

**BTV1201\_00,BTV1201\_01(english)**  
**Mathematics**  
**examination**

**Topics**

Concepts of set theory. Set operations and their properties. Field of sets. Cardinality of sets. The axioms of real numbers. Descartes product. Concept of function. Real functions. Basic functions. Boundedness. Estimated value, monotony, parity, periodicity, continuity, limit values, zero locations. Function transformations. Rational and fractional functions. Concepts and attributes of sequences and series. Limit value and convergence series. Differentiation and differential equation. Differentiation rules. Derivatives of multivariable functions. Taylor polynomial, Taylor series. Investigating Differentiable Functions. Solving economic problems by using differential calculus. Calculation of interest income. Discounting. Annuity calculation. Indefinite and definite integral. Newton - Leibniz rule. Definite integral applications. Directly integrating and separable variable differential equations. Linear first order homogeneous and inhomogeneous differential equations.

**Grade**

Offered mark based on two tests, otherwise test in the exam period. Levels are 30%, 50%, 70%, 90%.