Annuity due :— In annuity due to equal payments are made at the beginning of each Compounding Period starting from the first period.

Deferred Annuity — In deferred annuity the first payment is deferred a certain no of Compounding period.

Perpetuity :— Perpetuity is an annuity where the payment period extends forever which means that the periodic payment continues indefinitely.

Ordinary Annuity

→ The from the cash filow diagram shown above the future amount (f) is the sum of payments starting from the end of the first period to the end of the Nth period.

→ Observe that the total no of payments is N and the total no of compounding periods is also N.

→ Thus in ordinary annuity the number of Payments and the number of Compounding Periods are equals.

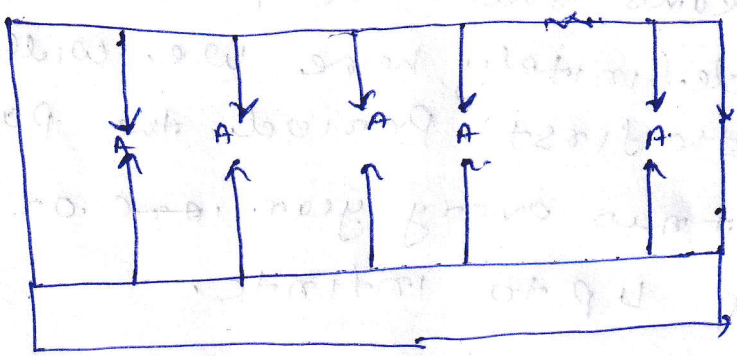


fig : Cash filow diagram of ordinary annuity

Deferred Annuity

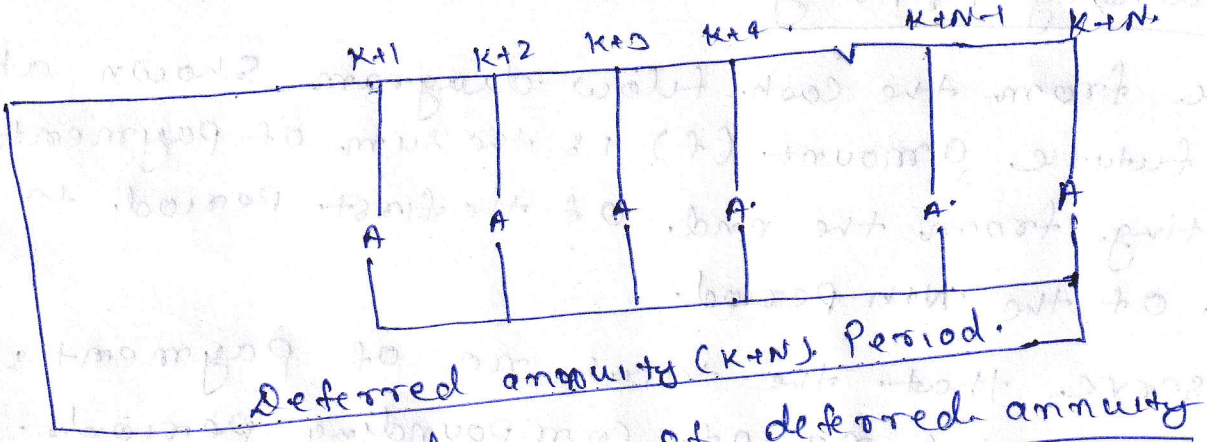
→ future amount of annuity due is f. deferred annuity.

→ Here the payment is deferred to the end of the Period of K+n.

→ In deferred annuity the first payment is deferred a certain no. of Compounding Period

→ In the diagram below the first payment was made at the end of the k+n period and N number of payment were made.

→ The N payment from an ordinary annuity as indicated in the figure.



Cash flow diagram of deferred annuity

Perpetuity

→ Perpetuity is an annuity where the payment Period extents forever.

→ Which means that the periodic payment Continue indefinitely here we will see that at the end of the first Period the payments starts and it Continues every year, or every time term up to infinite.

Present worth method.

→ In this method of comparision the cash flow of each alternative will be reduced to time zero by assuming an interest rate.

→ Then depend

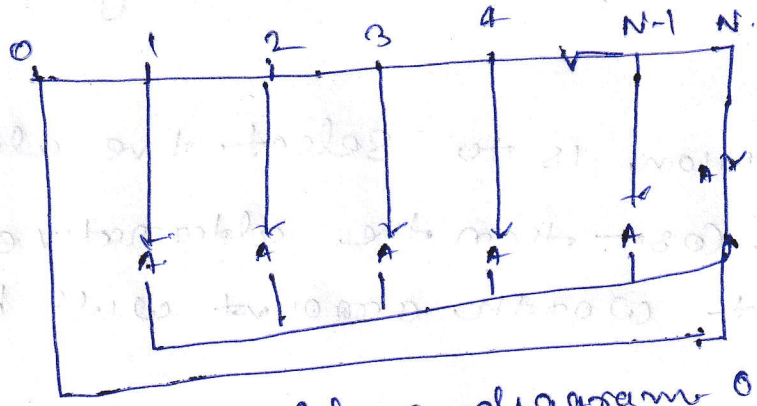


fig. Cash flow diagram of perpetuity

Present worth mo. method

→ In this method of comparison the cash flow of each alternative will be reduced to time zero. by assuming an interest rate i.

→ The depending on the type of decision the best alternative will be selected by comparing the present worth amount of the alternative.

→ The sign of various amount at different point in time in a cash flow diagram is to be decided based on the type of the decision problem.

→ In a cost dominated cash flow diagram the Cash (cash out flow) will be assigned with positive sign and the profit, revenue, salvage value (cash inflow) etc will be assigned with negative sign

→ In a revenue / profit - dominated Cash flow diagram the Profit revenue salvage value (all inflows to an organisation) will be assigned with positive sign.

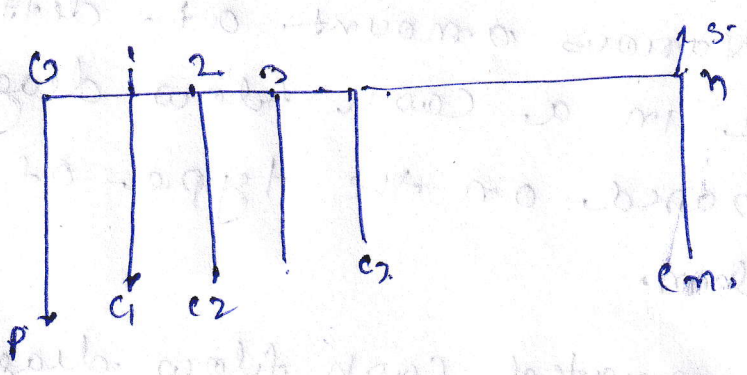
→ The costs (out flows) will be assigned with (−) sign.

→ In case the decision is to select the alternative with the minimum cost then the alternative with the least present worth amount will be selected.

→ On the other hand, if the decision is to select the alternative with the maximum profit then the alternative with the maximum present worth will be selected

* Cash dominated Cash flow diagram.

$$P(N,i) = P + C_1\left[\frac{1}{(1+i)^1}\right] + C_2\left[\frac{1}{(1+i)^2} + \cdots + C_3\left(\frac{1}{(1+i)^3}\right) + C_n\left(\frac{1}{(1+i)^n}\right)\right.$$



Revenue dominated Cash flow diagram.