Question: 45 (TYK 18)

Shashi Co. Ltd has projected the following cash flows from a project under evaluation:

Year	0	1	2	3
₹ (in lakhs)	(72)	30	40	30

H.W

The above cash flows have been made at expected prices after recognizing inflation. The firm's cost of capital is 10%. The expected annual rate of inflation is 5%. Show how the viability of the project is to be evaluated. [PVF at 10% for 1-3 years are 0.909, 0.826 and 0.751.]

A1 RCF & RDR

A2 NCF & NDR

Question: 46

KLM Ltd. requires ₹ 15,00,000 for a new project.

Useful life of project is 3 years.

Salvage value - NIL. Depreciation is ₹ 5,00,000 p.a.

Given below are projected revenues and costs (excluding depreciation) ignoring inflation:

Year	1	2	3
Revenues in ₹	10,00,000	13,00,000	14,00,000
Costs in ₹	5,00,000	6,00,000	6,50,000

Applicable tax rate is 35%. Assume cost of capital to be 14% (after tax). The inflation rates for revenues and costs are as under:

Year	Revenues %	Costs %
1	9	10
2	8	9
3	6	7

PVF at 14%, for 3 years =0.877, 0.769 and 0.675

Show amount to the nearest rupee in calculations.

You are required to calculate net present value of the project.

W.N.1 Calculation of Revenue after Inflation

YEAR

1 1000000(1.09) = 1090000

2 1300000(1.09)(1.08) = 1530360

3 1400000(1.09)(1.08)(1.06) = 1746965

W.N.2 Calculation of cost

1 500000(1.10) = 550000

2 600000(1.10)(1.09) = 719400

3 650000(1.10)(1.09)(1.07) = 833905

Calculation of NPV (NCF & NDR)

	1	2	3
Revenue	1090000	1530360	1746965
(-) Cost	550000	719400	833905
CFBT - (I)	540000	810960	918060
(-) Dep.	500000	500000	500000
PBT	40000	310960	413060
Tax @ 35% - (II)	14000	108836	144571
CFAT (i-ii)	526000	702124	768489
(x) PVF (14%)	0.877	0.769	0.675
PVCI	461302	539933	518730

PVCI	1519965
(-) PVCO	1500000
NPV	19965

Since NPV is positive, hence project should be accepted.

Eg

RCF	1	10000
	2	12000
	3	8000

RDR : 10% p.a.

Inflation Rate

1 9%

2 10%

3 8%

Calculate PVCI

① RCF & RDR

② NCF & NDR

① RCF & RDR

PVCI : (10000 × 0.909) + (12000 × 0.826) + (8000 × 0.751) : 25010

② NCF & NDR

NCF	1	10000 × 1.09 = 10900
	2	12000 × 1.09 × 1.10 = 14388
	3	8000 × 1.09 × 1.10 × 1.08 = 10359

NDR (factor)

1 $\frac{0.909}{1.09} = 0.834$

2 $\frac{0.826}{(1.09)(1.10)} = 0.689$

3 $\frac{0.751}{(1.09)(1.10)(1.08)} = 0.580$

PVCI : (10900 × 0.834) + (14388 × 0.689) + (10359 × 0.580) = 25010

Question: 47 (SM)

Determine NPV of the project with the following information:

Initial Outlay of project	₹40,000
Annual revenues (Without inflation)	₹30,000
Annual costs excluding depreciation (Without inflation)	₹10,000
Useful life	4 years
Salvage value	Nil
Tax Rate	50%
Cost of Capital (Including inflation premium of 10%) (NDR)	12%

Calculation CFAT (RCF)

Revenue =		30000
(-) Cost =		10000
CFBT	(I)	20000
(-) Dep ($\frac{40000}{4}$)		10000
PBT		10000
Tax @ 50%	(II)	5000
CFAT (I-II)		15000

RDR

$$RDR = \left[\frac{1.12}{1.10} - 1\right] \times 100$$

$$= 1.818\%$$

$$NPV = (15000 \times PVAf_{1.82\%, 4}) - 40000$$

$$= (15000 \times 3.824) - 40000$$

$$= 17360$$

Question: 48

XYZ Ltd. requires ₹ 8,00,000 for an unit. Useful life of project - 4 years. Salvage value - Nil. Depreciation Charge ₹ 2,00,000 p.a. Expected revenues & costs (excluding depreciation) ignoring inflation.

Year	1	2	3	4
Revenues	₹ 6,00,000	₹ 7,00,000	₹ 8,00,000	₹ 8,00,000
Costs	₹ 3,00,000	₹ 4,00,000	₹ 4,00,000	₹ 4,00,000

Tax Rate 60% cost of capital 10% (including inflation premium).

Calculate NPV of the project if inflation rates for revenues & costs are as follows:

Year	Revenues	Costs
1	10%	12%
2	9%	10%
3	8%	9%
4	7%	8%