**Financial Management**

**Fin 202**

**Financial Statement Analysis**

**Math Practice**

**Formula**

1. **Liquidity Ratio :**

$$Current ratio=\frac{Current Asset }{Current Liabilities } $$

$$Quick ratio=\frac{Current asset-Inventories }{current liabilities }$$

.

$$Cash ratio=\frac{Cash and cash equivelent }{current liabilities }$$

1. **Profitability Ratio**

$$Gross profit margin=\frac{Gross profit }{Net sale} X100$$

$$Net profit margin=\frac{net profit }{net sale } X100$$

$Operating profit margin \frac{Operating profit }{net sale}$X 100

1. **Debt Management**

$$Debt to equity ratio= \frac{debt }{equity }$$

**Illustration 1**

Calculate the Current Ratio from the following Information

|  |  |  |  |
| --- | --- | --- | --- |
| **Liabilities**  | **Taka**  | **Asset**  | **Taka**  |
| Sundry creditors  | 40000 | Inventories  | 120000 |
| Bills payable  | 30,000 | Sundry debtors  | 140000 |
| Dividend Payable  | 36000 | Cash bank  | 40000 |
| Accrued Expenses | 14000 | Bills expanses  | 60000 |
| Short term advance  | 50000 | Machinery  | 20000 |
| Share capital  | 150000 | Patents  | 200000 |
| Deventure  | 2,00,000 |  | 50000 |

1. Current Ratio
2. Quick Ratio
3. Debt to Equity Ratio

**Illustration 2**

From the following profit and loss Account and balance sheet relating to Ramesh Company

presented as on 31 st March, 2003 :

**Profit and Loss Account**

|  |  |  |  |
| --- | --- | --- | --- |
| **Details**  | **Taka** | **Details** | **Taka**  |
| To Opening Stock | 3,000 | Sales  | 195000 |
| To Purchase | 120000 | Closing stock  | 5000 |
| Wages  | 7000 |  |  |
| **Gross profit**  | **70000** |  |  |
| **Total**  | **200000** | **total** | **200000** |
| Administrative cost  | 15000 | Gross profit  | 70000 |
| Selling expanse  | 20000 | Dividend  | 10000 |
| Loss of sale asset  | 5000 |  |  |
| **Net Profit**  | **40000** |  |  |
|  |  |  |  |

**Balance Sheet**

**For the year**

|  |  |  |  |
| --- | --- | --- | --- |
| **Liabilities**  | **Taka**  | **Asset**  | **Taka**  |
| Equity  | 500000 | Land  | 150000 |
| Reserve  | 50000 | Building  | 200000 |
| Profit  | 70000 | Plant and machineries  | 200000 |
| Sundary creditors  | 80000 | stock | 80000 |
|  |  | debtors | 50000 |
|  |  | Bank balance  | 20000 |
| **Total**  | **700000** | **total** | **700000** |

**Calculate following:**

1. Gross profit
2. Net profit
3. Operating margin
4. Current ratio
5. Quick ratio

**Illustration 3 :**

The following Trading and Profit and Loss Account of Fantasy Ltd. for the year 31‐3‐2000 is given below:

|  |  |  |  |
| --- | --- | --- | --- |
| **Particular**  | **Rs.**  | **Particular**  | **Rs.**  |
| To Opening Stock  “ Purchases  “ Carriage and Freight  “ Wages  “ Gross Profit b/d   To Administration expenses  “ Selling and Dist. expenses  “ Non‐operating expenses  “ Financial Expenses Net Profit c/d  |  76,2503,15,250 2,000 5,0002,00,000 | By Sales  “ Closing stock      By Gross Profit b/d  “ Non‐operating incomes:  “ Interest on Securities  “ Dividend on shares  “ Profit on sale of shares   | 5,00,000 98,500 |
| 5,98,500 | 5,98,500 |
| 1,01,00012,000 2,0007,000 84,000 | 2,00,0001,5003,750 750 |
| 2,06,000 | 2,06,000 |

 **Calculate following:**

1. Gross Profit Ratio
2. Operating profit ratio
3. Net profit Ratio
4. Stock Turnover

**Illustration 4 :**

*Financial ratios*: Calculate the financial ratios in the following table by using the data of Neisse Corporation given below.

|  |  |  |
| --- | --- | --- |
| **Neisse Corporation**  | **12/31/98**  | **12/31/97**  |
| **Assets**  | **$ 000**  | **$ 000**  |
| **Current Assets**  |   |   |
| Cash and Equivalents Accounts receivable Inventories Other  | $ 140 294 269 58  | $ 107 270 280 50  |
| **Total current assets**  | **$761**  | **$707**  |

|  |  |  |
| --- | --- | --- |
| **Fixed Assets**  |   |   |
| Property, plant and equipment Less accumulated depreciation  | $ 1,423 -550  | $ 1,274 -460  |
| **Net fixed assets**  | **873**  | **814**  |
| Intangibles and others  | 245  | 221  |
| **Total fixed assets**  | **1,118**  | **1,035**  |
| **Total assets**  | **1,879**  | **1,742**  |

|  |  |  |
| --- | --- | --- |
| **Neisse Corporation**  | **12/31/98**  | **12/31/97**  |
| **Liabilities**  | **$ 000**  | **$ 000**  |
| **Current liabilities**  |   |   |
| Accounts payable Notes payable Accrued expenses payable  | 213 50 223  | 197 53 205  |
| **Total current liabilities**  | **486**  | **455**  |
| **Long-term liabilities**  |   |   |
| Long-term debt Deferred taxes  | 471 117  | 458 104  |
| **Total log-term liabilities**  | **588**  | **562**  |
| **Stockholders' equity**  |   |   |
| Common stock, $1 par value Capital surplus Accumulated retained earnings Preferred stock Less treasury stock  | 55 347 390 39 -26  | 32 327 347 39 -20  |
| **Total stockholders equity**  | **805**  | **725**  |
| **Total liabilities and stockholders equity**  | **$1,879**  | **$1,742**  |

**Neisse Corporation Income statement, 1998,**

 **Amounts in $ thousands**

|  |  |
| --- | --- |
| Total operating revenue  | $2,262  |
| Cost of goods sold  | -1,665  |
| Selling, general, and administrative expenses  | -327  |
| Depreciation  | -90  |
| Operating income  | 190  |
| Other income  | 29  |
| Earnings before interest and taxes  | 219  |
| Interest expense  | -49  |
| Pretax income  | 170  |
| Taxes (current $71, deferred $31)  | -84  |
| Net income (Dividends $43, Retained earnings $43)  | 86  |

**Calculate the following :**

1. Current ratio
2. Quick ratio
3. Debt ratio
4. Gross profit margin
5. Net profit margin

**Illustration 5 :**

From the following information calculate stock turnover ,ratio:

**Solution:**

|  |  |
| --- | --- |
| Gross Sales | Rs. 5,00,000 |
| Sales Return | Rs. 25,000 |
| Opening Stock | Rs. 70,000 |
| Closing Stock at Cost | Rs. 85,000 |
| Purchase | Rs. 3,00,000 |
| Direct Expenses | Rs. 1,00.000 |

**Example: 6**

|  |  |  |  |
| --- | --- | --- | --- |
| **Details**  | **Taka**  | **Details**  | **Taka**  |
| Annual Sales  | 7440000 | Paid-up Capital  | 1500000 |
| Gross Profit | 744000 | Reserve & Surplus  | 600000 |
| Fixed Assets  | 1550000 | 7% Debentures  | 500000 |
| Inventories  | 910000 |  Bank Overdraft  | 200000 |
| Sundry Debtors  | 124000 | Sundry Creditors  | 1200000 |
| Short-Term Investments  | 160000 |  |  |
| Cash Balances  | 40 000 |  |  |

Calculate the following ratio

1. Gross profit margin
2. Current ratio
3. Quick Ratio
4. Debt to equity ratio
5. Stock turnover ratio

**Solution: Illustration 1**

Current assets = Rs. 1,20,000 + 1,40,000 + 40,000 + 60,000 + 20,000

 =380000

Current Liabilities = 40,000 + 30,000 + 36,000 + 14,000 + 50,000

 =170000

1. Current Ratio= $\frac{Current Asset }{Current Liabilities }$

=$\frac{380000}{170000}$

=2.24: 1

1. Quick Ratio = $\frac{quick Asset }{Current Liabilities }$

=$\frac{380000-120000}{170000}$

= 1.529 : 1

1. Debt to equity ratio = $\frac{debt }{equity capital }$

=$\frac{200000}{150000}$

=1.333

**Solution : Illustration 2**

$$1) Gross profit margin=\frac{Gross profit }{Net sale} X100$$

 =$\frac{70000}{1950000}X 100$

 =35.89%

$$2) Net profit margin=\frac{net profit }{net sale }$$

 =$\frac{40000}{195000}$X 100

 =20.51 %

$3) Operating profit margin=\frac{Operating profit }{net sale}$X 100

$=\frac{Net sale- Operating Cost }{net sale}$X 100

 =$\frac{195000-160000}{195000}$ X100

 =17.94%

Operating Cost = Cost of goods slod + Administrative cost + selling expanse

Cost of Goods sold = Opening Stock + Purchases + Direct Wages- Closing Stock

1. $Gross profit Ratio=\frac{gross profit }{sale} X 100$

=$\frac{200000}{500000}$X 100

 =40%

1. $Operating profit margin=\frac{Operating profit }{net sale}$X 100

  **=**$\frac{Net sales-Operating expanse }{Net sales }$ **X 100**

 **=**$\frac{87000}{500000}$ **X 100**

 **= 17.40 %**

**Cost of Goods sold** = Op. stock + purchases + carriage and Freight + wages – Closing Stock

 = 76250 + 315250 + 2000 + 5000 ‐ 98500

 =300000

1. $ Net profit margin=\frac{net profit }{net sale } X100$

 =$\frac{84000}{500000}X 100$

 =16.8%

1. $Stock trunover ratio=\frac{Cost of Goods Sold }{Average Stock }$

 =$\frac{300000}{87,375 }$

 = 3.34 times

Average Stock = $\frac{Opening Stock+Closing Stock }{2}$

**Solution : Illustration 3**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Ratio**  | **Formula**  |  | **Ratio**  | **Industry Average**  | **Comments**  |
| **Liquidity**  |
| Current Ratio | $$\frac{Current asset }{Current Liabilities }$$ |   |   | 4.1  | Low  |
| Quick, or Acid Test  | $$\frac{Current asset-Inventories }{current liabilities }$$.  |   |   | 2.1  |   |
| **Asset Management**  |
| Inventory Turnover  | Cost of goods sold Inventories (average) |   |   | 7.4  |   |
| Fixed assets turnover  | Annual salesNet fixed assets (average) |   |   | 4.0  |   |
| Total assets turnover  | Annual salesTotal assets (average) |   |   | 2.1  |   |
| **Debt Management**    |
| Debt ratio  | Total debt Total assets |   |   | .35  |   |
| Interest coverage  | EBITInterest charges |   |   | 4.5  |   |
| **Profitability**  |
| Net profit margin  | Net incomeNet sales  |   |   |   |   |
| Gross profit margin  | $\frac{Gross profit }{Net sales }$ |   |   |   |   |
| **Market Value**  |
| P-E ratio  | Market price/share Earnings/share  |   |   | 22  |   |
| Market/Book  | Market price/share Book value/share |   |   | 1.3  |   |
| Dividend yield  | Dividend per share Market price per share |   |   | .40  |   |

**Solution: Illustration 5**

Cost of Goods Sold = Opening Stock + Purchases + Direct Expenses - Closing Stock

 = 70,000 + 3,00,000 + 1,00,000 - 85,000

= 3,85,000

Average Stock = $\frac{Opening Stock+Closing Stock }{2}$

 =$\frac{70000+85000}{2}$

= Rs. 77,500

$$Stock trunover ratio=\frac{Cost of Goods Sold }{Average Stock }$$

 =$\frac{385000}{77500 }$

 =4.97 times