



mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

SYLLABUS FOR THE FOR MINE SURVEYOR'S CERTIFICATE OF COMPETENCY

Framed in accordance with regulation 28.6, in force in terms of Schedule 4 of the Mine Health and Safety Act, 1996 (Act No 29 of 1996)

MINING ECONOMICS 2

Discuss the following terms and perform calculations involving them:

- Interest annuities
- Present value, rate of return, amortisation
- Discounted cash flow (D.C.F.)
- Sinking fund
- Capital and working costs and profit
- Fixed and variable (direct overhead) costs
- Marginal contributions and area costing
- Taxation and aid state
- Lease consideration

Discuss forecasting under the following headings:

- Preliminary investigations and prospecting
- Short and long term planning
- Life of a mine
- Capital redemption and amortisation of capital
- Lease or royalty payments, income tax and distributable profit
- Rehabilitation trust fund calculations

STATISTICS - Explain and apply the following statistical concepts:

- Variables and graphs
- Frequency distribution including binomial normal, lognormal, and poisson distribution
- The mean, median, mode and other measures of central tendency
- The standard deviation and other measures of dispersion
- Moments, skewness and kurtosis

Explain the statistical concepts of:

- Elementary probability theory
- Sampling theory
- Statistical decision theory
- Curve fitting and the method of least squares
- Correlation and regression theory
- Multiple and partial correlation

Describe the fundamentals of geostatistical concepts and their application i.e. by means of calculations and interpretation of the results

In addition to the above, any portion of the syllabi for Mining Economics 1 may be included in the examination in this part.

A list of some help formulae which may be used in Statistics will be available to the candidates at each examination.