FORMULAE TO BE USED IN IB BUSINESS AND MANAGEMENT EXAMINATIONS

The following formulae will be used in the IB Business and Management external assessment. A copy of the formulae will be provided for students in the examination. A copy should be provided for students in mock examinations and tests, where applicable.

FORMULAE FOR RATIO ANALYSIS

**PROFITABILITY RATIOS**

Gross profit margin \[= \frac{\text{Gross profit}}{\text{Sales revenue}} \times 100\]

Net profit margin \[= \frac{\text{Net profit}}{\text{Sales revenue}} \times 100\]

**LIQUIDITY RATIOS**

Current ratio \[= \frac{\text{Current assets}}{\text{Current liabilities}}\]

Acid test (quick) ratio \[= \frac{\text{Current assets} - \text{stock}}{\text{Current liabilities}}\]

**SHAREHOLDER (STOCKHOLDER) RATIOS**

Earnings per share \[= \frac{\text{Net profit before interest and tax}}{\text{Number of ordinary shares}}\]
**Dividend yield** = \( \frac{\text{Dividends per share}}{\text{Market price}} \times 100 \)\text{ HL}

**EFFICIENCY RATIOS**

Return on capital employed (ROCE) = \( \frac{\text{Net profit before interest and tax}}{\text{Total capital employed } \dagger} \times 100 \)

\( \dagger \) Capital employed = shareholders' funds + reserves + long-term liabilities

Stock turnover = \( \frac{\text{Cost of goods sold}}{\text{Average stock}} \)

or

Stock turnover (number of days) = \( \frac{\text{Average stock}}{\text{Cost of goods sold}} \times 365 \)

Debtor days ratio (number of days) = \( \frac{\text{Debtors}}{\text{Total sales revenue}} \times 365 \)\text{ HL}

Creditor days ratio (number of days) = \( \frac{\text{Creditors}}{\text{Total credit purchases}} \times 365 \)\text{ HL}

**GEARIMG RATIO**

Gearing ratio = \( \frac{\text{Loan capital}}{\text{Total capital employed}} \times 100 \)

**OTHER FORMULAE**

**INVESTMENT APPRAISAL**

Average rate of return = \( \frac{\text{Net return (profit) per annum}}{\text{Capital outlay (cost)}} \times 100 \)

Net present value = Present value of return − original cost \text{ HL}
ELASTICITY

Price elasticity of demand = \(\frac{\% \text{ change in quantity demanded}}{\% \text{ change in price}}\)

Cross elasticity of demand = \(\frac{\% \text{ change in quantity demanded of good A}}{\% \text{ change in price of good B}}\)

Income elasticity of demand = \(\frac{\% \text{ change in quantity demanded}}{\% \text{ change in income}}\)

Advertising elasticity of demand = \(\frac{\% \text{ change in quantity demanded}}{\% \text{ change in advertising expenditure}}\)