



**NEW HORIZON
COLLEGE OF ENGINEERING**

AUTONOMOUS COLLEGE Permanently Affiliated to VTU, Approved by AICTE & UGC
Accredited by **NAAC** with 'A' Grade

Outer Ring Road, Near Marathalli, Bellandur Main Road, Bengaluru, Karnataka - 560 103

Department of Electronics and Communication Engineering

Academic Year : 2019 – 2020 (EVEN Semester)

Year / Sem : II/ IV

Sec : A

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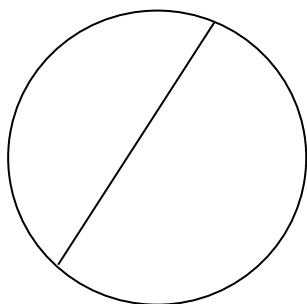
Course Name : Economics For Engineers

Course Code : 19HSS421

Assignment No. : 2

Assignment Group : Group 3

Submitted on : 14/5/2020



1. Identify the importance of NPV.

Ans: In very simple terms, the Net Present value, or short NPV, is important because it tells you what dollar value a project adds to your company, taking into account the money you have to spend to realize the project. It is the difference between the Present value of cash inflows and the present value of cash outflows over a period of time. NPV is used in capital budgeting and investment planning to analyze the profitability of a projected investment or project. NPV is a useful tool to determine whether a project or investment will result in a net profit or loss. A positive NPV results in Profit, while a negative NPV results in a loss. The NPV measures the excess or shortfall of cash flows, in present value terms, above the cost of funds. The NPV ^{of} ~~is~~ a sequence of cash flows takes as input the cash flows and a discount rate or discount curve and outputs a Present value, which is the current fair price.

2. From the following information evaluate net present value. Assume cost of capital to be 12%.

Year	Cashflow
0	200000
1	30000
2	30000
3	50000
4	60000
5	60000

Year	Cashinflow	Dis rate	PV of cashinflow
1	30000	0.8929	26787
2	30000	0.7972	23916
3	50000	0.7118	35590
4	60000	0.6355	38130
5	60000	0.5674	34044
	= 230000		= 158467

PV of cashinflow = 158467

$\therefore NPV = PV \text{ of cashinflow} - \text{cash outflow}$

$$= 158467 - 200000$$

$$= -41533$$

$$\therefore NPV = -41533$$

3. Initial investment is Rs 10000. Predict Pay back Period.

Years	Annual cash flow after tax	
	X(Rs)	Y(Rs)
1	5000	1000
2	4000	2000
3	3000	3000
4	1000	4000
5	—	5000

For - X

Years	X(Rs) cash inflow	Cumulative cash inflow
1	5000	5000
2	4000	9000
3	3000	12000
4	1000	13000

$$PBP = \text{completed years} + \frac{\text{req inflow}}{\text{Inflow of next year}} \times 12$$

$$= 2 + \frac{10000 - 9000}{3000} \times 12$$

$$PBP = 2 + \frac{1000}{3000} \times 12 = \underline{\underline{6 \text{ years}}}$$

For - Y

Years	Y(Rs) cash inflow	Cumulative cash inflow
1	1000	1000
2	2000	3000
3	3000	6000
4	4000	10000
5	5000	15000

$$PBP = \text{completed years} + \frac{\text{required inflow}}{\text{Inflow of next year}} \times 12$$

$$= 4 + \frac{10000 - 10000}{5000} \times 12$$

$$PBP = \underline{\underline{4 \text{ years}}}$$