitman Company had a production run of 4,000 pairs of jeans during the last week of June, with these unit costs:

Costs	Taka
Direct Materials	Tk.5
Direct Labor	Tk.4
Factory Overhead (including a Tk.1 allowance for spoiled work)	Tk.3.5
Total	Tk.12.5

Final inspection revealed that 300 pairs, a normal number, did not meet quality standards, but can be sold as seconds at a price of Tk.6 a pair.

Required:

Prepare journal entries for all of the described transactions if:

- (i) The loss is charged to all production.
 (ii) The loss is due to exacting specifications and charged to the production run.

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

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Q. No. 3

A company in the civil engineering industry has had its tender for a job (Contract – I) accepted at Tk. 2,88,000 and work is due to began in March 2011. However, the company has also been asked to undertake another contract (Contract – II). The price offered for this contract is Tk. 3,52,000. Both of the contracts cannot be taken simultaneously because of constraints of staff, site management personnel and on plant available. An escape clause enable the company to withdraw from Contract– I, provided notice is given before the end of November and an agreed penalty of Tk. 28,000 is paid.

The following estimates have been submitted by the company's quantity surveyor:

Particulars	Contract – I	Contract – II
Material:		
In stock at original cost, Material X	21,600	
In stock at original cost, Material Y		24,800
Firm orders placed at original cost, Material X	30,400	
Not yet ordered – current cost, Material X	60,000	
Not yet ordered – current cost, Material Z		71,200
Labour – hired locally	86,000	1,10,000
Site management	34,000	34,000
Staff accommodation and travel for site mgmt.	6,800	5,600
Plant on site – depreciation	9,600	12,800
Interest on capital – 8%	5,120	6,400
Total local contract costs	2,53,520	2,64,800
Headquarters costs allocated @5% on total Contract cost	12,676	13,240
	2,66,196	2,78,040
Contract price	2,88,000	3,52,000
Estimated profit	21,804	73,960

Notes:

- (i) X, Y and Z are three building material. Material X is not in common use and would not realize much money if resold. However, it could be used on other contracts but only as a substitutes for another material currently quoted at 10% less than the original cost of X. The price of Y, a material in common use, has doubled since it was purchased: its net realizable value if resold would be its new price less 15% to cover disposal costs. Alternatively it could be kept for use on other contracts in the following financial year.
- (ii) With the construction industry not yet recovered from the recent recession, the company is confident that manual labour, both skilled and unskilled could be hired locally on a sub-contracting basis to meet the needs of each of the contracts.
- (iii) The plant which would be needed for Contract – II has been owned for some years and Tk.12,800 is the year's depreciation on a straight line basis. If Contract – I is undertaken, less plant will be required but the surplus plant will be hired out for the period of the contract at a rental of Tk.6,000.

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

- (iv) It is the company's policy to charge all contracts with notional interest at 8% on estimated working capital involved in contracts. Progress payments would be receivable from the contractor.
- (v) Salaries and general costs of operating the small headquarters amount to labour Tk.1,08,000 each year. There are usually ten contracts being supervised at the same time.
- (vi) Each of the two contracts is expected to last from March 2011 to February 2012 which, coincidentally, is the company's financial year.
- (vii) Site management is treated as a fixed cost.

You are required, as the management accountant to the company :

- (a) To present comparative statements to show the net benefit to the company of undertaking the more advantageous of the two contracts.
- (b) To explain the reasoning behind the inclusion (or omission from) your comparative financial statements, of each item given in the estimates and the notes relating thereto.

[Marks: (10+10) = 20]

Q. No. 4

- (a) What is the purpose of an incentive wage plan? How can labor efficiency be determined or measured?
- (b) In most incentive wage plans, does production above standard reduce the labor cost per unit of output? Discuss.
- (c) Employees of Evans and Troup Enterprises work in groups of five, plus a group leader. Standard production for a group is 400 units for a 40-hour week. The workers are paid Tk.6 an hour until production reaches 400 units; then a bonus of Tk.1.20 per unit is paid for production over 400 units, with Tk.1 being divided equally among the five workers and the remainder passing to the group leader (who is also paid a weekly salary of Tk.300). Factory overhead is Tk.6 per direct labor hour and includes the group leader's earnings.

The production record of a group for one week shows:

Day	Hours Worked	Units Produced
Monday	40	72
Tuesday	40	81
Wednesday	40	95
Thursday	40	102
Friday	40	102

Required:

- (i) Compute the week's earnings of the group (excluding the leader), the labor cost per unit, the overhead cost per unit and the conversion cost per unit, based upon the above data and bonus plan.
- (ii) Prepare a schedule showing daily earnings of the group (excluding the leader), unit labor cost, unit overhead cost and conversion cost per unit, assuming that the company uses the group bonus plan.

[Marks: (4+4+12) = 20]

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Q. No. 5

- (a) The June idle capacity variance was zero, and the spending variance was Tk.600, unfavorable. The July idle capacity variance was Tk.800, unfavorable, and spending variance was zero. June overhead was Tk.7,000 for an output of 800 tons, while July overhead was Tk.5,600, and output was 600 tons. In August, output was 900 tons and actual factory overhead was Tk.7,100.

Required:

Prepare a columnar analysis, indicating actual, budget allowance, applied, total variance, spending variance, and idle capacity variance for each month.

- (b) Shejuti Company has two producing departments, Planers and Radial Drills, and two service departments, Maintenance and Utilities. The Cost Department collected the following data:

	Producing Departments		Servicing Departments	
	Planers (Taka)	Radial Drills (Taka)	Maintenance (Taka)	Utilities (Taka)
Estimated data for 2016:				
Fixed overhead	18,000	15,000	6,000	4,800
Variable overhead	15,000	9,000	4,500	3,600
Total	33,000	24,000	10,500	8,400
Direct labor hours	12,000	7500	-	-
Maintenance hours	2500	1000	3,500	-
Kilowatt-hours	45,000	25,000	-	70,000
Actual data for January 2016:				
Fixed overhead	1,500	1,250	500	400
Variable overhead	1,620	1,050	670	310
Total	3,120	2,300	1,170	710
Direct labor hours	1020	680	-	-
Maintenance hours	320	80	400	-
Kilowatt-hours	4000	2,000	-	6,000

Required:

- Compute the billing (or charging) rate for each of two service departments.
- Calculate the total predetermined factory overhead for each of the two producing departments and their departmental factory overhead rates based on direct labor hours. Service department expenses are to be distributed on the basis of the billing rates calculated in (1). (Carry all computations to three decimal places).
- Prepare an analysis of the over-or under applied factory overhead of each of the two producing departments for January, including the spending and idle capacity variances. Service department expenses are to be charged on the basis of actual hours (maintenance or kilowatt) multiplied by the billing rate. This method treats these expenses as being wholly variable.
- Prepare a calculation and analysis of the over-or under distributed factory overhead in each of the two service departments, including the spending and idle capacity variances.(Round off all amounts to four decimal places.)
- Prepare a reconciliation of the total variances.

[Marks: (6+14) = 20]

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