

Q NO 7):

Given Data

| Year | Project | Remaining |
|-------------|----------|-----------|
| out flow, 0 | -150,000 | |
| 1 | 50,000 | -100,000 |
| 2 | 56,000 | -44,000 |
| 3 | 64,000 | 20,000 |
| 4 | 68,000 | |
| 5 | 72,000 | |

re or $i = 13\%$

To be find

pay back Period = PP = ?

Net Present value = NPV = ?

Profitability index = PI = ?

Solve

Payback Period = PP = complete cover year + $\frac{\text{Remaining out flow}}{\text{next year out flow}}$

$$= 2 + \frac{44,000}{64,000}$$

$$= 2 + 0.6875$$

$$PP = 2.6875 \text{ year}$$

$$NPV = PV_{\text{inflow}} - PV_{\text{outflow}}$$

$$= \frac{50000}{(1+13\%)^1} + \frac{56000}{(1+13\%)^2} + \frac{64000}{(1+13\%)^3} + \frac{68000}{(1+13\%)^4} + \frac{72000}{(1+13\%)^5}$$

$$= -150000$$

$$NPV = 213243.6011 - 150000$$

$$NPV = \$ 63243.60114$$

$$PI = 1 + \frac{NPV}{\text{Initial outflow}}$$

$$= 1 + \frac{63243.60114}{150000}$$

$$= 1 + 0.4216$$

$$PI = 1.42$$

Q NO 29

Account Receivable (A/R)

As per Given information we will use formula of average collection Period

$$\text{Average collection Period} = 40 \text{ days}$$

$$\text{Average collection Period} = \frac{365}{\text{A/R Turnover}}$$

$$= \frac{365}{\frac{\text{Sale}}{\text{A/R}}}$$

$$= 365 \times \frac{\text{A/R}}{\text{Sale}}$$

$$40 = \frac{365 \times \text{A/R}}{1800,000}$$

$$40 \times 1800000 = 365 \times \text{A/R}$$

$$18000,000 = 365 \times \text{A/R}$$

$$\frac{18000000}{365} = \text{A/R}$$

$$A/R = 197260.274$$

$$\begin{aligned} \text{Account Receivable} &= \text{Rs } 197260.274 \\ &\approx \text{Rs } 197260 \end{aligned}$$

Inventory

AS per given information we calculate inventory through inventory turnover formula

$$\text{inventory Turnover} = \frac{\text{COGS}}{\text{inventory}}$$

$$\text{COGS} = \text{Sale} - \text{Gross Profit}$$

$$\frac{\text{Gross Profit}}{\text{Sale}} = \text{Gross Profit margin}$$

$$\text{Gross Profit margin} = \frac{\text{Gross Profit}}{\text{Sale}}$$

$$25\% = \frac{\text{Gross Profit}}{1800,000}$$

$$\text{Gross Profit} = 25\% \times 1800,000$$

$$\text{Gross Profit} = \text{Rs. } 450,000$$

$$\text{COGS} = 1800,000 - 450,000$$

$$\text{COGS} = \text{Rs. } 1350,000$$

Put in inventory turnover formula

$$\text{Inventory Turnover} = \frac{\text{COGS}}{\text{Inventory}}$$

$$\text{Turnover } 6 = \frac{1350000}{\text{Inventory}}$$

$$\text{Inventory} = \frac{1350000}{6}$$

$$\text{Inventory} = \text{Rs. } 225000$$

Total Current Asset

$$\text{T.C.A} = \text{Cash} + \text{Marketable Securities} + \text{A/R} + \text{Inventory}$$

$$\text{T.C.A} = 32720 + 25000 + 197260 + 225000$$

$$\text{Total C.A} = \text{RS } 479980$$

Total Asset =

$$\text{Asset Turnover} = \frac{\text{Sale}}{\text{Total Asset}}$$

$$1.20 = \frac{1800,000}{\text{Total Asset}}$$

$$\text{Total Asset} = \frac{1800,000}{1.20}$$

$$\text{Total Asset} = \text{RS. } 1500000$$

Fixed Asset:-

$$\begin{aligned} \text{Fixed Asset} &= \text{Total Asset} - \text{C.A} \\ &= 1500,000 - 479980 \end{aligned}$$

$$\text{Fixed Asset} = \text{RS } 1020020$$

Current liability:-

use current Ratio

$$\text{current Ratio} = \frac{\text{C.A}}{\text{C.L}}$$

$$1.6 = \frac{479980}{\text{C.L}}$$

$$\text{C.L} = \frac{479980}{1.6}$$

$$\text{C.L} = 299987.5$$

$$\text{C.L} = 299988$$

Notes Payables (NP)

$$\text{C.L} = \text{A/P} + \text{NP} + \text{Accruals}$$

$$299988 = 120000 + \text{NP} + 20,000$$

$$\text{NP} = 299988 - 120000 - 20000$$

$$\text{NP} = \text{Rs } 159988$$

$$\text{Total Asset} = \text{Total liabilities} + \text{Equity}$$

$$1500,000 = \text{Total liabilities} + 600,000$$

$$1500,000 - 600,000 = \text{Total liabilities}$$

$$\text{Rs } 900,000 = \text{Total liabilities}$$

Long Term debt

$$\begin{aligned} \text{Total liabilities} &= \text{C.R} + \text{Long Term debt} \\ 900,000 &= 299988 + \text{Long Term debt} \end{aligned}$$

$$\text{Long Term debt} = -299988 + 900000$$

$$\text{Long Term debt} = \text{Rs } 600012$$

ABC Industries

Balance Sheet ending Dec 31, 2020

| Asset | Rs | Liabilities and equity | Rs |
|-----------------------|-----------|------------------------------|-----------|
| Cash | 32,720 | Accounts Payable | 12,000 |
| Marketable Securities | 25,000 | Notes Payable | 159,988 |
| Account receivable | 1,97,260 | Accruals | 20,000 |
| Inventory | 225,000 | Total current liability | 2,99,988 |
| Total current Asset | 4,79,980 | Long Term debt | 6,000 |
| Net fixed Asset | 1,02,020 | Stockholder's equity | 6,00,000 |
| Total Asset | 15,00,000 | Total liabilities and equity | 15,00,000 |