**List A.   Questions in Quantitative Methods in Finance**

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| 1  | Expected value of a random variable – for discrete variable and for continuous variable. Properties of expected value. Expected value of product of two random variables. |
| 2 | Stochastic processes in discrete and continuous time. Definition and interpretation of Ito stochastic processes  |
| 3  | Heteroscedasticity and autocorrelation of random terms. Comment on definitions of both terms. What statistics are used to test heteroscedasticity or autocorrelation of random terms? |
| 4  | Stationarity of stochastic processes. Why stationary processes are of special interest for economists? How the stationarity is tested? Give examples of transformations of nonstationary processes into stationary ones.  |
| 5  | Explain what are the stages of an econometric model construction. Provide a detailed description of the model verification. |
| 6  | Methods of forecasting the time-series and the forecast error estimation methods. |
| 7  | Volatility estimation - parametric and non-parametric approach. |
| 8  | Modeling of seasonality in the financial time series. |
| 9  | Systematic risk: modeling of stocks' *beta*. |
| 10  | Short-rate models in modelling interest rates (the main assumptions and properties of such models). |
| 11 | Martingale pricing rule. Existence of a risk-neutral (martingale) measure. Completeness of market and risk-neutral measures. |
| 12  | Value at Risk - definition and methods for its calculation.. |
| 13  | Explain the difference between spot interest rates and forward interest rates. |
| 14 | Explain what are the equilibrium prices in a simple consumer exchange model and how they can be found. What are the properties of equilibrium prices? What is the dynamic process of equilibrium price formation?  |
| 15 | Risk of the portfolio in the Markowitz theory and Capital Asset Pricing Model. |

**List B.  Questions in General Finance and Economics**

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| 1  | Weighted Average Cost of Capital (WACC): definition, components and areas of implementation. |
| 2  | Explain what is efficient market hypothesis and provide examples of phenomena that make financial markets inefficient. |
| 3  | Elaborate on the general structure of the financial markets taking into consideration the type of the instrument, market access, and trading participants. |
| 4 | Measuring default risk – methods. |
| 5 | The Basel Accords - regulations in risk management. |
| 6 | Describe briefly life and non-life insurances. Elementary types of life and non-life insurance. Main principles of insurance premium calculation. |
| 7  | Explain the difference between hedging, speculation, and arbitrage. |
| 8 | List factors that affect stock option prices. Explain relationship between option price and listed factors. |
| 9  | Property, plant, and equipment. Characteristics, measurement, and presentation in the statement of financial position. |
| 10  | Identify the main goals of the financial analysis and discuss the subsequent stages in the process of carrying out the financial analysis. |
| 11  | Investment Policy Statement. Definition, content, client’s different objectives and constraints for individuals and institutions. |
| 12  | Describe the models that are used by central banks to estimate the term structure of interest rates. |
| 13  | Referring to the Mundell - Fleming model of an open economy explain what are the results of increase in government spending and due to which transmission mechanisms these results happen. |
| 14  | Characterize the role of elements of financial statement (statement of financial position, statement of comprehensive income, statement of cash flows). |
| 15  | Ethical and compliance considerations in Private Wealth Management. |