Departmental Accounts

[Helps in Identifying performance of each Department]

Concept 1: Basis of Allocation of Common Expenditure Among Departments

Expenses	Basis
Rent, rates & taxes, repairs & maintenance, insurance of building	Floor area occupied by each department
Lighting and Heating expenses	Consumption of energy by each department
Selling expenses, e.g., discount allowed, bad debts, selling commission, freight outward, advertisement etc.	Sales (net) of each department
Carriage inward/ Discount received	Purchases (net) of each department
Wages/Salaries	Time devoted to each department
Depreciation, insurance, repairs & maintenance of capital assets	Value of assets of each department
Labour welfare expenses	Number of employees in each department
PF/ESI contributions	Wages and salaries of each department
Interest on Loan	Utilization of loan amount in each department (if can be identified), otherwise in Combined P&L A/c
Profit or Loss on sale of investment	Value of investments sold in each department (if can be identified), otherwise in Combined P&L A/c

Question

M/s. Delta is a Departmental Store having three departments X, Y and Z. The information regarding three departments for the year ended 31st March, 2020 are given below:

	Dept. X	Dept. Y	Dept. Z
Opening Stock	18,000	12,000	10,000
Purchases	66,000	44,000	22,000
Debtors at end	7,500	5,000	5,000
Sales	90,000	67,500	45,000
Closing stock	22,500	8,750	10,500
Value of Furniture in each department	10,000	10,000	5,000
Floor space occupied by each department (in sq. ft.)	1,500	1,250	1,000
Number of employees in each Deptt.	25	20	15
Electricity consumed by each Department (in units)	300	200	100

Additional Information:

Items	Amount
Carriage Inwards	1,500
Carriage Outwards	2,700
Salaries	24,000
Advertisement	2,700
Discount allowed	2,250
Discount received	1,800
Rent, Rates and Taxes	7,500
Depreciation on furniture	1,000
Electricity Expenses	3,000
Labour welfare expenses	2,400

Prepare Departmental Trading and Profit & Loss Account for the year ended 31st March, 2019 after providing provision for Bad Debts at 5%.

Solution

Departmental Trading and Profit and Loss Account
for the year ended 31st March, 2020

Particulars	Deptt.X	Deptt.Y	Deptt.Z	Particulars	Deptt.X	Deptt.Y	Deptt.Z
To Opening Stock	18,000	12,000	10,000	By Sales	90,000	67,500	45,000
To Purchases	66,000	44,000	22,000	By Closing Stock	22,500	8,750	10,500
To Carriage Inwards	750	500	250				
To G.P. c/d	27,750	19,750	23,250				
	1,12,500	**76,250**	**55,500**		**1,12,500**	**76,250**	**55,500**
To Car. Outward	1,200	900	600	By G.P. b/d	27,750	19,750	23,250
To Electricity	1,500	1,000	500	By Disc.received	900	600	300
To Salaries	10,000	8,000	6,000				
To Advertisement	1,200	900	600				
To Disc. allowed	1,000	750	500				
To Rent, Rates & Taxes	3,000	2,500	2,000				
To Depreciation	400	400	200				
To Provision for Bad Debts	375	250	250				
To Labour welfare Expenses	1,000	800	600				
To Net Profit	8,975	4,850	12,300				
	28,650	**20,350**	**23,550**		**28,650**	**20,350**	**23,550**

Working Note:

Basis of allocation of expenses	
Carriage inwards	Purchases (3:2:1)
Carriage outwards	Turnover (4:3:2)
Salaries	No. of Employees (5:4:3)
Advertisement	Turnover (4:3:2)
Discount allowed	Turnover (4:3:2)
Discount received	Purchases (3:2:1)
Rent, Rates and Taxes	Floor Space occupied (6:5:4)
Depreciation on furniture	Value of furniture (2:2:1)
Labour welfare expenses	No. of Employees (5:4:3)
Electricity expenses	Units consumed (3:2:1)
Provision for bad debts	Debtors balances (3:2:2)

Question

Z Ltd. has 3 departments & submits the following information for the year ending on 31st March, 2020:

	A	B	C	Total (Rs.)
Purchases (units)	6,000	12,000	14,400	
Purchases (Amount)				6,00,000
Sales (Units)	6,120	11,520	14,976	
Selling Price (per unit)	40	45	50	
Closing Stock (units)	600	960	36	

You are required to prepare departmental trading account of Z Ltd., assuming that the rate of profit on sales is uniform in each case.

Solution

Departmental Trading Account for the year ended 31st March, 2020

Particulars	A	B	C	Particulars	A	B	C
To Opening Stock (W.N.-4)	11,520	8,640	12,240	By Sales	2,44,800	5,18,400	7,48,800
To Purchases (W.N.-2)	96,000	2,16,000	2,88,000	By Closing Stock (W.N.-4)	9,600	17,280	720
To G.P. c/d (Bal.Fig.)	1,46,880	3,11,040	4,49,280				
	2,54,400	**5,35,680**	**7,49,520**		**2,54,400**	**5,35,680**	**7,49,520**

Working Notes:

(1) Profit Margin Ratio

	Rs.
Selling price of units purchased	
Department A (6,000 units x Rs. 40)	2,40,000
Department B (12,000 units x Rs. 45)	5,40,000
Department C (14,400 units x Rs. 50)	7,20,000
Total selling price of purchased units	15,00,000
Less: Purchases	(6,00,000)
Gross profit	**9,00,000**

$$\text{Profit margin ratio} = \frac{\text{Gross profit}}{\text{Selling price}} \times 100$$

$$= \frac{9,00,000}{15,00,000} \times 100 = 60\%$$

(2) Statement showing department-wise per unit cost and purchase cost

Particulars	**A**	**B**	**C**
Selling price per unit	40	45	50
Less: Profit margin @ 60%	(24)	(27)	(30)
Purchase price per unit (Rs.)	16	18	20
No. of units purchased	6,000	12,000	14,400
Purchases (Purchase cost per unit x units purchased)	96,000	2,16,000	2,88,000

(3) Statement showing calculation of department-wise Opening Stock (in units)

Particulars	**A**	**B**	**C**
Sales (Units)	6,120	11,520	14,976
Add: Closing Stock (Units)	600	960	36
	6,720	12,480	15,012
Less: Purchases (Units)	(6,000)	(12,000)	(14,400)
Opening Stock	720	480	612

(4) Statement showing department-wise cost of Opening and Closing Stock

Particulars	**A**	**B**	**C**
Cost of Opening Stock (Rs.)	720*16 =11,520	480*18 =8,640	612*20 =12,240
Cost of Closing Stock (Rs.)	600*16 =9,600	960*18 =17,280	36*20 =720

Concept 2: Stock Reserve / Provision for Unrealised Profit

Year End: P&L A/c – Dr.
To Stock Reserve

Next Year Beginning → Stock Reserve A/c – Dr
To P&L A/c

Combined / General P&L A/c

To Stock Reserve (closing)	xx	By Net Profit		
To Expenses [Unallocated]	xx	Dept. A	xx	
To Net Profit tfd. to B/s (Bal. fig.)	xx	Dept. B	xx	xx
		By Stock Reserve (Opening)		xx

Balance Sheet (Extract)

Liabilities		Assets		
		Stock	xx	
		– Stock Reserve	(xx)	xx

TRANSFER

- **At Cost** → No Stock Reserve
- **At Market Price / At Selling Price**
  - ① Value Given → SR = Value Given × GP Rate of Transferor dept.
  - ② Content Ratio → Value of Stock of other dept. ⇒ Total Stock × Content Ratio
    ⇓
    SR = Value × GP Rate of Transferor dept.
  - ③ Ques. is Silent → ✱

✱

③ Value of stock of Transferor dept. = Stock of Transferee dept. × Value of Transfer / (Transfer + Purchases + Direct Expenses)

⇓

Stock Reserve = Value of stock of Transferor dept. × GP Rate of Transferor Dept.

Question

M/s. Ravi Enterprises has two Departments, Finished Leather and Shoes. Shoes are made by the Firm itself out of leather supplied by Leather Department at its usual selling price.

From the following figures, prepare Departmental Trading and Profit & Loss Account for the year ended 31st March, 2020:

	Finished Leather Department	**Shoes Department**
Opening Stock (As on 01.04.2019)	30,20,000	4,30,000
Purchases	1,50,00,000	2,60,000
Sales	1,80,00,000	45,20,000
Transfer to Shoes Department	30,00,000	-
Manufacturing expenses	-	5,00,000
Selling expenses	1,50,000	60,000
Rent & warehousing	5,00,000	3,00,000
Stock on 31.03.2020	12,20,000	5,00,000

The following further information are available for necessary consideration:

(i) The stock in Shoes Department may be considered as consisting of 75% of Leather and 25% of other expenses.

(ii) The Finished Leather Department earned a Gross Profit @ 15% in 2018-19.

(iii) General expenses of the business as a whole amount to Rs. 8,50,000

Solution

Departmental Trading and P&L Account for the year ended 31st March, 2020

Particulars	**Finished Leather**	**Shoes**	**Particulars**	**Finished Leather**	**Shoes**
To Opening Stock	30,20,000	4,30,000	By Sales	1,80,00,000	45,20,000
To Purchases	1,50,00,000	2,60,000	By Transfer	30,00,000	
To Manufacturing expenses		5,00,000	By Closing Stock	12,20,000	5,00,000
To Transfer		30,00,000			
To G.P. c/d	42,00,000	8,30,000			
	2,22,20,000	**50,20,000**		**2,22,20,000**	**50,20,000**
To Selling expenses	1,50,000	60,000	By G.P. b/d	42,00,000	8,30,000
To Rent & warehousing	5,00,000	3,00,000			
To Net profit	35,50,000	4,70,000			
	42,00,000	**8,30,000**		**42,00,000**	**8,30,000**

General Profit and Loss Account

Particulars	**Rs.**	**Particulars**	**Rs.**
To General expenses	8,50,000	By Net profit	
To Unrealized profit/Stock Reserve : Closing(Refer W.N.)	75,000	Department-Finished Leather	35,50,000
To General net profit (Bal.fig.)	31,43,375	Department-Shoes	4,70,000
		By Unrealized profit/Stock Reserve :Opening (Refer W.N.)	48,375
	40,68,375		**40,68,375**

Working Note:

Calculation of Stock Reserve

Rate of Gross Profit of Finished leather Department, for the year 2019-20

$= \frac{\text{Gross Profit}}{\text{Total Sales}} \times 100 = [(42,00,000)/ (1,80,00,000 + 30,00,000)] \times 100 = 20\%$

Closing Stock of Finished leather in Shoes Department = 75% i.e. Rs. 5,00,000 x 75% = Rs. 3,75,000
Stock Reserve required for unrealized profit @ 20% on closing stock Rs. 3,75,000 x 20% = Rs. 75,000

Stock reserve for unrealized profit included in opening stock of Shoes dept. @ 15% i.e.
(Rs. 4,30,000 x 75% x 15%) = Rs. 48,375

Question

Siva Ltd. has two departments X and Y. From the following particulars prepare departmental trading accounts and general profits and loss account for the year ending 31st March, 2020:

	X (Rs.)	Y (Rs.)
Opening Stock (at cost)	80,000	48,000
Purchases	3,68,000	2,72,000
Sales	5,60,000	4,48,000
Wages	48,000	32,000
Carriage inward	8,000	8,000
Closing Stock:		
Purchased goods	18,000	24,000
Finished goods	96,000	56,000
Purchased goods transferred:		
by Y to X	40,000	
by X to Y		32,000
Finished goods transferred:		
by Y to X	1,40,000	
by X to Y		1,60,000
Return of finished goods:		
by Y to X	40,000	
by X to Y		28,000

Purchased goods have been transferred mutually at their respective departmental purchase cost and finished goods at departmental market price and that 25% of the closing finished stock with each department represents finished goods received from the other department.

Solution

Departmental Trading Account for the year ended 31st March, 2020

Particulars	X	Y	Particulars	X	Y
To Opening Stock	80,000	48,000	By Sales	5,60,000	4,48,000
To Purchases	3,68,000	2,72,000	By Transfers:		
To Carriage inward	8,000	8,000	Purchased goods	32,000	40,000
To Wages	48,000	32,000	Finished goods (Net)	1,20,000	1,12,000
To Transfers:			By Closing Stock		
Purchased goods	40,000	32,000	Purchased goods	18,000	24,000
Finished goods (Net)	1,12,000	1,20,000	Finished goods	96,000	56,000
To G.P. c/d	1,70,000	1,68,000			
	8,26,000	**6,80,000**		**8,26,000**	**6,80,000**

Net transfer of Finished Goods by
Department X to Y = Rs. (1,60,000 – 40,000) = Rs.1,20,000
Department Y to X = Rs. (1,40,000 – 28,000) = Rs.1,12,000

Profit and Loss A/c
for the year ended 31st March, 2020

Particulars	Rs.	Particulars	Rs.
To Provision for unrealized profit included in closing stock		By Gross profit b/d	
Department X (W.N. 3)	7,200	Department X	1,70,000
Department Y (W.N. 3)	3,500	Department Y	1,68,000
To Net profit	3,27,300		
	3,38,000		**3,38,000**

Working Notes:

1. **Calculation of rates of gross profit margin on sales**

Particulars	X	Y
Sales	5,60,000	4,48,000
Add: Transfer of finished goods	1,20,000	1,12,000
	6,80,000	**5,60,000**
Gross Profit	1,70,000	1,68,000
Gross profit margin =	1,70,000 / 6,80,000 x 100 = 25%	1,68,000 / 5,60,000 x 100 = 30%

2. **Finished goods from other department included in the closing stock**

Particulars	X	Y
Stock of finished goods	96,000	56,000
Stock related to other department (25% of finished goods)	24,000	14,000

3. **Unrealized profit included in the closing stock**
   Department X = 30% of Rs. 24,000 = Rs. 7,200
   Department Y = 25% of Rs. 14,000 = Rs. 3,500

Concept 2A: Stock Reserve

A → (P = 25% on sales) → B → (P = 25% of cost) → C

Closing stock of B ⇓
Profit of A included in B's stock

Closing stock of C ⇓
Directly: Profit of B included in C's stock
Indirectly: Profit of A included in C's stock.

Example: B's closing stock = 200000 Content Ratio : 30% [A in B]
C's closing stock = 500000 Content Ratio : 60% [B in C]

GP Ratio's A → B : 25% on sales
B → C : 25% of cost

Stock Reserve

Dept. B: Profit of A included in B's stock

$$\Rightarrow (200000 \times 30\%) \times \frac{25}{100} = 15000$$

Dept. C

Profit of B included in C's stock

$$\Rightarrow (500000 \times 60\%) \times \frac{25}{125} \Rightarrow 60000$$

(500000 × 60%) = 300000

Cost to B = 300000 − 60000 ⇒ 240000

Profit of A included in C's stock

$$\Rightarrow (240000 \times 30\%) \times \frac{25}{100} \Rightarrow 18000$$

Concept 3: Manager's Commission

Department Profits for Manager Commission = Departmental Profits before stock Reserve

Less: Stock Reserve

Question

M/s Chandu has 3 departments viz. A,B & C. Department A sells goods to Department B & Department C at a profit of 25% on cost. Department B sells goods to A and C at a profit of 33 1/3% on cost. Department C sells goods to A and B at 20% profit on transfer price. Departmental managers are entitled to 10% commission on net profit subject to unrealized profit on departmental transfers being eliminated. Departmental profits after charging manager's commission,but before adjustment of unrealized profit are:

Department A	1,57,500
Department B	1,62,000
Department C	2,16,000

Stocks lying at different departments at the end of the year are as under:

	Dept A	**Dept B**	**Dept C**
Transfer from Department A	-	25,000	18,000
Transfer from Department B	9,000	-	6,000
Transfer from Department C	25,000	27,000	-

Find out the correct departmental Profits after charging Managers' commission.

Solution

Calculation of Correct Departmental Profit

Particulars	**Departments**		
	A	**B**	**C**
Profit before adjustment of unrealized profits	1,57,500	1,62,000	2,16,000
Add : Managerial commission (1/9)	17,500	18,000	24,000
	1,75,000	**1,80,000**	**2,40,000**
Less: Unrealised profit on stock (Refer W.N.)	(8,600)	(3,750)	(10,400)
Profit before Manager's commission	**1,66,400**	**1,76,250**	**2,29,600**
Less: Managers' commission @ 10%	(16,640)	(17,625)	(22,960)
Profit after adjustment of unrealized profits & after Manager's commission	**1,49,760**	**1,58,625**	**2,06,640**

Working Notes:

Value of Unrealised profit

Particulars	**A**	**B**	**C**	**Total**
Department A	**-**	25,000 x 25/125=5,000	18,000 x 25/125=3,600	**8,600**
Department B	9,000 x 1/4 = 2,250	**-**	6,000 x 1/4 = 1,500	**3,750**
Department C	25,000 x 20%= 5,000	27,000 x 20%= 5,400	**-**	**10,400**

Concept 4: Memorandum Stock & Memorandum Markup Account

Under this method:

A/c No. 1: Memorandum Department Stock A/c [Cost + Markup ie. SP]

Debited: Opening Stock; Purchases, Transfer from other Dept.

Credited: Sales, Shortage/Abnormal Loss, Transfer to other Dept.

Bal. fig: closing stock

A/c No. 2: Memorandum Department Mark up A/c [Mark up]

Markup/loading reversed in this A/c of above stock A/c. [of every item except sales]

Bal. fig: Gross Profit

Note: Mark Down (ie Reduction in SP) entered in both the above mentioned A/cs.

Question

Martis Ltd. has several departments. Goods supplied to each department are debited to a Memorandum Departmental Stock Account at cost, plus a fixed percentage (mark-up) to give the normal selling price. The mark-up is credited to a memorandum departmental 'Mark-up account', any reduction in selling prices (mark-down) will require adjustment in the stock account and in mark-up account. The mark up for Department A for the last three years has been 25%. Figures relevant to Department A for the year ended 31st March, 2020 were as follows:

Opening stock as on 1st April, 2019, at cost	65,000
Purchase at cost	2,00,000
Sales	3,00,000

It is further ascertained that :

a) Shortages of stock found in the year ending 31.03.2020, costing Rs. 1,000 were written off.
b) Opening stock on 01.04.19 including goods costing Rs. 6,000 had been sold during the year and had been marked down in the selling price by Rs. 600. The remaining stock had been sold during the year.
c) Goods purchased during the year were marked down by Rs. 1,200 from a cost of Rs. 15,000. Marked-down stock costing Rs. 5,000 remained unsold on 31.03.20.
d) The departmental closing stock is to be valued at cost subject to adjustment for mark-up and mark-down.

You are required to prepare :

(i) A Departmental Trading Account for Department A for the year ended 31st March, 2020 in the books of Head Office.
(ii) A Memorandum Stock Account for the year.
(iii) A Memorandum Mark-up Account for the year.

Solution

Department Trading Account

Particulars	Rs.	Particulars	Rs.
To Opening Stock	65,000	By Sales	3,00,000
To Purchases	2,00,000	By Shortage	1,000
To Gross Profit c/d	58,880	By Closing Stock	22,880
	3,23,880		**3,23,880**

Memorandum Stock Account (for Department A) (at selling price)

Particulars	Rs.	Particulars	Rs.
To Balance b/d (65,000+25% of 65,000)	81,250	By Profit & Loss A/c (Cost of Shortage)	1,000
To Purchases (2,00,000 + 25% of 2,00,000)	2,50,000	By Memorandum Departmental Mark up A/c (Load on Shortage)(1,000 x 25%)	250
		By Memorandum Departmental Mark-up A/c (Mark-down on Current Purchases)	1,200
		By Debtors A/c (Sales)	3,00,000
		By Memorandum Departmental Mark-up A/c (Mark Down on Opening Stock)	600
		By Balance c/d	28,200
	3,31,250		**3,31,250**

Memorandum Departmental Mark-up Account

Particulars	Rs.	Particulars	Rs.
To Memorandum Departmental Stock A/c (1,000 × 25/100)	250	By Balance b/d (81,250 x 25/125)	16,250
To Memorandum Departmental Stock A/c	1,200	By Memorandum Departmental Stock A/c (2,50,000 x 25/125)	50,000
To Memorandum Departmental Stock A/c	600		
To Gross Profit transferred to Profit & Loss A/c	58,880		
To Balance c/d [(28,200+400*) x 25/125 - 400]	5,320		
	66,250		**66,250**

*[1,200 ×5,000/15,000] = 400

Working Notes:

(i) Calculation of Cost of Sales

Sales as per Books	3,00,000
Add: Mark-down in opening stock (given)	600
Add: mark-down in sales out of current Purchases (1,200 x 10,000 /15,000)	800
Value of sales if there was no mark-down	3,01,400
Less: Gross Profit (25/125 of 3,01,400) subject to Mark Down (600 + 800)	(60,280)
Cost of sales	**2,41,120**

(ii) Calculation of Closing Stock

Opening Stock	65,000
Add: Purchases	2,00,000
Less: Cost of Sales	(2,41,120)
Less: Shortage	(1,000)
Closing Stock	**22,880**