

(4) $PV = 50 \text{ lac}$, $n = 5 \text{ yrs}$

(11)

Padma Bank:

$i = 12\% = 0.12$

$CI = PV(1+i)^n - PV = 50,00,000(1+0.12)^5 - 50,00,000$

$= 38,11,708.416/-$

Total amount at the end of 5 years / after 5 years

is, $FV_1 = CI + PV = 38,11,708.416 + 50,00,000$

$= 88,11,708.416/-$

Postal Savings Bank:

$i = 13\% = 0.13$

$SI = PV \cdot i \cdot n = 50,00,000 * 0.13 * 5 = 32,50,000$

Total amount after 5 yrs is, $FV_2 = SI + PV$

$= 32,50,000 + 50,00,000$

$= 82,50,000/-$

Prime Insurance: $FV_3 = 90,00,000/-$

$FV_3 > FV_1 > FV_2$

Prime Insurance Ltd often should be accepted by Mr. Alam.

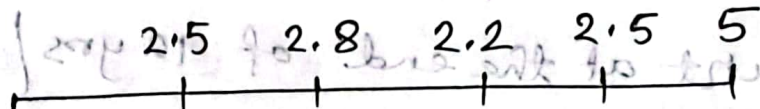
(Amir)

(6) $PV = 10 \text{ lac} = 10,00,000$ (2000) = 10

$i = 10\% = 0.1$; $n = 5 \text{ yrs}$

$FV = PV(1+i)^n = 10,00,000 (1+0.1)^5 = 16105101-$

Pisciculture: $i = 0.1$

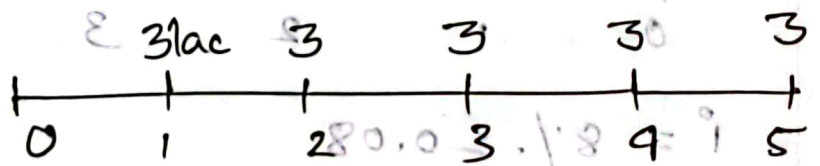


→ सबसे point प्र शुरू
अनुमानित point
- date करके

$FV_1 = 2.5(1+0.1)^4 + 2.8(1+0.1)^3 + 2.2(1+0.1)^2 + 2.5(1+0.1)^1 + 5(1+0.1)^0$

$= 17.799 \text{ lac}$

Poultry farm:



$i = 0.1$ (30.0 + 1) 000000 + (30.0 + 1) 000,000 = 10

This is ordinary Annuity:

$FV(O.A) = A \times \left[\frac{(1+i)^n - 1}{i} \right] = 3000000 \left[\frac{(1+0.1)^5 - 1}{0.1} \right]$

$= 18,31,530$

$FV(O.A) > FV_1$

So, poultry farm should be selected. (Am)

(7) (a) $n = 10 \text{ yrs}$; $m = 12$; $i = 10\% = 0.1$

$PV = 5000$; $i = 10\% = 0.1$

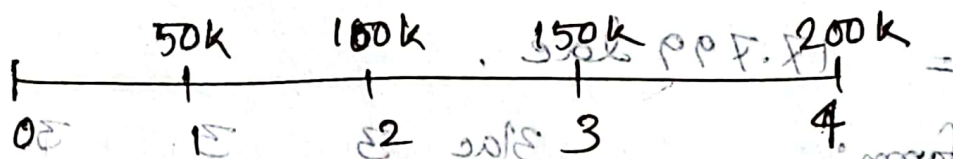
$\therefore CI = PV \left(1 + \frac{i}{m}\right)^{n \times m} - PV = 5000 \left(1 + \frac{0.1}{12}\right)^{10 \times 12} - 5000$

8535.207

Total amount at the end of 10 yrs / after 10 yrs

$FV = CI + PV = 8535.207 + 5000 = 13535.207$

(b) Grocery store:

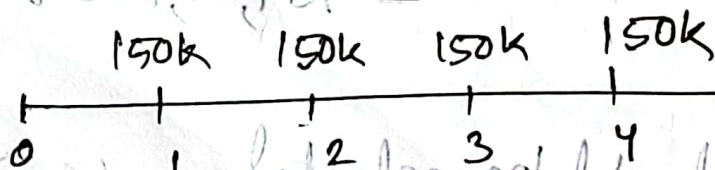


$i = 8\% = 0.08$

$FV_1 = 50,000(1+0.08)^3 + 100,000(1+0.08)^2 + 150,000(1+0.08)^1 + 200,000(1+0.08)^0$

$5,41,625 = 6 \left[\frac{1 - (1+i)^{-n}}{i} \right] \times A = (A \cdot FV_1)$

Payout form:



This is ordinary Annuity because A

$$FV(0, A) = A \times \left[\frac{(1+i)^n - 1}{i} \right]$$

$$= 150,000 \left(\frac{(1+0.08)^4 - 1}{0.08} \right)$$

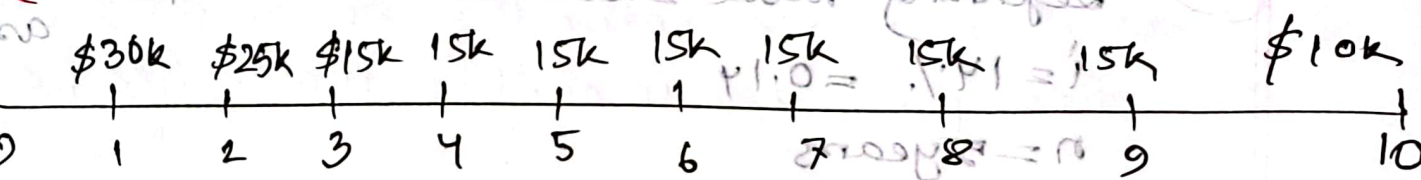
$$= 675,916.81$$

$$PV(0, A) > FV_1 > FV$$

Recommendation: Poultry farm would be better investment for Mr. Seifati.

(Am.)

(11) (a)



(b)

$$i = 12\% = 0.12$$

$$PV = 30,000 / (1+0.12)^1 + 25,000 / (1+0.12)^2 + 15,000 / (1+0.12)^3 + 15,000 / (1+0.12)^4 + 15,000 / (1+0.12)^5 + 15,000 / (1+0.12)^6 + 15,000 / (1+0.12)^7 + 15,000 / (1+0.12)^8 + 15,000 / (1+0.12)^9 + 10,000 / (1+0.12)^{10}$$

$$= \$ 104,508.2752$$

(Am.)

(c) A second company has offered Harte an immediate one-time payment which is \$100,000 as the present value.

from b, we get (another) $PV = \$104,508.2752$
 start Harte company first year or not - later receive (later)
 and as $104,508 > 100,000$, so Harte company will
 known hardware chain offer accept later
 $PV < PV < (A \cdot i)^{PV}$

offer all business most problems: notobusinesses
 to be. all not treatment

(12) Beginning value = loan amount = \$50,000 also
 as PV
 $i = 14\% = 0.14$
 $n = 5 \text{ years}$

(a) Ordinary Annuity for \$1,000,000

$$P.V.(O.A) = A \times \left[\frac{1 - \frac{1}{(1+i)^n}}{i} \right] \quad 1,000,000 = PV$$

$$50,000 = A \times \left[\frac{1 - \frac{1}{(1+0.14)^5}}{0.14} \right]$$

$$\therefore A = \$14564.177$$

(Am.) 808101 \$ =

not valid bond

(b) loan amortization schedule

1	2	3	4 = 2 * i	5 = 3 - 4	6 = 2 - 5
Year	Beginning value	Payment (A)	Interest Amount	Repayment of Principal	Remaining Balance
1	\$50,000	\$14,564.177	\$7,000	\$ 7,564.177	\$ 42,435.823
2	\$42,435.823	\$14,564.177	\$5,941.01	\$ 8,623.161	\$ 33,812.66
3	\$33,812.66	\$14,564.177	\$4,733.77	\$ 9,830.404	\$ 23,982.255
4	\$23,982.255	\$14,564.177	\$3,357.51	\$ 11,206.661	\$ 12,775.593
5	\$12,775.593	\$14,564.177	\$1,788.58	\$ 12,775.593	0.00

always ends at 0.00

(c) ...