**APPLICABLE FORMULAE FROM FORMULA SHEET**

$A = P(1+ni)$ $A = P(1-ni)$ $A = P(1-i)^n$ $A = P(1+i)^n$

$F = \frac{x[(1+i)^n - 1]}{i}$ $P = \frac{x[1-(1+i)^{-n}]}{i}$

| | Formulae | Type | Common terminology |
|---|---|---|---|
| | **INCREASING AMOUNTS** | | |
| **5.1Investments / Growth** | 5.1.1 $A = P(1 + i.n)$ | **Simple interest** | - rate per annum at simple interest |
| | 5.1.2 $A = P(1 + i)^n$ | **Compound interest,** lump sum over a period of time | -Interest **compounded** yearly/annually, monthly, quarterly or half yearly<br>-invest money, deposit money, grow, appreciate,<br>- compound increase/ compound growth/ inflation |
| | 5.1.3 $Fv = \frac{x[(1+i)^n - 1]}{i}$ | **Annuities**, same deposits / instalments at equal intervals e.g monthly, yearly, quarterly or half yearly etc. | -monthly, yearly, quarterly or half-yearly instalment |
| | **DECREASING AMOUNTS** | | |
| **5.2 Depreciation / Decay / Loss of value** | 5.2.1 $A = P(1 - i.n)$ | **Straight line** depreciation | -straight-line depreciation/ linear reduction/ straight line decay; |
| | 5.2.2 $A = P(1 - i)^n$ | Depreciation on a **reducing**/diminishing **balance** | - value depreciates at $x$ % p.a<br>- reducing balance/ diminishing balance/ compound decay/ compound decrease; |
| **5.3.Loan Repayments** | 5.3.1 $Pv = \frac{x[1-(1+i)^{-n}]}{i}$ | Loan repayment<br>Or<br>Getting monthly payments from an investment amount that will decrease | -loan repayment<br>- making × monthly, quarterly, or yearly instalment, etc<br>-deposits made at the end of every month, year, quarter or half-year<br>-someone borrows the money |
| | **INTEGRATION OF FORMULAE** | | |
| | 5.3.2 $P(1 + i)^n = \frac{x[(1+i)^n - 1]}{i}$ | Balance on outstanding loan based on monthly repayments.<br>This can also be done in two separate steps. | |

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|---|---|---|---|
| **5.4 Effective** | 5.4.1 $1 + i_{eff} = \left(1 + \frac{i}{n}\right)^n$ | nominal / effective rate | nominal to effective rate |