

CMA JUNE, 2019 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) Distinguish between the FIFO and Average methods of process costing.
 (b) Dalian Inc. uses the FIFO method in its process costing system. The following data concern the operations of the company's first processing department for a recent month.

Work in process, beginning:

Units in process.....	500
Stage of completion with respect to materials.....	60%
Stage of completion with respect to conversion.....	70%
Costs in the beginning inventory:	
Materials cost.....	Tk.1,020
Conversion cost.....	Tk.8,925
Units started into production during the month.....	10,000
Units completed and transferred out.....	9,600
Costs added to production during the month:	
Materials cost.....	Tk.31,488
Conversion cost.....	Tk.259,548

Work in process, ending:

Units in process.....	900
Stage of completion with respect to materials.....	60%
Stage of completion with respect to conversion.....	90%

Required: Prepare a production report for the department using the FIFO method.

- (c) Kabir's Engine Company manufactures part TE456 used in several of its engine models. Monthly production costs for 1,000 units are as follows:

Direct materials	Tk. 40,000
Direct labor	10,000
Variable overhead costs	30,000
Fixed overhead costs	<u>20,000</u>
Total costs	Tk. <u>100,000</u>

It is estimated that 10% of the fixed overhead costs assigned to TE456 will no longer be incurred if the company purchases TE456 from the outside supplier. Kabir's Engine Company has the option of purchasing the part from an outside supplier at Tk.85 per unit. If Kabir's Engine Company accepts the offer from the outside supplier, how much will be the monthly avoidable costs (costs will no longer be incurred)?

[Marks: (3+14+3) = 20]

Q. No. 2

- (a) GM Timber obtains its cost information by dividing total cost by the number of board feet of lumber produced. The owner states that money is lost on every foot of low grade lumber sold but are made up on the high grades. Evaluate the statement.
 (b) ABC Pharmaceutical Company purchases a material which is then processed to yield three chemicals: Anarol, Estyl, and Betryl. In June, ABC purchased 10,000 gallons of the material at a cost of Tk.250,000, and the company incurred joint conversion costs of Tk.70,000. June sales and production information are as follows:

	Gallons Produced	Price at Split-Off	Further Processing Cost per Gallon	Eventual Sales Price
Anarol	2,000	Tk.55	-	-
Estyl	3,000	Tk.40	-	-
Betryl	5,000	Tk.30	Tk.5	Tk.60

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

Anarol and estyl are sold to other pharmaceutical companies at the split-off point. Betryl can be sold at the split-off point or processed further and packaged for sale as an asthma medication.

Required:

- (i) Allocate the joint costs to the three products using the-
 - (a) Physical units method;
 - (b) Sales-value-at-split-off method;
 - (c) Net realizable value method; and
 - (d) Constant gross margin method.
- (ii) Suppose that half of June's production of Estyl could be purified and mixed with all of the Anarol to produce a veterinary grade anesthetic. All further processing costs amount to Tk.35,000. The selling price for the veterinary grade Anarol is Tk.112 per gallon. Should ABC further process the Estyl into the Anarol anesthetic?

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

Q. No. 3

- (a) Why are fixed overhead variances considered non-controllable?
- (b) DCC Company manufactures a product effective in controlling beetles. The company uses a standard cost system and a flexible budget. Standard cost of a gallon is as follows:

Direct material:	
2 quarts of A	Tk.14
4 quarts of B	<u>16</u>
Total direct material	Tk.30

Direct labor:	
2 hours	16
Manufacturing overhead	<u>12</u>
Total	<u>Tk.58</u>

The flexible budget system provides for Tk.50,000 of fixed overhead at normal capacity of 10,000 direct labor hours. Variable overhead is projected at Tk.1 per direct labor hour.

Actual results for the period indicated the following:

Production:	5,000 gallons	
Direct material:		
A	12,000 quarts purchased at a cost of Tk.7.20/quart; 10,500 quarts used	
B	20,000 quarts purchased at a cost of Tk.3.90/quart; 19,800 quarts used	
Direct labor:	9,800 hours worked at a cost of Tk.79,380	
Overhead:	Fixed	Tk.48,100
	Variable	<u>21,000</u>
	Total overhead	<u>Tk.69,100</u>

Required:

- (i) What is the application rate per direct labor hour, the total overhead cost equation, the standard quantity for each material, and the standard hours?
- (ii) Compute the following variances:
 - (a) Total material price variance
 - (b) Total material quantity variance
 - (c) Labor rate variance
 - (d) Labor efficiency variance
 - (e) MOH volume variance
 - (f) MOH efficiency variance
 - (g) MOH spending variance, both fixed and variable

[Marks: 4+(2+14) = 20]

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Q. No. 4

- (a) Ontario Industries manufactures two types of refrigerators, Olivia and Solta. Information on each refrigerator is as follows:

	Olivia	Solta
Units manufactured and sold	10,000 units	5,000 Units
Selling price	Tk.2,000	Tk.1,500
Variable costs per unit	Tk.1,200	Tk.800
Hours spent on design	6,000	1,000
Testing and inspection hours per unit	1	0.5
Percentage of units reworked in plant	5%	10%
Rework costs per refrigerator	Tk.500	Tk.400
Percentage of units repaired at customer site	4%	8%
Repair costs per refrigerator	Tk.600	Tk.450
Estimated lost sales from poor quality	-	300 units

The labour rates per hour for various activities are as follows:

Design	Tk.75 per hour
Testing and inspection	Tk.40 per hour

Required:

- (i) Calculate the costs of quality for Olivia and Solta, classified into prevention, appraisal, internal failure and external failure categories.
- (ii) For each type of refrigerator, calculate the ratio of each COQ category as a percentage of revenues. Compare and comment on the costs of quality for Olivia and Solta.
- (b) A company is planning a new product. Market research information suggests that the product should sell 50,000 units at Tk.28/unit. The company seeks to make a mark-up of 40% product cost. It is estimated that the lifetime costs of the product will be as follows:
- Design and development costs Tk.200,000
 Manufacturing costs Tk.18/unit
 End of life costs Tk.100,000

The company estimates that if it were to spend an additional Tk.50,000 on design, manufacturing costs/unit could be reduced.

Required:

- (i) What is the target cost of the product?
- (ii) What is the original lifecycle cost per unit and is the product worth making on that basis?
- (iii) If the additional amount were spent on design, what is the maximum manufacturing cost per unit that could be tolerated if the company is to earn its required mark-up?

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

Q. No. 5

- (a) From the following data relating to two vehicles Ashok and Tata, you are required to compute the cost per running km:

Particulars	Vehicle Ashok	Vehicle Tata
Km run (annually)	10,000	6,000
Cost of vehicle	1,00,000	80,000
Annual Road license fees (Tk.)	1,000	1,000
Annual Insurance (Tk.)	800	600
Annual Garage rent (Tk.)	700	400
Supervision salary (Tk.)	2,000	2,000
Driver's wages per hour (Tk.)	6	6
Cost of fuel per hour (Tk.)	6	6
Km run per liter	20	15
Repairs and maintenance cost per km (Tk.)	2.00	2.50
Tire allocation per km (Tk.)	1.00	0.80
Estimated life of vehicles (km)	1,00,000	80,000

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

Interest is charged on cost of vehicles @ 5 percent p.a. The vehicles run 20 km on an average per hour.

(b) ABC Company uses a backflush costing system with three trigger points:

- (i) Purchase of direct materials
- (ii) Completion of goods finished units of product
- (iii) Sale of finished goods

There are no beginning inventories. Information for April 2019 is as follows:

Particulars	Amount (Tk.)
Direct materials purchased	880,000
Conversion costs allocated	400,000
Direct materials used	850,000
Costs transferred to finished goods	1,250,000
Conversion costs incurred	422,000
Cost of goods sold	1,190,000

Required:

- (i) Prepare journal entries for April (without disposing of under allocated or over allocated conversion costs). Assume there are no direct materials variances.
- (ii) Under an ideal JIT production system, how would the amounts in your journal entries differ from the journal entries in requirement (i)?

[Marks: 10+(7+3) = 20]

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