

HW - Chapter 7 - Capital Budgeting- Q19

(i) Calculation of Net Initial Cash Outflows:

	Rs.
Cost of new machine	10,00,000
Less: Sale proceeds of existing machine	2,00,000
Net initial cash outflows	8,00,000

(ii) Calculation of Base for depreciation

Particulars		Rs.
WDV of Existing Machine		
Cost of existing machine		3,30,000
Less: Depreciation for year 1	66,000	
Depreciation for Year 2	52,800	
Depreciation for Year 3	<u>42,240</u>	1,61,040
WDV of Existing Machine (i)		1,68,960
Depreciation base of New Machine		
Cost of new machine		10,00,000
Add: WDV of existing machine		1,68,960
Less: Sales value of existing machine		2,00,000
Depreciation base of New Machine (ii)		9,68,960
Base for incremental depreciation [(ii) - (i)]		8,00,000

(iii) Calculation of annual Profit Before Tax and depreciation

Particulars	Existing machine	New Machine	Differential
Annual output	30,000 units	75,000 units	45,000 units
	Rs.	Rs.	Rs.
(A) Sales revenue @ Rs. 15 p.u.	4,50,000	11,25,000	6,75,000
(B) Less: Cost of Operation			
Material @ Rs. 4 per unit	1,20,000	3,00,000	1,80,000
Labour			
Old = 3,000 x Rs. 40	1,20,000		90,000

New = 3,000 x Rs. 70		2,10,000	
Indirect cash cost	50,000	65,000	15,000
Total Cost (B)	2,90,000	5,75,000	2,85,000
CI before Tax	1,60,000	5,50,000	3,90,000

(iv) Calculation of Incremental Net Present Value:

Yr	PBTD	Dep @ 20%	PBT	PAT = PBT @ 70%	Net Cash Flow	DF @ 12%	PV
1	3,90,000	160,000	230,000	1,61,000	321,000	0.893	2,86,653.00
2	3,90,000	128,000	262,000	1,83,400	311,400	0.797	2,48,185.80
3	3,90,000	102,400	287,600	2,01,320	303,720	0.712	2,16,248.64
4	3,90,000	81,920	308,080	2,15,656	297,576	0.636	1,89,258.34
5	3,90,000	65,536	324,464	2,27,124.8	292,660.8	0.567	1,65,938.67
							11,06,284.45
Add: PV of Salvage Value of new machine (Rs. 40,000 x 0.567)							22,680.00
Less: Initial Cash Outflow							8,00,000.00
NPV							3,28,964.44

Advice: Since the incremental NPV is positive, the existing machine should be replaced.