

THE INSTITUTE OF COST AND MANAGEMENT ACCOUNTANTS OF BANGLADESH
CMA DECEMBER, 2017 EXAMINATION
PROFESSIONAL LEVEL-III
SUBJECT: 302. ADVANCED 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 joint product and by-product with examples.
- (b) Chittagong Sawmill, Limited (CSL), purchases logs from independent timber contractors and processes the logs into three types of lumber products:
- Studs for residential building (wall, ceiling)
 - Decorative pieces (fireplace mantels, beams for cathedral ceilings)
 - Posts used as support braces (mine support braces, braces for exterior fences around ranch properties)

These products are the result of a joint sawmill process that involves removal of bark from the logs, cutting the logs into a workable size (ranging from 8 to 16 feet in length), then cutting the individual products from the logs, depending on the types of wood (pine, oak, or maple) and the size (diameter) of the log. The joint process results in the following costs and outputs of products for a typical quarter:

Direct materials (rough timber logs)	Tk. 50,00,000
Debarking (Labor and overhead)	Tk. 5,00,000
Sizing (labor and overhead)	Tk. 20,00,000
Product cutting (labor and overhead)	Tk. 25,00,000
Total joint costs	Tk. 1,00,00,000

Products yields and average sales values on a per unit basis from the joint process are as follows:

Product	Monthly Output of materials at Split off point	Fully processed selling price
Studs	75,000 units	Tk. 80
Decorative pieces	5,000 units	Tk. 1,000
Posts	20,000 units	Tk. 200

The studs are sold as rough-cut lumber after emerging from the sawmill operation without further processing by CSL. Also, the posts require no further processing beyond the split off point. The decorative pieces must be planned and further sized after emerging from the Sawmill. The additional processing costs Tk. 10,00,000 per month and normally results in a loss of 10% of the units entering the process. Without this planning and sizing process, there is still an active intermediate market for the unfinished decorative pieces in which the selling price average Tk. 600 per unit.

- (1) Based on the information given for Chittagong Sawmill Ltd. allocate the joint processing costs of Tk. 1,00,00,000 to each of the product line using:
 - (a) Sale value at split off point.
 - (b) Physical-units method
 - (c) NRV method
- (2) Prepare an analysis for Chittagong Sawmill Ltd. that compares processing the decorative pieces further, as they currently do, with selling them as a rough-cut product immediately at split off.
- (3) Assume Chittagong Sawmill Ltd. announced that in next six months it will sell the rough-cut product at split off due to increasing competitive pressure. Identify at least three types of likely behavior that will be demonstrated by the skilled labor in the planning and sizing process as a result of this announcement. Include in your discussion how this behavior could be improved by management.

[Marks: 4+(9+4+3) = 20]

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Q. NO. 2

TMSS Fashions Limited manufactures ladies' blouses of one quality, produced in lots to fill each special order from its customers, comprised of department stores located in various districts. TMSS sews the particular stores' labels on the blouses. The standard costs for a dozen blouses are:

Direct materials	(96 yards @ Tk.5 .50)	= Tk.528.00
Direct labor	(12 hours @ 24.50)	= Tk. 294.00
Factory overhead	(12 hours @ 20.00)	= <u>Tk.240.00</u>
Standard costs per dozen		<u>Tk.1062.00</u>

During April,2017, TMSS Fashions worked on three orders, for which the month's job cost records disclose the following:

Lot no.	Units(Dozen)	Material used(yards)	Hours worked
A-1	3,000	289 ,200	35,760
A-2	5,100	485,280	61,560
A-3	3,600	345,900	34,680

The following information is also available:

- TMSS purchased 380,000 yards of materials during April at a cost of Tk. 2,128,000. The material price variance is recorded when goods are purchased. All inventories are carried at standard cost.
- Direct labor during April amounted to Tk.1,100,000. According to payroll records, production employees paid Tk.25 per hour.
- Factory overhead during April amounted to Tk. 2,736,000.
- A total of Tk.34,560,000 was budgeted for factory overhead for 2017, based on estimated production at the plant's normal capacity of 144,000 dozen blouses annually. Factory overhead at this level of production is 40% fixed and 60% variable. Factory overhead is applied on the basis of direct labor hours.
- There was no work-in-process at April 1. During April, Lots A-1 and A-2 were completed. All materials was issued for lot A-3, which was 80% completed as to direct labor.

Required:

- Prepare a schedule showing the computation of standard cost of lots A-1, A-2 and A-3 for April.
- Prepare a schedule showing the computation of the materials price variance for April.
- Prepare a schedule showing, for each lot produced during April, computations of the - (a) Materials quantity variance, (b) Labor efficiency variance and (c) Labor rate variance.
- Prepare a schedule showing the computation of the total controllable -and volume factory overhead variances for April.

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

Q. NO. 3

The Ceoton Pharmaceuticals Limited produces Diabetic Tablet in two departments: Department M and Department F. The company uses average costing. Following information is available for the month of January, 2017:

Units :	Department M	Department F
Beginning units in process	60,000	140,000
Units started in process	420,000	-
Units received from preceding department	-	360,000
Ending units in process	40,000	80,000
Units transferred to finished goods	-	380,000
Spoiled units :		
Normal	60,000	30,000
Abnormal	20,000	10,000

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Q. NO. 3(cont'd..

Costs :	Tk.	Tk.
Work in process, beginning :		
From preceding department	-	62600
Materials	18000	41000
Labour	28000	115200
Overhead	4720	23040
Added during January, 2017 :		
Materials	150000	100000
Labour	200000	400000
Overhead	50000	80000

Additional information:

Materials are applied at the beginning of each department, conversion costs are applied throughout the process.

Department M: Units are inspected at the end of the process. Work-in-process at the end was 40% complete.

Department F: Units are inspected and spoiled units were discovered at 40% stage of completion at the end of the process. Work-in-process at the end was 80% complete.

Required:

Prepare a cost of production report for both the departments for January, 2017.

[Marks: 20]

Q. No. 4

- Explain the concept of theory of constraints. Describe key steps in managing bottleneck operations and ways to improve the performance of bottleneck operation.
- Beta Co produces 3 products, E, F and G all in the same factory, details of which are shown below:

	E	F	G
Selling price per unit (Tk.)	120	110	130
Direct material cost per unit (Tk.)	60	70	85
Maximum demands (units)	30,000	25,000	40,000
Time required on the bottleneck resource (hours per unit)	5	4	3

There are 320,000 bottleneck hours available each month.

Required:

- Calculate the throughput per unit for each product and the throughput return per hour of bottleneck resource.
- Rank the products in order of the priority in which they should be produced, starting with the product that generates the highest return per hour first.
- Calculate the optimum production plan.

[Marks: 10+(5+2+3) = 20]

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Q. No. 5

- (a) Name five different types of organizations where service costing method may be applied and state the cost unit used in each such organization.
- (b) A person owns a bus which runs between Chittagong and Dhaka for 15 days in a month. The distance from Chittagong to Dhaka is 300 Kilometers. The bus completes the trip from Chittagong to Dhaka and back the same day. The bus goes another 10 days in a month towards Cox's Bazar. The distance from Chittagong to Cox's Bazar is 150 Kilometers. The trip to Cox's Bazar and back is also completed the same day. The other particulars are given below:

Cost of the bus	Tk. 75,00,000.
Depreciation	20% per annum
Interest on capital	10% per annum
Salary of the Driver	Tk. 35,000 per month.
Salary of the Conductor	Tk. 20,000 per month.
Office expense	Tk. 30,432 per month.
Salary of the part-time Accountant	Tk. 15,000 per month.
Insurance	Tk. 24,000 per annum.
Diesel consumption : 8 Kilometer per litre costing	Tk. 72 per litre.
Lubricant :	Tk. 70 per 100 Kilometers.
Taxes and fees	Tk. 60,000 per annum.
Repair and maintenance	Tk. 23,568 per month.
Registration and road license	Tk. 30,000 per annum.
Normal capacity of the bus	54 persons.
The bus is generally occupied 90% of capacity.	

Calculate the fare that each passenger should pay for each of the trips if the owner wants to earn a profit of 25% on takings.

[Marks: (5+15) = 20]

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