

## **Management (for students starting in 2023)**

1. The essence of mathematical statistics, the errors of sampling and inference, the steps of statistical processing
  - Interpretation of descriptive statistical indicators, properties of statistical indicators, main representation methods
  - Estimation theory, properties of estimation, interval estimation
  - The general course of hypothesis tests, statistical tests and their hypotheses, conditions for their application
  - Basics of correlation and regression calculations, basic assumptions of the model, interpretation and testing of indicators and regression coefficients
2. Management theories and methods, their application and criticism
  - What managerial skills and good and bad examples of their application do you know?
  - Describe the organizational culture types according to Handy and Quinn. How do organizational structures and culture types fit together?
  - Present the learned motivational theories and introduce application examples (theories of Maslow, Herzberg, McClelland, Vroom, Adams, Locke, and Skinner)
  - Describe the learned leadership styles and give examples of when it is recommended to use a given leadership style (theories of Lewin, Tannenbaum-Schmidt, Ohio State University, Blake-Mouton, and Hersey-Blanchard)
3. Segmentation, targeting and positioning and STP strategy
  - Describe the process and main characteristics of segmentation and list the segmentation criteria.
  - Describe the STP strategy, its process and present the dimensions of positioning in detail through examples
  - Using examples, explain the five positioning strategies.
  - Define the perceptual map and explain its application using an example of your choice
4. Ensuring quality in organizational operations
  - The main features of the current ISO 9000 family of standards
  - Characteristics of Six Sigma and Lean Six Sigma approaches
  - Organizational self-evaluation
5. Process management
  - Methods and tools for recording and monitoring processes (advantages, disadvantages)
  - Failure analysis methods (advantages, disadvantages)
  - Process improvement models: similarities, differences, criticisms
6. Management of customer demand and their satisfaction
  - Methods of forecasting customer demand and their application issues
  - Evaluation of demand forecast errors and their consequences for operation
  - Examination of the capacity to satisfy customer needs and its modification possibilities
7. Inventory management
  - Operation of inventory systems and costs related to inventory management processes
  - Management issues of inventory management in EOQ models with quantity discounts
  - Management issues of inventory management in stochastic EOQ model

## Financial management

### 1. Money

- The functions of money
- The quantity theory of money
- Factors affecting the demand for money.
- The concept of exogenous and endogenous money supply

### 2. Monetary policy

- The goals and objectives of monetary policy – exchange rate stability, price stability, economic growth and bank sector liquidity
- The traditional (conventional) monetary policy instruments
- The non-traditional (unconventional) monetary policy instruments

### 3. Public finances

- The main revenues and expenditures of the general government (economic, functional and accounting classifications)
- The notion, origin and consequences of budget deficit and public debt
- The Stability and Growth Pact, the excessive deficit procedure and other fiscal rules

### 4. Bretton Woods, crises

- What were the main characteristics of the international monetary system of Bretton Woods?
- What made it reasonable to give up the gold-exchange system?
- What were the major economic policy consequences of the oil crises of the 1970s?
- What were the main causes and consequences of the 2007-2009 global financial crisis?

### 5. Financial markets, stock exchanges, securities, orders

- The financial intermediary system (and its functions), main channels, markets
- Characterization of securities markets, stock exchanges, IPO
- Securities, share types, stock market indices
- Main order types, basic stock market concepts (e.g. short, margin, stop-loss, market capitalization, etc.)
- Stock market frauds and scams

### 6. CAPM and other factor models

- Risk and return (definition, calculations, etc.)
- Efficient Market Hypothesis (origins, strength, etc.)
- Markowitz model, CAPM assumptions, beta, CAPM-model
- Other factor models, French-Fama 3 and 5 factors, etc.

### 7. Fundamental analysis

- Macroeconomic and industry analysis (macro, business cycles, sector rotation, etc.)
- Equity Valuation Models (Comparables, P/E problems, CAPE, DDM, Gordon, Reinvestment, PVGO, Free Cash Flow Valuation Approaches)
- Financial Statement Analysis (Key financial Ratios, EVA, Ratio analysis, DuPont system, etc.)

### 8. Portfolio management and performance evaluation

- The Margin of Safety, Kelly Criterion, Stop-loss rules, tools of stock selection
- The principal strategies
- Portfolio management as an activity (players, processes, indices-benchmarks, active vs. passive management, etc.)
- Performance evaluation (goals, content, process, attribution, etc.)

- Measurement of portfolio risk (standard deviation, tracking error, Sharpe, Treynor, Jensen, Information ratio, etc.)