

* Machine A cost 9000rs. Annual operating cost rs - 200 for the 1st year and then increase by rs - 2000 every year

Determine the best age at which to replace the machine. If the optimum replacement policy is followed by what will be the average yearly cost of owning operating the machine?

(Assume that the machine has no resale value when replace & that future cost are not discounted)

Solⁿ :- The maintenance cost of machine A in successive year are as follows.

Year	1	2	3	4	5
Maintenance Cost	200	200 + 2000 = 2200	2200 + 2000 = 4400	4400 + 2000 = 6200	6200 + 2000 = 8200

Year	Maintenance Cost	Total maintenance Cost	Depreciation Cost	Total Cost * + *	T.C/A Average Cost
1	200	200	9000	9000 + 200 = 9,200	9200
2	2200	2400	9000	11,400	5700
3	4400	6600	9000	15,600	5200
4	6200	12,800	9000	21,800	5420

Hence, the machine A will be replaced at the 3rd year.

Average yearly cost in this situation is $\boxed{5200}$
JK