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FOR CA INTERMEDIATE EXAM PREPARATION

CA Intermediate 2024 Suggested Answers · Paper 4 Cost and Management Accounting

EXAM	YEAR	TYPE
CA Intermediate	2024	Suggested Answers

SUBJECT	DATE
Paper 4 Cost and Management Accounting	May 2024

PAPER – 4: COST AND MANAGEMENT ACCOUNTING

*Question No. **1** is compulsory.*

*Attempt any **four** questions out of the remaining **five** questions.*

In case, any candidate answers extra question(s)/ sub-question(s) over and above the required number, then only the requisite number of questions first answered in the answer book shall be valued and subsequent extra question(s) answered shall be ignored.

Working notes should form part of the answer.

Question 1

(a) *Tesco cycles Ltd. used about 3,60,000 cycle locks per annum and the usage is fairly constant at 30,000 per month. The cycle lock costs ₹ 240 each at wholesale rate and carrying cost is estimated to be 10% of the annual average inventory value. The cost to place an order is ₹ 1200. It takes 45 days to receive delivery from the date of order. In order to avoid any kind of disruption in assembly line, safety stock of 6,500 cycle locks is always maintained by Tesco Cycles Ltd.*

(Assume 360 days in a year).

Compute:

(i) E.O.Q.

(ii) The re-order level.

(iii) The company has been offered a quantity discount of 2% on the purchase of cycle locks provided the order size is 30,000 units at a time. Advise whether quantity discount offer can be accepted?

(b) *A company produces two products, A and B, through a joint production process. The total joint production cost incurred is as under:*

Material	*₹ 20,000*
Labour	*₹ 10,000*

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Variable overheads	*₹ 6,000*
Fixed Overheads	*₹ 24,000*

Product A and B can be sold for ₹ 20 per unit and ₹ 15 per unit respectively at split off point. The produced quantities are Product A-2,000 units and Product B – 4,000 units.

(i) You are required to calculate the joint production cost allocation for each product using the:

(a) Physical unit method.

(b) Contribution margin method.

(ii) Product B can be further processed by incurring expenditure of ₹ 12,000. Loss in further processing is 2%. It can be sold @ ₹ 18 per unit. Explain the impact on profitability if Product B is further processed.

(c) Following data is available for XYZ Ltd. for the month of February 2024:

Standard working hours	*8 hours per day of 6 days per week*
No. of weeks in the month	*4*
Maximum capacity	*150 employees*
Actual working	*125 employees*
Actual usage of Budgeted Capacity Ratio	*86%*
Efficiency Ratio	*110%*

You are required to calculate the following:

(i) Actual Hours worked.

(ii) Standard Hours for actual output.

(iii) Activity Ratio.

(iv) Standard Capacity Usage Ratio.

Answer

(a) (i) Calculation of Economic Order Quantity

$$EOQ = \sqrt{\frac{2AO}{C}} = \sqrt{\frac{2 \times 3,60,000 \text{ units} \times ₹1200}{₹24}} = \textbf{6,000 units}$$

Where,

A = Annual Demand = 3,60,000 units

O = Ordering cost per order = ₹1200

C = Inventory carrying cost per unit per annum = 10% of ₹240 = ₹ 24

(ii) Re-order Level = Safety Stock + Lead Time Consumption

= 6,500 + (1,000 x 45) units = **51,500 units**

Or,

Minimum level of cycle locks + [Average rate of consumption × Average time required to obtain fresh delivery]

= 6,500 + (1,000 x 45) units = **51,500 units**

(iii) Evaluation of Profitability of Different Options of Order Quantity

(a) When EOQ is ordered (order size of 6,000 units)

		(₹)
Purchase Cost	(3,60,000 units × ₹ 240)	8,64,00,000
Ordering Cost	[(3,60,000 units/6,000 units) × ₹ 1,200]	72,000
Carrying Cost	(6,000 units × ₹240 ×½ × 10/100)	72,000
Total Cost		**8,65,44,000**

(b) When Quantity Discount is accepted (order size of 30,000 units)

		(₹)
Purchase Cost	[3,60,000 units × ₹ 235.2 (240-4.8)]	8,46,72,000
Ordering Cost	[(3,60,000 units/30,000 units) × ₹1,200]	14,400
Carrying Cost	(30,000 units × ₹ 235.2 ×½ × 10/100)	3,52,800
Total Cost		**8,50,39,200**

Advise – The total cost of inventory is lower if discount is accepted. Hence, the company is advised to accept the quantity discount.

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(b) Working

Calculation of joint cost

Description	Amount (₹)
Material	20,000
Labour	10,000
Variable overheads	6,000
Total variable cost	**36,000**
Fixed overheads	24,000
Total joint cost	**60,000**

(i) (a) Allocation of joint cost using physical unit method:

Product A = ₹60,000 × 2,000/6,000 = ₹ 20,000

Product B = ₹60,000 × 4,000/6,000 = ₹ 40,000

(b) Allocation of joint cost using contribution margin method:

	Description	Product-A	Product-B
	Units produced	2,000	4,000
	Selling price per unit (₹)	20	15
A.	Sales value (₹)	40,000	60,000
B.	**Allocation of joint variable cost on the basis of physical unit**		
	₹36,000 × 2,000/6,000	(12,000)	
	₹36,000 × 4,000/6,000		(24,000)
C= A-B	**Contribution**	**28,000**	**36,000**
D	Allocation of fixed joint cost on the basis of contribution margin		
	₹24,000 × 28,000/64,000	(10,500)	
	₹24,000 × 36,000/64,000		(13,500)
C-D	Profit at split off point	**17,500**	**22,500**

Allocation of Joint Cost on the basis of Contribution Margin Method:

Particulars	Product A	Product B
Allocation of Variable Cost	₹ 12,000	₹ 24,000
Allocation of Fixed Cost	₹ 10,500	₹ 13,500
Total Joint Cost	**₹ 22,500**	**₹ 37,500**

(ii) Profitability after further processing of Product B

Description	Amount (₹)
Units produced and sold 98% of 4,000 units	3,920
Selling price per unit (₹)	18
Sales value (₹)	70,560
Joint cost upto split off point	(37,500)
Further processing cost	(12,000)
Profit after further processing	**21,060**

Calculation of the profitability after further processing of product B can also be done in the following manner:

Profitability after further processing of Product B

Description	Amount (₹)
Incremental revenue on further processing (3,920 x ₹18)- (4,000 x ₹15)	10,560
Further processing cost	(12,000)
Incremental loss after further processing	**1,440**

Impact on profitability on Product B

If Product B is sold at split off point it earns profit of ₹ 22,500, but after further processing the profit is reduced to ₹ 21,060/- i.e. an opportunity loss of ₹ 1,440/-.

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(c) (i) Actual Hours worked

$$\text{Actual Usage of Budgeted Capacity Ratio} = \frac{\text{Actual working Hours}}{\text{Budgeted Hours}} \times 100$$

86% = (Actual working hours÷ Budgeted hours) × 100

Budgeted hours=125 workers × 8 hours× 6 days × 4 weeks = 24,000 hours

Actual hours= 24,000 × 86% = 20,640 hours

(ii) Standard hours for actual output

$$\text{Efficiency ratio} = \frac{\text{Standard Hrs}}{\text{Actual Hrs}} \times 100$$

110% = Standard hours÷ Actual hours

Standard hours= 20,640 × 110% = 22,704 hours

(iii) Activity ratio $= \frac{\text{Standard Hrs}}{\text{Budgeted Hrs}} \times 100$

= (22,704 ÷ 24,000) × 100 = 94.6%

(iv) Standard capacity usage ratio

$$= \frac{\text{Budgeted Hours}}{\text{Max. possible hours in the budgeted period}} \times 100$$

= {24,000 hours÷ (150 workers × 8 hours× 6 days × 4 weeks)} × 100

= (24,000 ÷ 28,800) × 100 = 83.33%

Question 2

(a) Luxury Designer Pvt. Ltd. is a manufacturing company, which manufactures readymade designer shirts. It has four customers: two wholesale category customers and two retail category customers. It has developed the following Activity- Based Costing system:

Activity	*Cost Driver Rate (₹)*
Order Processing	*1,260 per purchase order*
Customer Visits	*1,500 per customer visit*

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Regular Delivery	*30 per delivery Km. travelled*
Expedited Delivery	*4,490 per expedited delivery*

List selling price per shirt is ₹ 1,000 and average cost per shirt is ₹ 600. CEO of Luxury Designer Pvt. Ltd. wants to evaluate the profitability of each of the four customers for the year 2023, to explore opportunities for increasing profitability of his Company in the next year 2024. The following data in context of four customers are available for 2023:

	Wholesale Customers		*Retail Customers*	
	WC-1	*WC-2*	*RC-1*	*RC-2*
Number of Purchase orders	*50*	*65*	*224*	*245*
Number of Customer visits	*10*	*13*	*25*	*22*
Regular Deliveries	*46*	*52*	*175*	*198*
Kilometers travelled per delivery	*20*	*15*	*10*	*25*
Expedited Deliveries	*5*	*16*	*50*	*62*
Average Number of Shirts per Shirt	*215*	*110*	*18*	*15*
Average Selling Price per Shirt	*₹ 700*	*₹ 800*	*₹ 900*	*₹ 950*

You are required to:

Calculate the customer-level operating income and operating income as a % of revenues in 2023 and rank them on the basis of relative profitability.

(b) *Star Airlines operates a single aircraft of 180 seats capacity between city 'ND' and 'GA'. The average normal occupancy is estimated at 70% per flight. The average one-way fare is ₹ 12,500 from city 'ND" to 'GA'. The costs of operation of the flight as collected by an expert analyst are:*

Fuel cost (Variable) per flight from 'ND' to 'GA'	*₹ 2,28,000 per flight*
Food served on flight from 'ND' to 'GA' (no charge to passenger)	*₹ 270 per passenger*
Commission paid to Travel Agents (All ticket booking through agents)	*7.5% of fare*

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Fixed costs:	
Lease & landing charges per flight 'ND' to 'GA'	*₹ 9,12,000*
Salaries of flight crew per flight 'ND' to 'GA'	*₹ 90,000*

Note: Assume that fuel costs are unaffected by the actual number of passengers on a flight.

You are required to:

(i) Calculate the net operating income that Star Airlines makes per flight from 'ND' to 'GA'.

(ii) Star Airlines expects that its occupancy will increase to 144 passengers per flight if the fare is reduced to ₹ 11,670. Advise whether this proposal should be implemented or not.

Answer

(a) Working note:

Computation of revenues (at listed price), discount, cost of goods sold and customer level operating activities costs:

	Wholesale Category Customers		Retail Category Customers	
	WC-1	WC-2	RC-1	RC-2
Number of shirts sold (a)	10,750 (215x50)	7,150 (110x65)	4,032 (18x224)	3,675 (15x245)
Revenues (at listed price) (₹): (b) {(a) × ₹ 1,000)}	1,07,50,000	71,50,000	40,32,000	36,75,000
Discount (₹): (c) {(a) × Discount per shirt}	32,25,000	14,30,000	4,03,200	1,83,750
Cost of shirts (₹) : (d) {(a) × ₹ 600}	64,50,000	42,90,000	24,19,200	22,05,000
Order taking costs (₹):	63,000	81,900	2,82,240	3,08,700

(No. of purchase × ₹1,260)				
Customer visits costs (₹) (No. of customer visits × ₹ 1,500)	15,000	19,500	37,500	33,000
Delivery vehicles travel costs (₹) (Kms travelled by delivery vehicles × ₹ 30 per km.)	27,600	23,400	52,500	1,48,500
Cost of expediting deliveries (₹) {No. of expedited deliveries × ₹ 4,490}	22,450	71,840	2,24,500	2,78,380
Total cost of customer level operating activities (₹)	1,28,050	1,96,640	5,96,740	7,68,580

Computation of Customer level operating income

	Wholesale Category Customers		Retail Category Customers	
	WC-1	WC-2	RC-1	RC-2
Revenues (At list price) (Refer to working note)	1,07,50,000	71,50,000	40,32,000	36,75,000
Less: Discount (Refer to working note)	32,25,000	14,30,000	4,03,200	1,83,750
Revenue	75,25,000	57,20,000	36,28,800	34,91,250

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(At actual price)				
Less: Cost of shirts (Refer to working note)	64,50,000	42,90,000	24,19,200	22,05,000
Gross margin	10,75,000	14,30,000	12,09,600	12,86,250
Less: Customer level operating activities costs (Refer to working note)	1,28,050	1,96,640	5,96,740	7,68,580
Customer level operating income	9,46,950	12,33,360	6,12,860	5,17,670
Operating income as a % of revenues	12.584%	21.562%	16.889%	14.828%
Rank	IV	I	II	III

(b) (i) No. of passengers 180 seats × 70% = 126

	(₹)	(₹)
Fare collection (126 passengers × ₹12,500)		15,75,000
Variable costs:		
Fuel	2,28,000	
Food (126 passengers × ₹270)	34,020	
Commission (7.5 % of ₹15,75,000)	1,18,125	3,80,145
Contribution per flight		11,94,855
Fixed costs:		
Lease and Landing Charges	9,12,000	
Salaries of flight Crew	90,000	10,02,000
Net income per flight		1,92,855

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(ii)

Fare collection (144 passengers × ₹11,670)		16,80,480
Variable costs:		
Fuel	2,28,000	
Food (144 passengers × ₹270)	38,880	
Commission (7.5% of ₹16,80,480)	1,26,036	3,92,916
Contribution		12,87,564
Fixed costs:		
Lease and Landing Charges	9,12,000	
Salaries of flight Crew	90,000	10,02,000
Net income per flight		2,85,564

There is an increase in contribution by ₹ 92,709. Hence the proposal is acceptable.

Question 3

(a) A factory is currently working at 60% capacity and produces 12,000 units of a product. Management is thinking to increase the working capacity either to 70% or 90% level. It is estimated that at both the levels, it will be able to sell all the produced units. The other details are as under:

- *At 70% capacity, the cost of raw materials increases by 4% and the selling price falls by 3%.*
- *At 90% capacity, the cost of raw materials increases by 5% and selling price falls by 4%.*
- *At 60% capacity, the product cost is ₹360 per unit and it is sold at ₹400 per unit.*
- *The unit cost of 360 consists of the following:*

Material	*₹200*
Labour	*₹60*
Factory overhead	*₹60 (50 % fixed)*
Administrative & Selling overhead	*₹40 (60 % fixed)*

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- *Additional advertising cost of ₹ 20,000 is to be incurred for selling the product above 80% capacity.*

You are required to:

(i) Calculate the profits of the company when the factory works at 60%, 70% and 90% capacity level.

(ii) Offer your comments regarding increase in the capacity based on profit calculated.

(b) S.K. Manufacturing Co. Ltd. showed a net profit of ₹ 5,40,400 as per their cost accounts for the year ended 31.03.2004. However, the financial books disclosed a net profit of ₹ 2,60,500 for the same period. The following information was revealed as a result of scrutiny of the figures of both the sets of books:

	₹
Factory overheads under absorbed	*84,800*
Administrative overheads over absorbed	*24,000*
Interest paid on bank borrowings	*50,000*
Interest & Divided received	*65,200*
Notional rent of own premises charged in cost accounts	*60,000*
Losses on the sales of fixed assets and investments	*48,000*
Donations and subscriptions	*18,800*
Overvaluation of closing stock of finished goods in Cost accounts	*1,25,000*
Store adjustments (credited in financial books)	*7,500*
Depreciation over charged in cost accounts	*40,000*
Income tax provided	*1,50,000*

You are required to:

(i) Prepare a reconciliation statement taking net profit as per cost accounts as base.

(ii) State when is the reconciliation statement of Cost and Financial accounts not required?

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Answer

(a) (i) Expense Budget at 60%, 70% & 90% level

	60% (12,000 units)		70% (14,000 units)		90% (18,000 units)	
	Per unit (₹)	Amount (₹)	Per unit (₹)	Amount (₹)	Per unit (₹)	Amount (₹)
Sales **(A)**	400	48,00,000	388	54,32,000	384	69,12,000
Variable Costs:						
Direct Material	200	24,00,000	208	29,12,000	210	37,80,000
Direct Wages	60	7,20,000	60	8,40,000	60	10,80,000
Variable Factory Overheads	30	3,60,000	30	4,20,000	30	5,40,000
Variable Administrative & Selling Overheads	16	1,92,000	16	2,24,000	16	2,88,000
Total Variable Cost **(B)**	306	36,72,000	314	43,96,000	316	56,88,000
Contribution **(C) = (A–B)**	94	11,28,000	74	10,36,000	68	12,24,000
Fixed Costs:						
Fixed Factory Overheads (50%)	--	3,60,000	--	3,60,000	--	3,60,000
Fixed Administrative & Selling Overheads (60%)	--	2,88,000	--	2,88,000	--	2,88,000
Adverting Cost	--	--	--	--	--	20,000
Total Fixed Costs **(D)**	--	6,48,000	--	6,48,000	--	6,68,000
Profit **(C – D)**	--	4,80,000	--	3,88,000	--	5,56,000

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(ii) Comment: Increase of production capacity to 90% is likely to increase the profit to maximum of ₹ 5,56,000 due to increase in contribution while fixed cost is slightly increased due to in advertising cost. At 70% capacity, profit is reduced to minimum of ₹ 3,88,00 due to decrease in selling price by 3% along with increase in raw material cost by 4% resulting in decrease of contribution. Therefore, it is recommended that factory should operate at 90% capacity.

(b) (i) Statement of Reconciliation of profit as obtained under Cost and Financial Accounts

		(₹)	(₹)
	Profit as per Cost Records		**5,40,400**
Add:	Administrative Overhead over absorbed	24,000	
	Interest & Dividend Received	65,200	
	Notional rent of own premises	60,000	
	Stores adjustments (credited in financial books)	7,500	
	Depreciation over charged in cost accounts	40,000	1,96,700
			7,37,100
Less:	Factory overheads under absorbed	84,800	
	Interest paid on bank borrowings	50,000	
	Losses on sale of fixed assets and investments	48,000	
	Donations and subscriptions	18,800	
	Over-valuation of closing stock of finished goods in cost accounts	1,25,000	
	Income tax	1,50,000	(4,76,600)
	Profit as per Financial Records		**2,60,500**

(ii) Circumstances where reconciliation statement can be avoided: When the Cost and Financial Accounts are integrated - there is no need

to have a separate reconciliation statement between the two sets of accounts. Integration means that the same set of accounts fulfil the requirement of both i.e., Cost and Financial Accounts.

Question 4

(a) Meta Company Ltd. is engaged in the production of product 'Trio' which passes through two different processes Process P and Process Q. Other information obtained from books of account for the year is as follows:

Particulars	*Process P*	*Process Q*
Raw material used	*10,000*	*---*
Raw material cost per unit	*₹ 80*	*---*
Direct wages	*₹ 52,000*	*₹ 78,000*
Direct Expenses	*₹ 8,600*	*₹ 11,100*
Selling price per unit of output	*₹ 130*	*₹ 190*

Production overheads of ₹ 3,00,000 are recovered as percentage of direct wages.

Actual output of the two processes was:

P-9,200 units and Q-6,400 units. 3/4th of the output of Process P was passed on to the Process Q and the balance was sold. The entire output of process Q was sold.

Management & Selling expenses during the year were ₹ 1,70,000.

These are not allocable to the processes.

The normal loss of the two processes, calculated on the input of every process was:

Process P- 6% and Process Q-10%

The Loss of Process P was sold at ₹ 5 per unit and that of Q at ₹ 8 per unit. Assume that Process P and Process Q are not the responsibility centres.

You are required to prepare:

(i) Process P Account

(ii) Process Q Account

(iii) Abnormal Loss and Abnormal Gain Account

(iv) Costing Profit & Loss Account.

(b) The cost variance report was being discussed at a review meeting where in Cost Accountant of the company reported under-absorption of production overheads.

The following information was available from the cost records of the company at the end of financial year 2023-24:

- *Actual production overheads incurred were ₹ 4,50,000 which included ₹ 42,000 on account of 'written off obsolete stores.*
- *18,000 units were produced during the year out of which 10,000 units were sold and 8,000 units of finished goods were in stock.*
- *There were also 5,000 units in progress which may be reckoned as 40% complete.*
- *The actual machine hours worked during the period were 43,000.*

ABC Ltd. absorbs the production overheads at a predetermined rate of ₹ 8 per machine hour.

On investigation, it has been found that 20% of the under-absorption of production overheads was due to defective planning and the rest was attributable to normal increase in costs of indirect materials and indirect labour.

You are required to:

(i) Calculate the amount of under-absorption of production overheads during the year 2023-24; and

(ii) Show the treatment of under-absorption of production overheads in cost accounts.

Answer

(a) Process- P Account

Particulars	Units	Amount (₹)	Particulars	Units	Amount (₹)
To Material	10,000	8,00,000	By Normal Loss	600	3,000
To Wages		52,000	By Process Q		

To Direct Exp.		8,600	(9,200 × 3/4)	6,900	7,17,600
To Production Overheads (3,00,000 × 2/5)		1,20,000	By Costing Profit and Loss (P&L) (9,200 × 1/4)	2,300	2,39,200
			By Abnormal Loss	200	20,800
	10,000	9,80,600		10,000	9,80,600

Cost per unit = $\frac{9,80,600-3,000}{10,000-600}$ = ₹ 104 per unit

Process- Q Account

Particulars	Units	Amount (₹)	Particulars	Units	Amount (₹)
To Process P	6,900	7,17,600	By Normal Loss	690	5,520
To Wages		78,000			
To Direct Exp.		11,100	By Costing P&L	6,400	10,11,200
To Production Overheads (3,00,000 × 3/5)		180,000			
To Abnormal Gain	190	30,020			
	7,090	10,16,720		7,090	10,16,720

Cost per unit = $\frac{9,86,700-5,520}{6900-690}$ = ₹158 per unit

Abnormal Loss Account

Particulars	Units	Amount (₹)	Particulars	Units	Amount (₹)
To Process- P	200	20,800	By Bank	200	1,000
			By Costing P&L		19,800
	200	20,800		200	20,800

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Abnormal Gain Account

Particulars	Units	Amount (₹)	Particulars	Units	Amount (₹)
To Normal Loss	190	1,520	By Process Q	190	30,020
To Costing Profit and Loss		28,500			
	190	30,020		190	30,020

Costing Profit & Loss Account for the year

Dr. **Cr.**

Particulars	Amount (₹)	Particulars	Amount (₹)
To Cost of Sales P - 2,39,200 Q - 10,11,200	12,50,400	By Sales P 2300 @ 130 Q 6400 @ 190	15,15,000
To Abnormal Loss	19,800	By Abnormal Gain	28,500
To Selling Expense	1,70,000		
To Net Profit	1,03,300		
	15,43,500		15,43,500

(b) (i) Amount of under-absorption of production overheads during the current year

	(₹)
Total production overheads actually incurred during the current year	4,50,000
Less : 'Written off' obsolete stores	42,000
Net production overheads actually incurred : **(A)**	4,08,000
Production overheads absorbed by 43,000 machine hours@ ₹ 8 per hour : **(B)**	3,44,000

Amount of under – absorption of production overheads :

[(A) – (B)] **64,000**

(ii) Accounting treatment of under absorption of production overheads

It is given in the statement of the question that 18,000 units were produced, and 5,000 units were 40% complete, 20% of the under-absorbed overheads were due to defective planning and the rest were attributable to normal increase in costs of indirect materials and indirect labour.

1.	(20 % of ₹ 64,000) i.e., ₹ 12,800 of under-absorbed overheads were due to defective planning. This being abnormal, should be debited to the Costing Profit and Loss A/c.	₹ 12,800
2.	Balance (80% of ₹ 64,000) i.e., ₹ 51,200 of under-absorbed overheads should be distributed over work-in-progress, finished goods and cost of sales by using supplementary rate.	₹ 51,200
	Total under-absorbed overheads	₹ 64,000

Apportionment of unabsorbed overheads of ₹ 51,200 over, work-in progress, finished goods and cost of sales

	Equivalent Completed Units	**(₹)**
Work-in-Progress		
(5,000 units × 40%×₹ 2.56)	2,000	5,120
(Refer to working note)		
Finished goods		
(8,000 units × ₹ 2.56)	8,000	20,480
Cost of sales		
(10,000 units × ₹ 2,56)	10,000	25,600
	20,000	51,200

Working Note

Supplementary rate per unit = $\frac{51,200}{20,000}$ = ₹ 2.56

Question 5

(a) Super Ltd, a manufacturing company is facing the problem of high labour turnover in the factory. Before analysing the causes and taking remedial steps, the management of the company wants to ascertain the profit lost for the year 2022-23 on account of labour turnover. For this purpose, it has given you the following information:

(i) Sales for the last year 2022-23 was ₹2,16,80,000 and P/V ratio was 15%.

(ii) The total number of actual hours worked by the direct labour force was 5,00,000 hours. The actual direct labour hours included 60,000 hours attributable to training new recruits, out of which 40% of the hours were unproductive.

(iii) Due to delays by the Personnel Department in filling vacancies on account of labour turnover, 95,000 potential productive hours (excluding unproductive training hours) were lost.

(iv) 1,500 units of the output produced during training period were defective. Cost of rectification of defective units was ₹40 per unit.

(v) Settlement cost of the workers leaving the organization was ₹2,37,880.

(vi) Recruitment and Selection cost was ₹1,40,000.

(vii) Cost of Training and Induction was ₹1,61,950.

Assuming that the potential production lost as a consequence of labour turnover could have been sold at prevailing prices, find the profit lost for the year 2022-23 on account of labour turnover.

(b) The following information is given by PQR Ltd:

Year	*Sales (₹)*	*Profit (Loss (₹)*
2022-23	*1,80,00,000*	*(3,80,000)*
2023-24	*2,40,00,000*	*11,20,000*

You are required to:

(i) Calculate the Break even sales.

(ii) *In 2024-25, it is estimated that the variable cost will go up by 5% and fixed cost will reduce by ₹ 4,80,000. Selling price will remain same. Calculate the sales volume to earn a profit of ₹ 15,00,000.*

(c) *Discuss Feedback Control and Feedforward Control system of budgetary control.*

Answer

(a) Workings:

(i) Computation of productive hours

Actual hours worked (given)	5,00,000
Less: Unproductive training hours	24,000
Actual productive hours	4,76,000

(ii) Productive hours lost:

Loss of potential productive hours + Unproductive training hours

= 95,000 + 24,000 = 1,19,000 hours

(iii) Loss of contribution due to unproductive hours :

$$= \frac{\text{Sales value}}{\text{Actual productive hours}} \times \text{Total unproductive hours}$$

$$= \frac{₹\,2,16,80,000}{4,76,000\ \text{hrs}} \times 1,19,000\ \text{hours} = ₹\,54,20,000$$

Contribution lost for 1,19,000 hours = ₹ 54,20,000 x 15% = ₹8,13,000

Computation of profit forgone on account of employee turnover

	(₹)
Contribution foregone (as calculated above)	8,13,000
Settlement cost due to leaving	2,37,880
Recruitment and Selection cost	1,40,000
Training and Induction costs	1,61,950
Cost of Rectification (1500 units x ₹40)	60,000
Profit foregone	**14,12,830**

The above question can also be solved in alternative way after taking proper assumptions

Workings:

(i) Computation of productive hours

Actual hours worked (given)	5,00,000
Less: Unproductive training hours	24,000
Actual productive hours	4,76,000

(ii) Productive hours lost:

Loss of potential productive hours

= 95,000 hours

(iii) Loss of contribution due to unproductive hours :

$$= \frac{\text{Sales value}}{\text{Actual productive hours}} \times \text{Total unproductive hours}$$

$$= \frac{₹\ 2,16,80,000}{4,76,000\ \text{hrs}} \times 95,000\ \text{hours} = ₹\ 43,26,891$$

Contribution lost for 95,000 hours= ₹ 43,26,891 x 15% = ₹ 6,49,034(approx.)

Computation of profit forgone on account of employee turnover

	(₹)
Contribution foregone (as calculated above)	6,49,034
Settlement cost due to leaving	2,37,880
Recruitment and Selection cost	1,40,000
Training and Induction costs	1,61,950
Cost of Rectification (1500 units x ₹40)	60,000
Profit foregone	**12,48,864**

SUGGESTED ANSWER — COST AND MANAGEMENT ACCOUNTING

(b) (i) Break-even sales = $\frac{\text{Fixed Cost}}{\text{P/V Ratio}}$

P/V Ratio = $\frac{\text{Change in Profit}}{\text{Change in Sales}} \times 100$ or, $\frac{15,00,000}{2,40,00,000-1,80,00,000} \times 100$

Or, $\frac{15,00,00}{60,00,000} \times 100$ or, 25%

Fixed Cost = Contribution – Profit

= ₹ 2,40,00,000 × 25% - ₹ 11,20,000

= ₹ 60,00,000 – ₹ 11,20,000 = ₹ 48,80,000

Break-even sales = $\frac{48,80,000}{25\%}$ = ₹ 1,95,20,000

(iii) Desired Contribution in 2024-25 = Revised Fixed Cost + Target Profit

= (₹ 48,80,000- ₹ 4,80,000) + ₹ 15,00,000

= ₹ 59,00,000

Earlier P/V ratio = 25%. So Variable Cost ratio =75%.

Selling price remain the same.

Variable cost increased by 5% i.e. Variable Cost ratio will be 78.75% (75+5%of 75).

Now revised P/V ratio=21.25%

Sales Volume in 2024-25=$\frac{59,00,000}{21.25\%}$ = ₹ 2,77,64,706(approx.)

If it is assumed that variable cost will go up by 5% on total. So, it will be increased from 75% to 80% and solution can be done in following way:

(i) Desired Contribution in 2024-25 = Revised Fixed Cost + Target Profit

= (₹ 48,80,000-₹ 4,80,000) + ₹ 15,00,000

= ₹ 59,00,000

Earlier P/V ratio = 25%. So Variable Cost ratio =75%.

Selling price remain the same.

Variable cost increased by 5% i.e. Variable Cost ratio will be 80% (75%+5%).

Now revised P/V ratio=20%

Sales Volume in 2024-25== $\frac{59,00,000}{20\%}$ = ₹ 2,95,00,000

(c) There are two types of budgetary control system based on timing of action:

Feedback Control: The feedback system of budgetary control, the actual results for the budgeted period are collected and compared with the budgeted figures. The exercise of variance identification is done after the completion of the budget period. The variances are reported and based on the report corrective actions are taken, responsibility is fixed and based on experience, modification in future targets is implemented. As the name suggests, it is an Ex-post Corrective control system of budget.

This system of budgetary control is common in organistions where Management Information System (MIS) is not so robust and where data is obtained only after the finalisation of books of account. Though this type of control system is less expensive to maintain but has limitations.

Feedforward Control: This the opposite of feedback control system of budgetary control. It is Ex-Ante Preventive control mechanism of budgetary control. The budgets are set at the inception of the budgeted period and the actual results are continuously monitored and compared. The targets are kept realistic as far as possible and the targets are reviewed and reset if necessary.

This budgetary control system requires a robust MIS supported by integrated ERP system enabling an entity to get data as and when desired basis. This system is very expensive and beneficial for the organisations where the business environment is dynamic and information has important role in getting edge in competition and todays data warfare.

Question 6

(a) Distinguish between cost control and cost reduction.

(b) Distinguish between Waste and Scrap. Discuss the treatment of normal and abnormal scrap in Cost Accounts.

SUGGESTED ANSWER

COST AND MANAGEMENT ACCOUNTING

(c) Describe Unit Costing and Batch Costing. Give three examples of industries for each method where these are used.

OR

(d) Describe briefly idle time and explain the treatment of idle time in cost accounts in following situations:

(i) The setting up time for the machine in case of Direct Worker Mr. A.

(ii) Normal break time for lunch in case of Indirect Worker Mr. B.

(iii) Time lost due to breakdown of machine in case of Worker Mr. C.

Answer

(a)

Cost Control	Cost Reduction
1. Cost control aims at maintaining the costs in accordance with the established standards.	1. Cost reduction is concerned with reducing costs. It challenges all standards and endeavours to improvise them continuously
2. Cost control seeks to attain lowest possible cost under existing conditions.	2. Cost reduction recognises no condition as permanent, since a change will result in lower cost.
3. In case of cost control, emphasis is on past and present	3. In case of cost reduction, it is on present and future.
4. Cost control is a preventive function	4. Cost reduction is a corrective function. It operates even when an efficient cost control system exists.
5. Cost control ends when targets are achieved.	5. Cost reduction has no visible end and is a continuous process.

(b) Difference between Waste and Scrap

Waste	Scrap
1. The portion of raw material which is lost during storage/ production and discarded.	1. The output which is discarded and disposed off without further treatment.
2. It is connected with raw material or inputs to the production process.	2. It is the loss connected with the output
3. Waste of materials may be visible or invisible.	3. Scraps are generally identifiable and has physical substance.
4. Generally, waste has no recoverable value.	4. Scraps are termed as by-products and has small recoverable value.

Treatment of Scrap

Normal- The cost of scrap is borne by good units and income arises on account of realisable value is deducted from the cost.

Abnormal- The scrap account should be charged with full cost. The credit is given to the job or process concerned. The profit or loss in the scrap account, on realisation, will be transferred to the Costing Profit and Loss Account.

(c) Unit costing is that method of costing where the output produced is identical and each unit of output requires identical cost. Under this method costs, are collected and analysed element wise and then total cost per unit is ascertained by dividing the total cost with the number of units produced.

Such a method of costing is used in the industries like paper, cement, steel works, mining, breweries etc.

Batch Costing: Batch Costing is a type of specific order costing where articles are manufactured in predetermined lots, known as batch. Cost per unit in a batch is ascertained by dividing the total cost of a batch by the number of units produced in that batch.

Such a method of costing is used in the case of pharmaceutical or drug industries, readymade garment industries, industries, manufacturing electronic parts of T.V. radio sets etc.

OR

(c) The time during which no production is carried-out because the worker remains idle but are paid. In other words, it is the difference between the time paid and the time booked. Idle time can be normal or abnormal.

Situation	Idle Time	Treatment
The setting up time for the machine in case of Direct Worker Mr. A	Normal idle time	It is treated as a part of cost of production. It is to be considered while setting of standard hours or standard rate.
Normal rest time, break time for lunch in case of Indirect Worker Mr. B	Normal idle time	It is to be considered for the computation of overhead rate.
Time lost due to break-down of machines in case of Worker Mr. C	Abnormal idle time	It is to be shown as a separate item in the Costing Profit and Loss Account.