**Final Exam Themes**

**for Food Engineering BSc students**

**Food technology**

Milling industry - milling of wheat, quality parameters of flour

Baking and pasta industry - the bread production

Malt and beer technology, brewing

Processing of sugar, candy and chocolate production

Plant oil production, quality parameters of oil

Processing of poultry, quality and quantity parameters of egg, processing of egg

Processing of large mammals (cattle, porcine)

Quality and quantity parameters of milk, processing of milk

Thermal processing of fruits and vegetables (drying, concentration, pasteurization)

Fermentation food processing technologies (wine, spirits, lactic fermentation of vegetables)

**Unit operation**

Elements of Fluid Mechanics (classification of fluids, definition and types of viscosity, flow parameters -flow rate, -flow velocity, -pressure, -cross flow section)

Laws of flow of fluids (characterization of flows - Re number, Velocity profiles, Boundary layers, Bernoulli’s Law, Bernoulli equation, Principle of Continuity)

Size reduction of Solids, Basic Principles, Equipment and Methods

Centrifugal separation and centrifuge equipment in food industry

Mixing in the food processing

Mass transfer and diffusion - Fick's law, characterization of diffusion processes

Principles of gas absorption - gas-liquid equilibrium (Henry's law), equipment for absorption

Distillation and rectification - vapor–liquid equilibrium, batch distillation, rectification

Crystallization

Membrane processes

**Food industry economics**

Importance and Economic Indicators of Food Industry within the National Economy (Main functions, ratio in the GDP, labour, investment)

Situation of Global Food Industry – (Structure, main food industrial brances, key figures of production, trade and consumption)

Measuring Methods and Theories of Competitiveness of Food Industry

Analysis of the External Business Environment. Methods (PEST, PORTER’s Five Forces) SWOT)

Regulations and Organisations of Global Food Trading, Basic forms of Trading, Methods of Pricing)

Effecting Factors of Food and Drink Demand, Supply and Trading

Give an Overview of Your own Country’s Food Industry (Importance in the national economy, main branches, production, consumption, export – import, difficulties, challenges.)

Concentration and Forms of Cooperation or Integration in the Food and Drink Industry (with examples)

Basic Principles and Structure of Food Supply Chain and FCM

Future Trends and Challenges of Global Food and Drink Industry