Formulae

The following formulae will be used in business management external assessment. A copy of the formulae will be provided to students for the examination.

Formulae for ratio analysis (SL/HL)

Profitability ratios (SL/HL)

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

$$\text{Net profit margin} = \frac{\text{net profit before interest and tax}}{\text{sales revenue}} \times 100$$

Liquidity ratios (SL/HL)

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

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

Efficiency ratios (SL/HL)

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

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

Efficiency ratios (HL only)

$$\text{Stock turnover (number of times)} = \frac{\text{cost of goods sold}}{\text{average stock}}$$

or

$$\text{Stock turnover (number of days)} = \frac{\text{average stock}}{\text{cost of goods sold}} \times 365$$

where *cost of goods sold* is an approximation of total credit purchases

$$\text{and } \textit{average stock} = \frac{\text{opening stock} + \text{closing stock}}{2}$$

$$\text{Debtor days ratio (number of days)} = \frac{\text{debtors}}{\text{total sales revenue}} \times 365$$

where *total sales revenue* is an approximation of total credit sales

$$\text{Creditor days ratio (number of days)} = \frac{\text{creditors}}{\text{cost of goods sold}} \times 365$$

where *cost of goods sold* is an approximation of total credit purchases

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

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

Other formulae (SL/HL)

Investment appraisal

SL/HL

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

HL only

$$\text{Net present value (NPV)} = \sum \text{present values of return} - \text{original cost}$$

Capacity utilization and productivity (HL only)

$$\text{Capacity utilization rate} = \frac{\text{actual output}}{\text{productive capacity}} \times 100$$

$$\text{Productivity rate} = \frac{\text{total output}}{\text{total input}} \times 100$$