

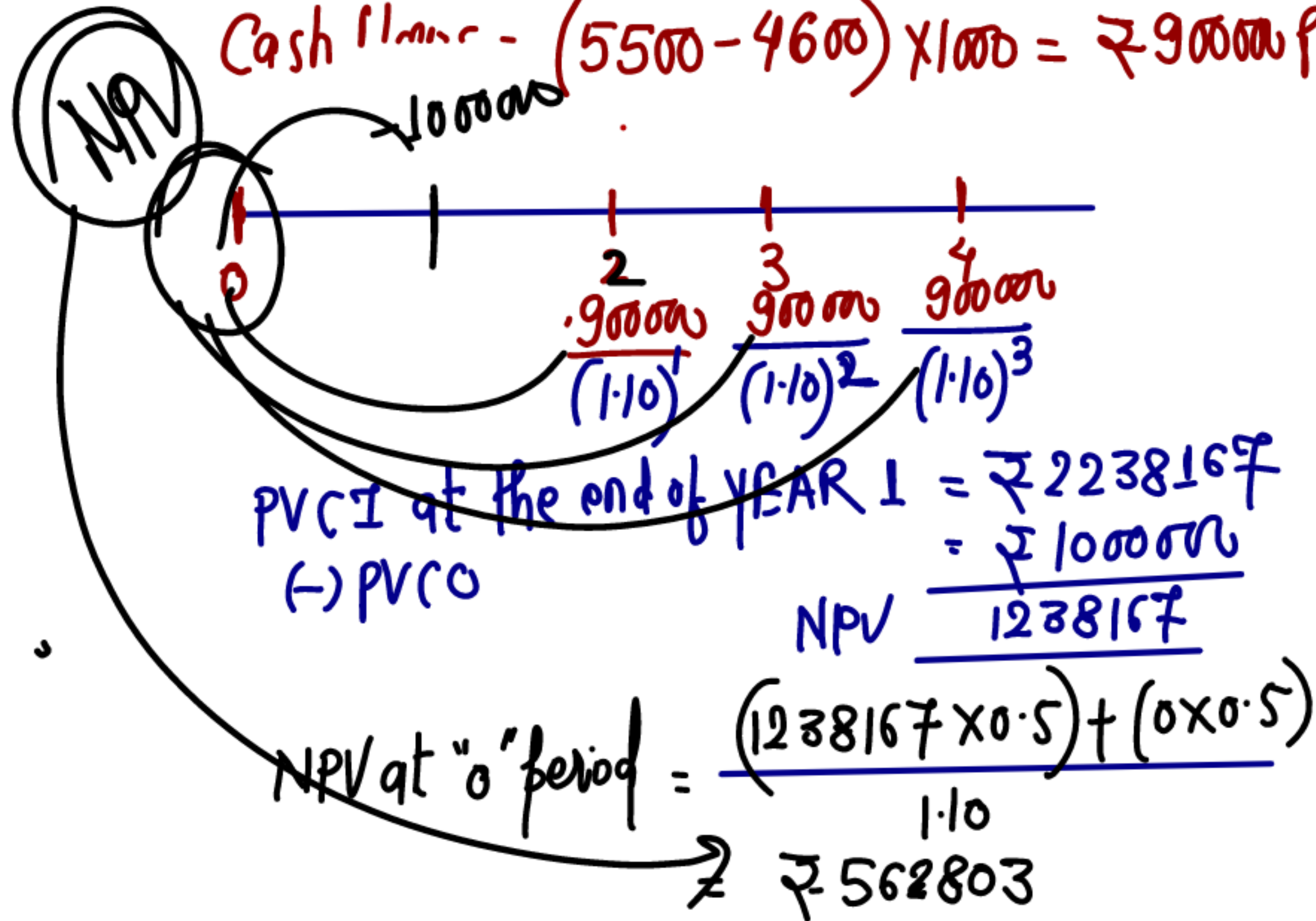
Calculation of Expected price

$$\text{YEAR 2 } (6000 + 5000) \times 0.5 = 5500$$

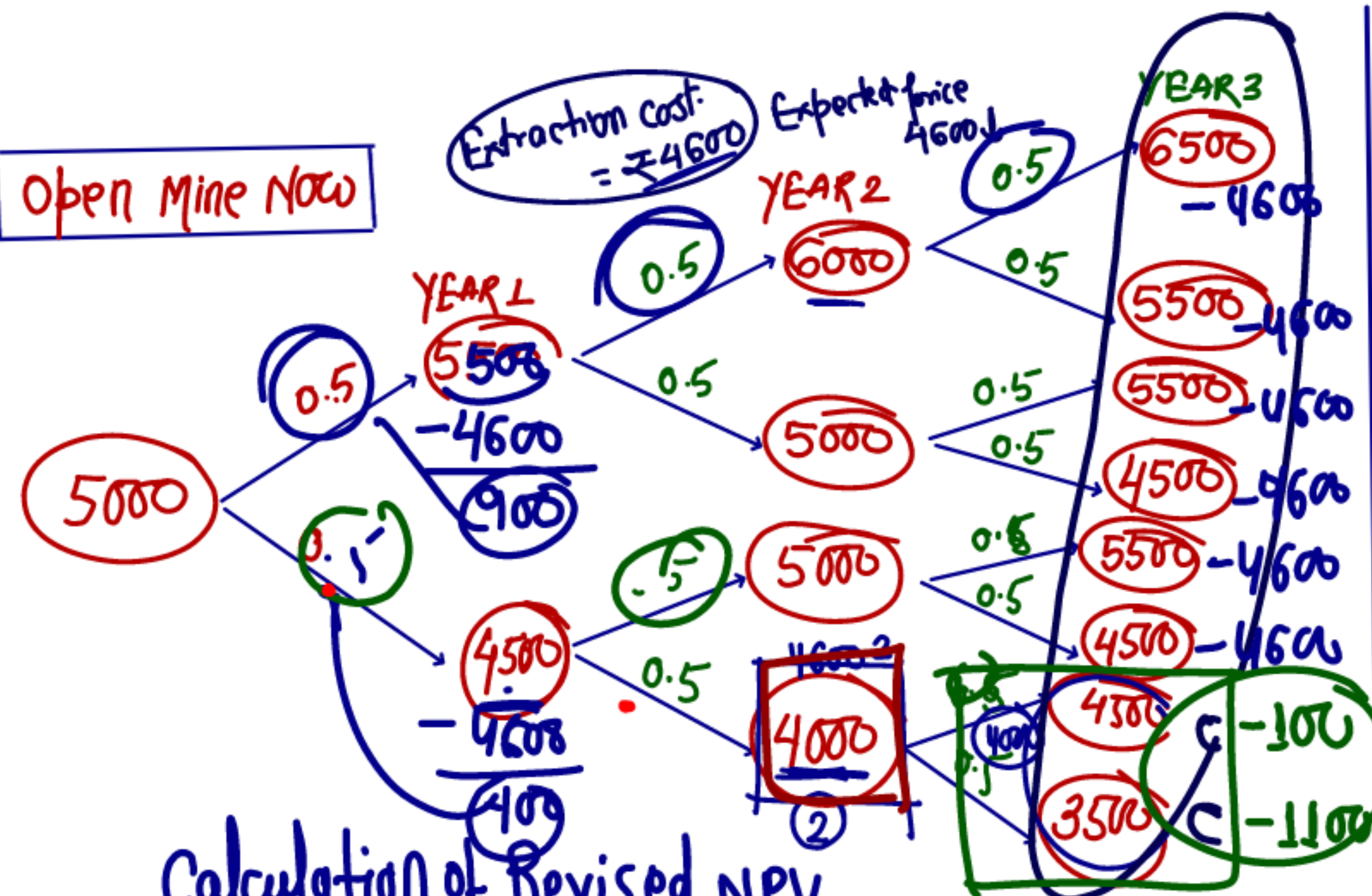
$$\text{YEAR 3 } = 5500$$

$$\text{YEAR 4 } = 5500$$

$$\text{Cash flow} - (5500 - 4600) \times 1000 = ₹ 90000 \text{ p.a.}$$



Open Mine Now



Calculation of Revised NPV
If we shut down Gold Mine when price is ₹ 4000

$$\text{Value of abandonment} = \frac{[0.125(-100-1100)] \times 1000}{(1.10)^3}$$

$$= 112698$$

$$-5260 + 112698 = 107438$$

YEAR 1	YEAR 2	YEAR 3
5000	5000	
-4600	-4600	
400	400	
$\times 1000$	$\times 1000$	
₹ 400000	400000	550000

YEAR 3

$$(1900 + 900 + 900 - 100 + 900 - 100 + 0 + 0)^{0.125}$$

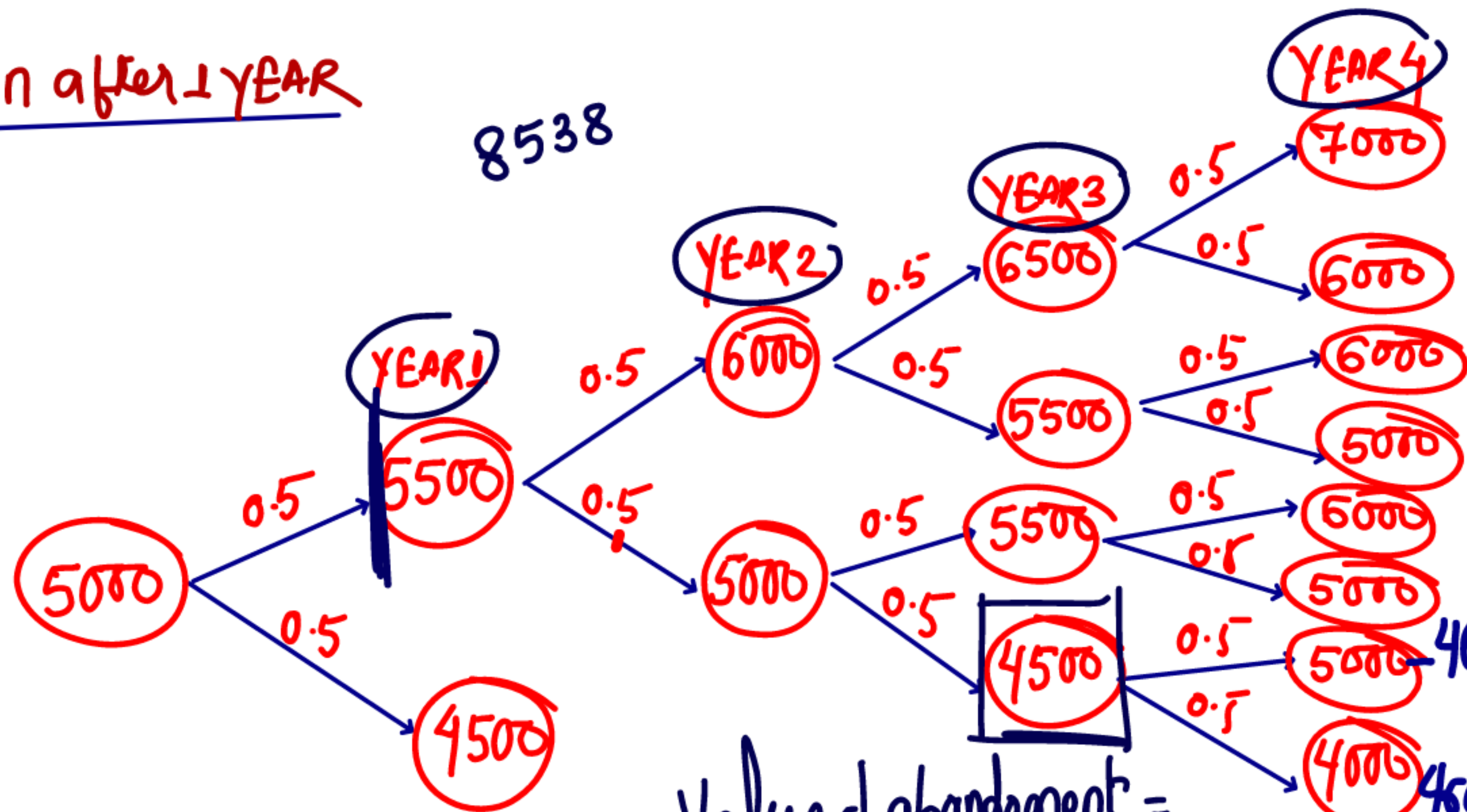
$$\text{NPV} = \frac{400000}{(1.10)^1} + \frac{400000}{(1.10)^2} + \frac{550000}{(1.10)^3} - 1000000 = ₹ 107438$$

Value of Abandonment = 107438 + 5260

$$= 112698$$

Open after 1 year

8538



Value of abandonment

$$\frac{0.125(400 - 600) \times 1000}{(1.10)^3}$$

YEAR 1 End

$$18782.87 \times 0.5$$

1.10

$$= ₹ 8538$$

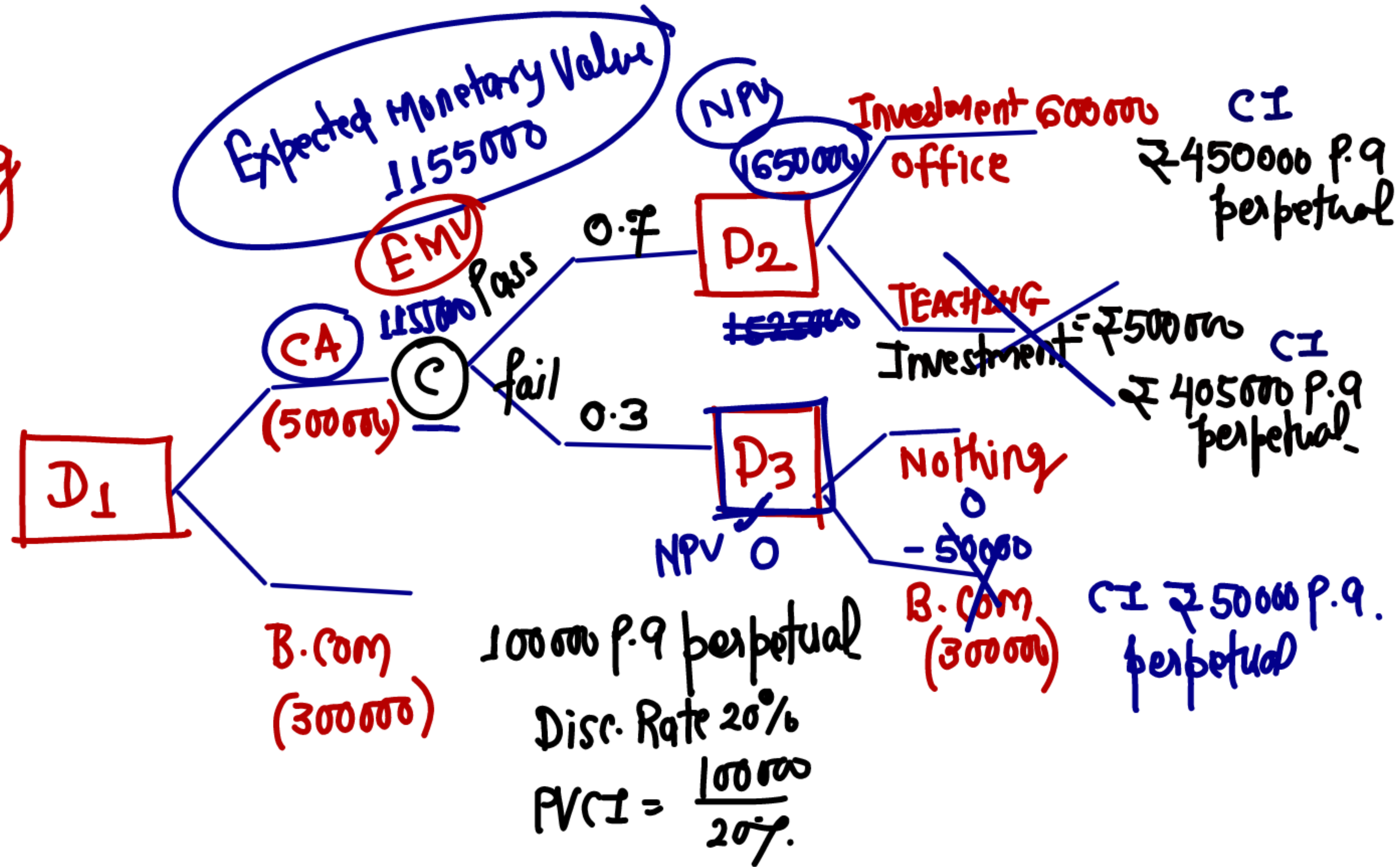
Value of abandonment =
Revised NPV =

$$NPV = 400$$

$$4600 = 562803$$

$$4600 = -600$$

Eg



- At decision point D₂ (Node D₂)

There are two options

option 1 Office NPV = $\frac{450000}{20\%} - 600000 = ₹ 165000$

option 2 TEACHING NPV = $\frac{405000}{20\%} - 500000 = ₹ 152500$

At this point, office is better due to higher NPV

- At decision point D₃ (Node D₃)

option 1 Do Nothing NPV = 0

option 2 B.Com $\left(\frac{50000}{20\%} - 300000 \right) = -50000$

Do Nothing is better.

Expected Monetary Value [EMV] at point c

$$\begin{aligned} \text{EMV} &= (165000 \times 0.7) + (0 \times 0.3) \\ &= ₹ 115500 \end{aligned}$$

At decision point D1

option 1 CA NPV = $115500 - 50000 = 65500$

option 2 B.com NPV = $\frac{100000}{20\%} - 30000 = 200000$

CA is better due to higher NPV