

IB Business and Management – Tests and Examinations

Formula Sheets for Examinations



IB Business Management: www.BusinessManagementIB.com

FORMULAE TO BE USED IN IB BUSINESS MANAGEMENT EXAMINATIONS

The following formulae will be used in the IB Business 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

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

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

LIQUIDITY RATIOS

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

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

EFFICIENCY RATIOS

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

† **Capital employed** = loan capital (or long-term liabilities) + share capital + retained profit

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$$\text{Stock turnover (number of times)} = \frac{\text{Cost of goods sold}}{\text{Average stock}} \quad \text{HL}$$

or

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

* Where average stock = (opening stock + closing stock) ÷ 2

† Where cost of goods sold is an approximation of total credit purchases

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

† Where total sales revenue is an approximation of total credit sales

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

† Where cost of goods sold is an approximation of total credit purchases

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

OTHER FORMULAE

INVESTMENT APPRAISAL

$$\text{Average rate of return} = \frac{(\text{total returns} - \text{capital cost}) \div \text{years of use}}{\text{Capital cost}} \times 100$$

$$\text{Net present value} = \Sigma \text{ present values of return} - \text{original cost} \quad \text{HL}$$

CAPACITY UTILISATION AND PRODUCTIVITY

$$\text{Capacity utilisation rate} = \frac{\text{Actual output}}{\text{Productive capacity}} \times 100 \quad \text{HL}$$

$$\text{Productivity rate} = \frac{\text{Total output}}{\text{Total input}} \times 100 \quad \text{HL}$$

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COST TO BUY AND COST TO MAKE

Cost to buy = Price x quantity **HL**

Cost to make = fixed costs + variable costs x quantity) **HL**