

CMA	CA R. K. Mehta
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CMA TEST- 12 (Solution)		
Time Allowed: 1 hour 30 min.		Total Marks: 50 Marks

Answer to Question no.1: Quality Control Cost

It means the cost incurred by the business organisation for the purposes of maintaining and improving the quality of product or the service provided to the customers, This type of cost can be divided into following 4 parts:-

- 1. Prevention cost:-** The cost incurred for the purposes of preventing any problem that may arise in the future. For example, if CCTV cameras are installed for observing the usages of raw material or unproductive labour time, it can be regarded as “Prevention Cost”.
- 2. Appraisal Cost:-** The cost which is incurred for fulfilling the expectations and satisfaction of the customers.
- 3. Internal Failure Cost:-** The cost which is incurred for rectifying the defect in the product before being delivered to the customers.
- 4. External Failure Cost:-** The cost which is incurred for rectifying the defect in the product after being delivered to the customers.

Answer to Question no.2: Absolute Tonne- Kms. V/S Commercial Tonne-Kms.

- 1. Absolute Tonne – Kms. Meaning:** - Absolute Tonne – Kms. are calculated on the basis of actual haulage of goods from one place to another. Applying the concept of weighted average, it means the sum total of tonne- Kms. Arrived it by multiplying various distances by respective load.

2. Example of Absolute Tonne-Kms:-

Distance between city A to City B= 60kms.

Load carried from city A to City B= 10 tonnes

Distance between City B to City C = 20 kms.

Load carried from City B to City C = 6 tonnes

Now, Absolute tonne –kms. Are:-

$$\text{City A to B} = 60 \times 10 = 600 \text{ tonne-kms}$$

$$\text{City B to C} = 20 \times 6 = 120 \text{ tonne-kms.}$$

$$\text{TOTAL} = 720 \text{ tonne-kms}$$

- 3. Meaning of Commercial Tonne-kms :-** Commercial Tonne-kms are calculated with reference to average haulage. Applying the concept of simple average, it is derived by multiplying the total kms travelled with the average load of goods.

4. Example of Commercial Tonne-Kms:-

Continuing the information given in (2) above, the commercial tonne – kms are computed as follows:-

Total Kms. Travelled × Average Load

$$= (60+20=80\text{kms.}) \left(\frac{10+6}{2} = 8 \text{ tonnes} \right) = 640 \text{ tonne- kms.}$$

Answer to Question no.3: Operating cost statement

	Particulars	Mine A	Mine B
1	<u>Distance per round trip</u>		
	→ Outward	10 kilometers	15 kilometers
	→ Return	10 kilometers	15 kilometers
	Total	20 kilometers	30 kilometers
2	<u>Tonne- kilometers Per round trip</u>		
	→ Outward	Nil	Nil
	→ Return	10 kilometers × 5 tonnes	15 kilometers × 5 tonnes
	Total	50 tonnes- kilometers	75 tonnes- kilometers
3	<u>Time per round trip</u>		
	→ Loading time	30 minutes	20 minutes
	→ Unloading time	10 minutes	10 minutes
	→ Travelling time	40 minutes	60 minutes
	Total	80 minutes	90 minutes
4	<u>Cost per round trip</u>		
	→ Driver's wage etc. (₹ 9/hr)	₹ 12	₹ 13.50
	→ Fuel, oil, etc. (₹ 1.20/km)	₹ 24	₹ 36
	Total	₹ 36	₹ 49.50
5	<u>Cost per tone-km</u>	36/50 = 0.72	49.50/75 = 0.66

Note - 1 [Travelling time] : Speed of vehicle = 30 kilometers/hr.

Mine A: Total distance = 20 kilometers

Travelling time required = 60 minutes/30 kms × 20 kms = 40 minutes

Mine B: Total distance = 30 kilometers

Travelling time required = 60 minutes/30 kms × 30 kms = 60 minutes

Note - 2 [Driver's Wages, etc]

Given cost = ₹ 9/hr (or ₹ 9 for 60 minutes)

For mine A, the proportionate cost for 80 minutes = $9/60 \times 80 = ₹ 12$

For mine B, the proportionate cost for 90 minutes = $9/60 \times 90 = ₹ 13.50$

Answer to Question no.4:

Assume, Present cost = ₹ x and Present profit = ₹ y

Hence, $x + y = ₹ 3,000$ - (Equation 1)

Type of cost	Present cost	Future cost
Material	$0.5x$	$0.5x$ plus 20% = $0.6x$
Labour	$0.3x$	$0.3x$ plus 10% = $0.33x$
Overheads	$0.2x$	$0.2x$ plus 10% = $0.22x$
Total	₹ x	$1.15x$

We are given that the increased cost in future, in relation to existing selling price, will decrease the profit by 30%. **Therefore,** following equation can be formed:-

$$1.15x + 0.7y = ₹ 3,000 \Rightarrow 1.15x + 0.7(3,000 - x) = 3,000 \text{ [from equation (1)]}$$

Solving, we get $x = 2,000$ and $y = 1,000$. **Hence,** present cost is ₹ 2,000 and present profit is ₹ 1,000.

We are observing that profit is 1/3 of sales or 1/2 of cost. If this proportion of profit is also desired in the future, the future selling price is compute below:-

Future cost ($1.15x = 1.15 \times 2,000$)	₹ 2,300
Profit (1/3 of sales = 1/2 of cost)	₹ 1,150
Future sales	₹ 3,450

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Answer to Question no.5:

Total kms. = (40 × 2) kms. per round trip × 3 round trips per day × 25 days each month × 12 months
 × 5 buses = 3,60,000 kms.

Total Passengers-kms. = 3,60,000 kms. × 32 passengers/km.= 1,15,20,000 passenger-kms.

Operating cost statement

Particulars	Total	Per passenger-km.
A) Standing charges		
Garage Rent (4,000 × 2)	48,000	
Salary to drivers (3,000 × 5 × 12)	1,80,000	
Wages to conductors (1,200 × 5 × 12)	72,000	
Salary to manager (7,500 × 12)	90,000	
Permit fee (5,000 × 4)	20,000	
Other expenses (2,000 × 12)	24,000	
Depreciation (6,50,000 × 15/100 × 5)	4,87,500	
Insurance (6,50,000 × 3/100 × 5)	97,500	
	10,19,000	10,19,000/1,15,20,000 = 0.088
B) Running Expenses		
Diesel cost (₹ 33/6 kms × 3,60,000 kms.)	19,80,000	0.172
Repairs and maintenance (22,500 × 5)	1,12,500	0.009
	20,92,500	0.181
Total Cost (A + B)	31,11,500	0.269
Profit (1/3 of taking = 1/2 of cost)	15,55,750	0.135
Takings	46,67,250	0.404

Answer to Question no.6:

Computation of Rooms – Days

Types	Basis	Rooms - days
Single rooms	100 rooms per day × 360 days	36,000
Double rooms	40 rooms per day × 360 days	14,400
Triple room	18 rooms per day × 360 days	6,480
		56,880

Operating cost statement

Particulars	Amount (₹)
Staff salaries	14,25,000
Room attendants' wages	4,50,000
Lighting, heating and power	2,15,000
Repairs and renovation	1,23,500
Laundry charges	80,500
Interior decoration	74,000
Sundries	1,53,000
Total cost excluding building rent	25,21,000
(+) Building rent	
- Fixed amount (10,000 × 12)	1,20,000
- 5% of takings	1,76,066
Total cost	28,17,066
Profit (20% of takings)	7,04,267
Takings	35,21,333

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Assume, Total Takings = ₹ x

Now, Total cost excluding Building rent + Building rent + Profit = Takings

$$\text{₹ } 25,21,000 + (1,20,000 + 5\% \text{ of } x) + 20\% \text{ of } x = x$$

Solving, we get $x = 35,21,333$. **Assume**, rent per room per day

Single room = ₹ x	Double room = ₹ $2.5x$	Triple room = ₹ $5x$
Total collections: -		
Single room = 36,000 rooms -days × ₹ x per room per day		
Double room = 14,400 rooms -days × ₹ $2.5x$ per room per day		
Triple room = 6,480 rooms-days × ₹ $5x$ per room per day		
Total collections = $36,000x + 36,000x + 32,400x = 1,04,400x$		
$\Rightarrow 1,04,400x = \text{₹ } 35,21,333$. Hence , $x = \text{₹ } 33.73$. Therefore , rent per room per day		
Single room = ₹ $x = \text{₹ } 33.73$	Double room = ₹ $2.5x = \text{₹ } 84.32$	Triple room = ₹ $5x = \text{₹ } 168.65$

Answer to Question no.7:

Cost Sheet

Particulars	Total	3 months	6 months	3 months
Output (units) (Note 1)	1,21,875	28,125	60,000	33,750
Materials (₹ 10 per unit)	12,18,750	2,81,250	6,00,000	3,37,500
Labour (Note 2)	12,37,500	3,00,000	6,00,000	3,37,500
Prime cost	24,56,250	5,81,250	12,00,000	6,75,000
Overheads - Variables (₹ 4 per unit)	4,87,500	1,12,500	2,40,000	1,35,000
- Fixed	1,92,300	48,075	96,150	48,075
- Semi-variable (Note 2)	65,000	15,000	32,000	18,000
Total cost	32,01,050	7,56,825	15,68,150	8,76,075
Desired profit (1/5 of sales = 1/4 of cost)	8,00,263			
Desired sales	40,01,313			

Selling price per unit = ₹ $40,01,313 / 1,21,875$ units = ₹ 32.83

Note:-1 (Output units)

First 3 months $1,50,000 \times 3/12 \times 75\% = 28,125$ units

Next 6 months $1,50,000 \times 6/12 \times 80\% = 60,000$ units

Last 3 months $1,50,000 \times 3/12 \times 90\% = 37,750$ units

Note:-2 (Labour cost)

<p>First 3 months 28,125 units @ ₹ 10 per unit OR ₹ 1,00,000 p.m. × 3 months</p>	}	whichever is more
<p>Next 6 months 60,000 units @ ₹ 10 per unit OR ₹ 1,00,000 p.m. × 6 months</p>	}	whichever is more
<p>Last 3 months 37,750 units ₹ 10 per unit OR ₹ 1,00,000 p. m. × 3 months</p>	}	whichever is more

Note:-3 (Semi-variable cost)

Capacity utilization	Annual semi variable overheads (₹)
Upto 75%	60,000
More than 75% upto 80%	64,000
More than 80% upto 85%	68,000
More than 85% upto 90%	72,000
More than 90% upto 95%	76,000
More than 95% upto 100%	80,000

First 3 months	Next 6 months	Last 3 months
Capacity utilization = 75% Semi-variable overheads = 60,000 × 3/12 = ₹ 15,000	Capacity utilization = 80% Semi-variable overheads = 64,000 × 6/12 = ₹ 32,000	Capacity utilization = 90% Semi-variable overheads = 72,000 × 3/12 = ₹ 18,000

Answer to Question no.8:

Costing Profit and Loss Account

Particulars	Amount (₹)	Particulars	Amount (₹)
To Material consumed	26,80,000	By Sales (50,000 units)	62,00,000
To Direct labour	17,80,000		
Prime Cost	44,60,000		
To Factory overheads (20% of Prime Cost)	8,92,000		
Works Cost	53,52,000		
To Administration overheads	5,35,200		
Cost of Production (52,000 units)	58,87,200		
(-) Closing stock of Finished goods	(2,26,431)		
Cost of goods sold (50,000 units)	56,60,769		
To Selling and distribution (50,000 × 10)	5,00,000		
Cost of Sales	61,60,769		
To Profit (Bal fig)	39,231		
	62,00,000		62,00,000

Note: -

Total cost of production of 52,000 units = ₹ 58,87,200

Proportionate cost representing closing stock of 2,000 units = $\frac{58,87,200}{52,000 \text{ units}} \times 2,000 \text{ units} = ₹ 2,26,431$

Reconciliation Statement

Particulars	+	-
Profit as per cost books	39,231	
Factory overhead under recovered in cost books		58,000
Administration overheads over-recovered in cost books	55,000	
Closing stock of finished goods over-valued in cost books		76,431
Selling overheads over-recovered in cost books	2,50,000	
Dividend recovered not recorded in cost books	20,000	
Preliminary expenses written off not recorded in cost books		50,000

Profit as per financial accounts = 3,64,231 – 1,84,431 = ₹ 1,79,800.