

Chapter - 6

Problem-1

Particulars	Amount (\$)	Amount (\$)
Sales Revenue		5,36,800
Less:		
Sales Discount	5000	
Sales Return	6700	(11,700)
Net Sales		525,100
Less: Cost of goods sold		(363,400)
Gross Profit		161,700
Less: Operating Expense		
Advertising Expense	12000	
Salary Expense	56,000	
Utilities Expense	18,000	
Rent Expense	24,000	
Depreciation	9000	
Freight Out	7600	
Insurance Expense	18,000 4500	
Total Operating Expense		(131,100) (137,500) (128,500)
Income from Operation		24,700 38,200 30,600

Add: Other revenue	2500	
Interest revenue		
less: Other Expense	(3600)	(1100)
Interest Expense		
		29,500
Net income		

Problem - 1Falcetto Company
Income Statement
December 31, 2017

Particulars	(\$)	(\$)
Sales Revenue		5,36,800
Less:		
Sales discount	5000	
Sales Return	6700	(11,700)
Net Sale		525,100
Cost of good solds		(363,400)
Gross Profit		161,700
Less: Operating Expense		
Advertising	12,000	
Salary	56,000	
Utilities	18,000	
Rent	24,000	
Depreciation	9000	
Insurance	4500	
Freight out	7600	
Total operating Expense		(131,100)
Income from operation		30,600

Add: Other Revenue		
Interest Revenue	2500	
Less: Other Expense		
Interest Expense	3600	(1100)
Net Income		29,500

Problem - 2:

Big Box Income Statement November 30, 2017

Particulars	(\$)	(\$)
Sales Revenue		7,20,000
Less: Sales Return		(8,000)
Net sales		712,000
Cost of goods sold		(5,18,000)
Gross profit		194,000
Less: Operating Expense		
<u>Selling Expense</u>	6,500	
Freight-out	11,000	
Depreciation		
Insurance	7,000	

Salary	96000	
Sales commission exp.	11,000	
Total Selling Expense		(131,500)
<u>Administrative Expense</u>		
Property tax exp	2500	
Rent	15,000	
Utilities	8500	
Total administrative Ex		(26,000)
Income from operation		36,500
Add: Interest Revenue	2000	
Less: Interest Expense	(6400)	
		(4400)
Net income		32,100

Owner's Equity

Particulars	(\$)	(\$)
Beginning Owner's Capital		101,700
Add: Net Income	320 321 00	
Less: Drawing	(10,000)	22,100
Ending Owner's Capital		123,800

Balance sheet

<u>Assets</u>		
<u>Current Assets</u>		
Cash	26,000	
Account Receivable	30,500	
Inventory	32,000	
Prepaid insurance	3500	
Total current assets		92,000
<u>Long-term assets</u>		
Equipment	1,46,000	
less : Depreciation equip.	(45,000)	
Total long-term assets		101,000
Total assets		193,000
<u>Liabilities</u>		
Account Payable	25,200	
Note Payable	37,000	
Property tax payable	2500	
Sales payable	4500	
Total Liabilities		69,200
Owner's equity		123,800
Total Liabilities + Owner's equity		193,000

(b)

Big Box

Adjusting Entries

Date	Account Titles	Ref	Debit	Credit
30.	Depreciation Expense Accumulated depreciation		11,000	11,000
30.	Insurance Expense Prepaid insurance		7000	7000
30.	Property tax exp Property tax payable		2500	2500
30.	Sales commission exp. Sales com. payable		4500	4500

Chapter - 5

$$(1) \text{ Contribution Margin (CM) Ratio} = \frac{\text{Unit contribution margin}}{\text{Unit selling price}}$$

$$= \frac{15}{60} = 0.25 = 25\%$$

$$\text{Variable expense ratio} = \frac{\text{Variable Expense per Unit}}{\text{Unit selling price}}$$

$$= \frac{45}{60} = 0.75 = 75\%$$

$$(2) Q = \text{break even point unit}$$

$$\text{Profit} = \text{Unit CM} \times Q - \text{Fixed expense}$$

$$\Rightarrow 0 = 15 \times Q - 240,000$$

$$\Rightarrow Q = \frac{240,000}{15}$$

$$= 16,000 \text{ unit}$$

$$\text{or, } (16,000 \times 60) = \$960,000$$

(3)

CM ratio = 25%

Increase in sales = 400,000

increase in net operating income

$$= 400,000 \times 25\%$$
$$= 100,000$$

(4)

Profit = 90,000

We know,

Profit = CM per Unit $\times$ Q - Fixed expense

$$\Rightarrow 90,000 = 15 \times Q - 240,000$$

$$\Rightarrow Q = \frac{330,000}{15}$$

$$= 22,000 \text{ units}$$

(5)

Break even point, Q = 960,000

Margin of safety = Sales - Q

$$\text{in dollars} = 1,200,000 - 960,000$$

$$= \$240,000$$

$$\begin{aligned}
 \text{Margin of Safety in percentage} &= \frac{\text{MOS in dollars}}{\text{Total sales}} \\
 &= \frac{240,000}{1,200,000} \\
 &= 0.2\% \\
 &= 20\%
 \end{aligned}$$

$$\begin{aligned}
 \textcircled{6} \text{ (a) Leverage} &= \frac{\text{EM}}{\text{net income}} \\
 &= \frac{300,000}{60,000} \\
 &= 5
 \end{aligned}$$

$$\begin{aligned}
 \text{(b) net operating income increase} &= \text{Leverage} \times \text{sales increase} \\
 &= 5 \times 8\% \\
 &= 40\%
 \end{aligned}$$

(1) 8% sales increase, $(1 + 0.8)$

$$\text{Sales} = 20,000 \times 1.8 = 21,600 \text{ units}$$

$$\text{Sales} = \text{OR } (21,600 \times 60) = \$12,96,000$$

	<u>Total</u>	<u>Per unit</u>	<u>Percent of sales</u>
Sales (21,600 units)	\$12,96,000	\$60	100%
Fixed cost	\$9,72,000	\$45	75%
Variable Expense			
Contribution Margin	\$3,24,000	\$15	25%
	240,000		
Fixed Expense			
Net income	\$84,000		

$$\begin{aligned} \text{net income increase} &= \frac{84,000 - 60,000}{60,000} \\ &= 0.4 \\ &= 40\% \end{aligned}$$

⑦ (a) ~~vari~~
 increase in,
 variable cost per unit = \$3

Sales = 20%

decrease in,
 fixed expense = \$30,000

	<u>Total</u>	<u>Per Unit</u>	<u>Percent of sales</u>
Sales (24000 units)	1440,000	\$60	100%
Variable Expense	1152,000	\$48	80%
CM	<u>288,000</u>	<u>12</u>	<u>20%</u>
Fixed Expense	210,000		
Net income	<u>78,000</u>		

$$(b) \text{ Profit} = \text{CM} \times Q - \text{fixed Expense}$$

$$\text{Unit sales to break even point} = \frac{\text{Fixed expense}}{\text{Unit CM}}$$

$$= \frac{210,000}{12}$$

$$= 17500$$

$$\text{Dollar sales to break even point}$$

$$= \frac{\text{fixed Expense}}{\text{CM Ratio}}$$

$$= \frac{210,000}{20\%}$$

$$= 1,050,000$$

$$(c) \text{ Margin of safety in dollars.}$$

$$= \text{Total Sales} - \text{Break even sales}$$

$$= 1,440,000 - 1,050,000$$

$$= \$ 390,000$$

$$1.47596$$

$$1.476$$

$$\frac{x^n - 1}{x^n (x - 1)}$$

Chapter-13

$$(1) \text{ net cash inflow} = \text{Net income} + \text{Depreciation}$$

$$= 200,000 + 300,000$$

$$= 500,000$$

$$(2) \text{ Present value} = \frac{\text{future value}}{(1+r)^n}$$

$$r = 0.12, \quad 1+r = 1.12, \quad n = 8, \quad \text{Future value} = 500,000$$

Present value of cash inflow,

$$= 500,000 \left(\frac{1}{(1.12)^1} + \frac{1}{(1.12)^2} + \frac{1}{(1.12)^3} + \frac{1}{(1.12)^4} + \frac{1}{(1.12)^5} + \frac{1}{(1.12)^6} + \frac{1}{(1.12)^7} + \frac{1}{(1.12)^8} \right)$$

$$= \cancel{24838881}$$

$$= 2483819.883$$

$$= 2483820 \quad \cancel{23881}$$

$$\text{Present value of cash outflow} = 2400,000$$

$$\text{Net present value} = 2483820 - 2400,000$$

$$= 83820$$

As NPV positive, it's acceptable

$$\frac{x^n - 1}{x^n (x - 1)}$$

Date:.....

① Present value @ 25% inflow,

$$= 500,000 \left(\frac{1}{(1.25)^1} + \frac{1}{(1.25)^2} + \frac{1}{(1.25)^3} + \frac{1}{(1.25)^4} + \frac{1}{(1.25)^5} + \frac{1}{(1.25)^6} + \frac{1}{(1.25)^7} + \frac{1}{(1.25)^8} \right)$$

$$\begin{array}{r} 4.960464478 \\ \hline 1.490116119 \end{array}$$

$$= 3.3289$$

$$= 1664455.681$$

$$= 1664456$$

$$NPV @ 25\% = 1664456 - 2400,000$$

$$= -735,544$$

Internal rate of return

$$= \text{lowest rate} + \left(\frac{\text{lower NPV}}{\text{lower NPV} - \text{higher NPV}} \right)$$

• (high rate - low rate)

$$= 12 + \frac{83820}{83820 - (-735544)} \times (25 - 12)$$

$$= 12 + \frac{83820}{83820 + 735544} \times 13$$

$$= 13.33\%$$

$$\textcircled{4} \text{ Payback period} = \frac{\text{Investment required}}{\text{Annual net cash flow}}$$

$$= \frac{2400,000}{300,000}$$

$$= 8 \text{ years}$$

⑤ Simple rate of return

$$= \frac{\text{Annual net operating income}}{\text{Initial Invest}}$$

$$= \frac{200,000}{2,400,000}$$

$$= 0.083$$

$$= 8.3\%$$

4.13

a (i) Equivalent Unit in ending inventory

Particulars	Mixing	Materials	Conversion
Unit finished completed & transferred	50	50	50
Ending work in process (1x 100%) (1x 80%) (1x 70%)	1	0.8	0.7
Equivalent Unit	51	50.8	50.7

Date:.....

② Cost per equivalent unit

<u>Particulars</u>	<u>Mixing</u>	<u>Materials</u>	<u>Cost</u>
Cost of WIP	1670	90	665
Cost added during the period	81,460	6005	42,490
<u>Total cost</u>	<u>83130</u>	<u>6095</u>	<u>43,095</u>
Equivalent unit	50 51	50.8	50.7
<u>Cost per equivalent unit</u>	<u>1630</u>	<u>120</u>	<u>850</u>

③ Total cost of ending work
in process

	<u>Wining</u>	<u>Materials</u>	<u>Conversion</u>
Number of equivalent unit	1	0.8	0.7
Cost per unit	1630	120	850
Cost of ending work in process	1630	96	595

$$\text{Total cost} = (1630 + 96 + 595)$$

$$= 2321$$

Date:.....

Cost of unit transferred

	<u>Mixing</u>	<u>Materials</u>	<u>Conversion</u>
Number of equivalent unit	50	50	50
Cost of equivalent unit	1630	126	856
Cost of unit transferred	81500	6000	42500

$$\begin{aligned}\text{Total cost} &= (81500 + 6000 + 42500) \\ &= 130000\end{aligned}$$

(76) Cost Reconciliation

Cost to be accounted for

$$\begin{aligned} \text{Cost of working in Process} \\ (1670 + 90 + 605) &= 2365 \end{aligned}$$

$$\begin{aligned} \text{Cost added} \\ (81460 + 6006 + 42490) &= 129956 \end{aligned}$$

Total cost to be accounted for

$$= 2365 + 129956$$

$$= \text{₹ } 132,321$$

Cost account for

$$\text{Cost of } \overset{\text{ending}}{\text{WIP}} = 2321$$

$$\text{Cost of } \cancel{\text{ending}} \text{ unit transferred} \\ = 130000$$

$$\text{Total cost accounted for} = (2321 + 130000) \\ = 132321$$