

① Calculation of PBP (125000)

<u>YEAR</u>	<u>CFAT</u>	<u>Cum CFAT</u>
1	43325	43325
2	36431	79756
3	48323	128079

Hence PBP = 2 YEAR + $\left(\frac{1}{48323} \times 45244\right)$
= 2.94 YEARS

1

-11
3

Eg 2

Cost of project = ₹ 100000

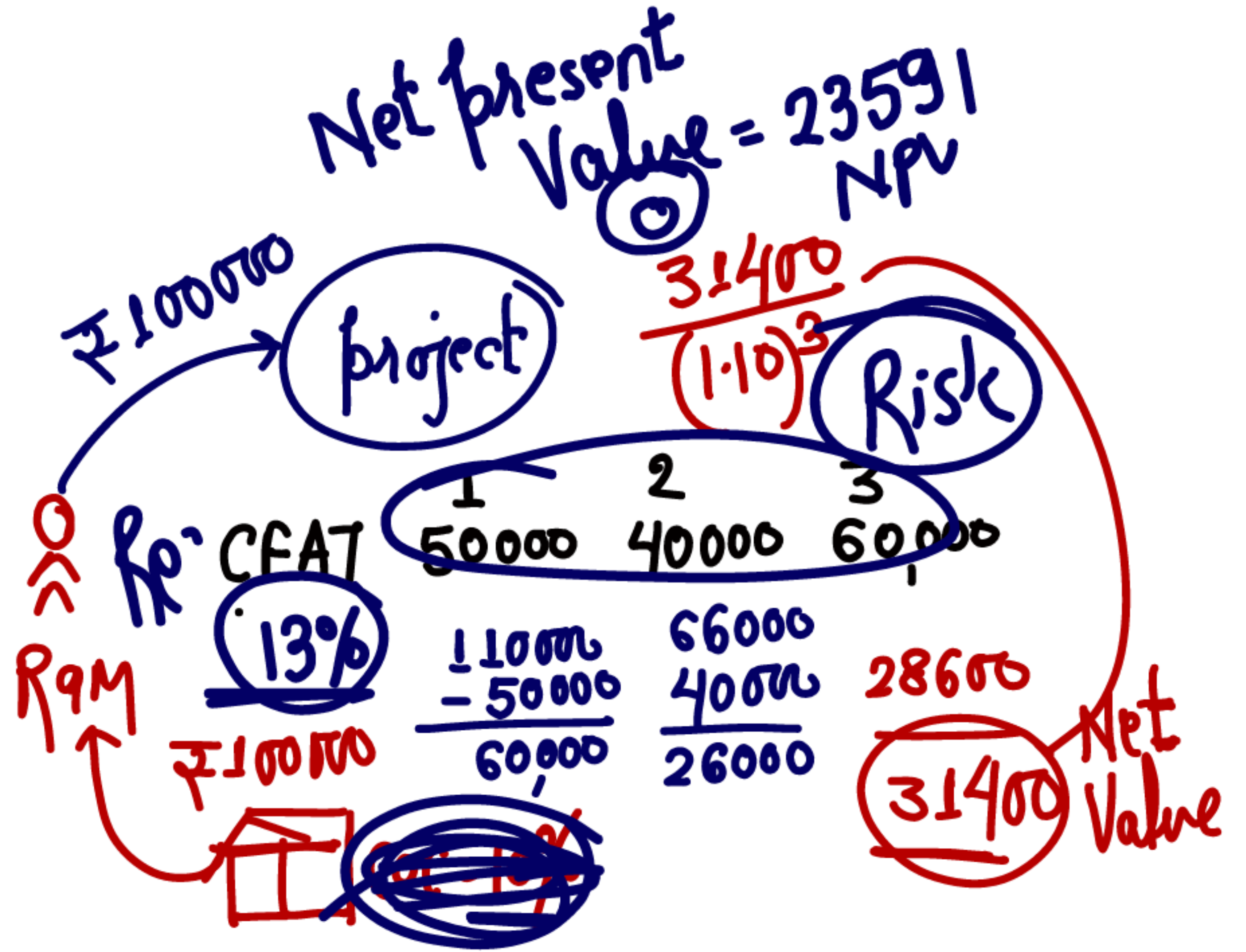
CFAT

1	50000
2	40000
3	60000

Cost of Capital = 10%

Calculate NPV

NPV = 23591



Eg 3

	A	B
Cost	100000	120000
CFAT	28000 p.a.	27000 p.a.
life	5 YEARS	8 YEAR
Salvage	10000	15000

Discounting Rate = 12% p.a.
 which project should be accepted?

Project A

$$NPV = (28000 \times 3.605) + (10000 \times 0.567) - 100000 = ₹ 6610$$

$$EANPV = \frac{NPV}{PVAf} = \frac{6610}{3.605} = 1833$$

Project B Accept

$$NPV = (27000 \times 4.968) + (15000 \times 0.404) - 120000 = 20196$$

$$EANPV = \frac{20196}{4.968} = 4065$$

Eg 4

	A	B
Cost	100000	125000
life	<u>5 YEARS</u>	8 YEARS
Running cost	25000 p.y.	20000 p.y.
Salvage	10000	15000

COE = 15%
Which Machine should be purchased?

Calculation of PVCO

project A

$$\begin{aligned} PVCO &= 100000 + (25000 \times 3.352) \\ &\quad - (10000 \times 0.497) \\ &= 178830 \end{aligned}$$

$$EAPVCO = \frac{178830}{3.352} = 53350$$

project B

$$PVCO = 209843$$

$$EAPVCO = 46765$$

5

Cost of project = 100000

Cash Inflows at the end of 5th YEAR = ₹ 184243

IRR = ?

Method I Dirty Power

$$100000(1+r)^5 = 184243$$

$$r = \left[\left(\frac{184243}{100000} \right)^{1/5} - 1 \right] \times 100$$

= 13%

Method II P.V. Method

$$100000 = \frac{184243}{(1+r)^5}$$

$$PVCO = PVC1$$

IRR is a rate at which
 $PVC1 = PVCO$ or $NPV = 0$ or $PI = 1$

Let assume Disc. Rate 10%

$$NPV = PVC1 - PVCO$$

$$= \frac{184243}{(1.10)^5} - 100000$$

$$= 14400$$

Disc. Rate = 15%

$$NPV = \frac{184243}{(1.15)^5} - 100000$$

$$= (8399)$$

13% project
 10% cost

Interpolation

10% — 14400

15% — (8399)
 5% — 22799

$$IRR = 10 + \left(\frac{5}{22799} \times 14400 \right)$$

$$= 13.16\%$$

2 Inflation & Capital Budgeting

Calculation

1 Calculation of Nominal Cash Flows from Real Cash flows.

- Nominal Cash flows [After considering Inflation]
- Real Cash Flows [without Inflation]

FORMULA

$$NCF = RCF(1+i)^n$$

~~50~~ 10%
200 220