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Roll no:- 1602-21-733-036

EFE - ASSIGNMENT

1) Cash outlay - RS 125000

Salvage Value - RS 5000

Additional stocks - RS 3000

Cost of captial - 12%

CFBT - RS 45000

Estimated yeaas - 3 yeaas

$$ARR = \frac{\text{Average NPAT}}{\text{Average investement}} * 100$$

CFBT = RS 45000

Less Depriction = 40000

NPBT = 5000

Less Tax(50%) = 2500

NPAT = 2500.

$$\text{Depriction} = \frac{\text{cost of asset} - \text{salvage value}}{\text{Estimated life of asset}}$$

$$= \frac{125000 - 5000}{3}$$

= RS 40000

Average investment =

$$\frac{1}{2}[\text{cash investment} - \text{salvage}] + \text{salvage} + \text{additional stocks}$$

$$= \frac{1}{2}[125000 - 5000] + 5000 + 3000$$

$$= 60000 + 5000 + 3000$$

$$= 68000$$

$$ARR = \frac{2500}{68000} * 100$$

$$= 3.67\%$$

As, ARR (3.67%) < K (12%) reject the Proposal.

2) Cash outlay = Rs 75000

Salvage value = RS 5000

Additional stocks = RS 1500.

Cost of captial = 10%.

NPBT = RS 35000.

Estimated years = 3 years.

$NPV = \Sigma PVCI - \Sigma PVCO$

NPBT =	35000.
Less Tax (50%) =	17500.
NPAT =	17500.
Add depriciation =	$\frac{70000}{3}$
CFAT =	40833.34

depriciation = $\frac{\text{cost of asset} - \text{salvage value}}{\text{Estimated life of asset}}$

$= \frac{75000 - 5000}{3}$

$= \frac{70000}{3}$.

= 23333.33 RS

$\Sigma PVCI = CFAT * AF + SV + PVF(L) + AWC + PVF(L)$

$= \frac{12500}{3} * 2.487 + 5000 * 0.751 + 1500 * 0.751$

= Rs 106434

$\Sigma PVCO$ = additional stocks + intial investment

= 1500 + 75000.

= RS 76500.

$NPV = \Sigma PVCI - \Sigma PVCO$

= 106434 - 76500 ⇒ RS 29934

As NPV > 0 accept the proposal

3) Cash outlay - RS 100000

Salvage value - RS 10000.

additional stocks - RS 9000

Cost of captial - 9%

CFAT = RS 30000.

Estimated life = 6 years

Predeteamine PBP = 4 years

$$PBP = \frac{\text{Intial investment}}{\text{estimated cashflow after taxes}}$$

$$= \frac{100000}{30000}.$$

ie

PBP = 3.34 years.

As PBP (3.34) < Predeteamined PBP (4 years) accept the propos -al

4) Cash outlay - RS 75000

Salvage value - RS 15000.

additional stocks - RS 2000

cost of captial - 8%.

NPAT - RS 25000.

estimated life - 3 years

$$PI = \frac{\sum PVCI}{\sum PVCO}.$$

NPAT = RS 25000

Add depriciation = RS 20000

CFAF = 45000

$\sum PVCI = CFAT * AF + Salvage value * PVF(L) + AWC * DVF(L)$

$= 45000 * 2.577 + 15000 * 0.794 * 2000 * 0.794$

Depreciation = $\frac{\text{cost of asset - Salvage value}}{\text{estimated life of asset}}$

$= \frac{75000 - 15000}{3}$

= RS 20000

$\Sigma PVCI = 129463$

$\Sigma PVCO$ = additional stocks + intial investment

$= 75000 + 2000$

$= 77000$.

$$PI = \frac{\Sigma PVCI}{\Sigma PVCO} = \frac{129463}{77000}$$

$PI = 1.68$.

As, $PI > 1$ accept the proposal.

5) cost of asset = RS 75000.

salvage value = RS 5000.

additional stocks maintained = RS 2000

cost of captial - 8%

CFAT = RS 25000

estimated life = 3 years

$$PBP = \frac{\text{Intial Investment}}{\text{Estimated annual cash flow after taxes}}$$

$$= \frac{75000}{25000}.$$

PBP = 3 years

If PBP (3 years) < Predetermined PBP, then accept the Proposal, else reject the proposal

6) The two rates required to calculate NPV under IRR must give one postive NPV and one negative NPV.

7) Intial investment - RS70000.
Salvage value - RS10000.
Cost of captial - 10%.

Yeaes	NPAT	Depreciation	CFAT	CCFAT
1	25000	20000	45000	45000
2	38000	20000	58000	103000
3	42000	20000	62000	165000

$$\text{depriciation} = \frac{\text{cost of asset - salvage value}}{\text{estimated life of asset}}$$

$$= \frac{70,0000 - 10000}{3} = \text{RS } 20,000$$

PBP, $1 \longrightarrow 58000$.

$x \longrightarrow 25000$.

$$x = \frac{25000}{58000} \Rightarrow 0.43.$$

PBP = 1.43 yeaes.

If PBP (1.93) is < Paredetermined PBP accept the proposal else eject the proposal.

8) Intial investment - RS110000.
Salvage value - RS20000
cost of captial - 6%.

CFAT	Depreciation	NPAT
57000	50000	7000
59000	50000	9000
64000	50000	14000

$$\text{depreciation} = \frac{\text{cost of asset - salvage value}}{\text{estimated life of asset}}$$

$$\frac{170000 - 20000}{3}$$

Depreciation = RS50000

$$ARR = \frac{\text{average net profit after taxes}}{\text{average investment}}$$

$$\text{average NPAT} = \frac{7000 + 9000 + 14000}{3}$$

$$= RS10000.$$

$$\text{average investment} = \frac{1}{2}[\text{intial investment} - \text{salvage value}] + \text{salvage} + \text{additional working captial}$$

$$= \frac{1}{2}[1,70,000 - 20000] + 20,000 + 2000,$$

$$= RS\ 97000.$$

$$ARR = \frac{10000}{97000} * 100 \Rightarrow 10.31\%$$

AS ARR (10.31%) > cost of captial (6.1%) accept the proposal

9) Intial investment - RS110000.

salvage value RS10000.

cost of captial - 11%.

Year	CFAT	PVF	PVCI
1	30000	0.901	27030
2	40000	0.812	32480
3	50000	0.731	36550
4	60000	0.659	39540
5	70000	0.593	41510.
salvage -	10000	0.593	5930
AWC -	2500.	0.593	1482.5

$\Sigma PVCI = 184522.5$

$\Sigma PVCO$ = intial investment + additional working captial

= 1,10,000 + 2500

= ₹1,12500

$$PI = \frac{\Sigma PVCI}{\Sigma PVCO}$$

$$= \frac{184522.5}{112500} = 1.64$$

As, PI(1.64) > 1 accept the proposal

10)

$$IRR \text{ (integral rate of return)} = \gamma - \left[\frac{\Sigma PVCO - \Sigma PVCI}{\Delta \Sigma PVCI}\right] * \Delta\gamma$$