

HW - Chapter 7 - Capital Budgeting- Q11

Option I: Purchase Machinery and Service Part at the end of Year 1.

Net Present value of cash flow @ 10% per annum discount rate.

NPV (in Rs.)

$$= -1,00,000 + 36,000 (0.9091 + 0.8264 + 0.7513) - (20,000 \times 0.9091) + (25,000 \times 0.7513)$$

$$= - 9,874.7$$

Since, Net Present Value is negative; therefore, this option is not to be considered.

If Supplier gives a discount of Rs. 10,000, then:

$$\text{NPV (in Rs.)} = + 10,000 - 9,874.7 = + 125.3$$

In this case, Net Present Value is positive but very small; therefore, this option may not be advisable.

Option II: Purchase Machinery and Replace Part at the end of Year 2.

NPV (in Rs.)

$$= -1,00,000 + 36,000 (0.9091 + 0.8264 + 0.7513) - (30,800 \times 0.8264) + (54,000 \times 0.6830)$$

$$= + 953.68$$

Net Present Value is positive, but very low as compared to the investment.

If the Supplier gives a discount of Rs. 10,000, then:

$$\text{NPV (in Rs.)} = 10,000 + 953.68 = 10,953.68$$

Decision: Option II is worth investing as the net present value is positive and higher as compared to Option I.