SZÉCHENYI EGYETEM
UNIVERSITY OF GYŐR

FINAL EXAMINATION QUESTIONS

Bachelor's degree in food engineering

Food quality assurance item line

1.) Interpretation of food quality. The concept of quality, the development of quality matters. The main stages of the development of quality management. The demand satisfaction process.

2.) Quality systems in the food industry I.: HACCP system.

3.) Quality systems in the food industry II.: ISO standard systems and total quality management (TQM).

4.) Legal regulation of food production and distribution in the European Union and Hungary. The Food Act (ÉT). *Codex Alimentarius* ("Food Code").

5.) Design and organization of a food microbiology laboratory. Installation, safety regulations, equipment selection, risk reduction. Good Laboratory Practice (GLP). Accreditation.

6.) Methods for the microbiological examination of foods. Aerobic and anaerobic mesophilic plate and spore counts, indicator microorganisms.

7.) Foodborne pathogens. Pathogenicity, virulence, virulence factors. Foodborne diseases and their causes.

8.) Rapid methods for the determination of microbiological deterioration, contamination, and infection. Microscopic examination of native and stained preparations. Methods based on changes in the physicochemical properties of foods.

9.) Methods based on detection of metabolic products. Enrichment and selective procedures. Rapid test methods based on enzyme-immune reactions. Diagnostic application of antibodies.

10.) The moisture content of foods. Bound water, free water, and water activity in foods. Determination of the moisture content and water activity of foods.

11.) Minerals in foods. Main, trace, and ultra-trace elements. Their physiological properties. Determination of their concentration in foods by atomic spectroscopic methods.

12.) Food constituent lipids. Their physical and chemical properties and their roles in human nutrition. Determination of the total lipid content and lipid composition of foods.

13.) Mono-, oligo-, and polysaccharides in foods. Analysis of mono- and disaccharides in foods.

14.) Proteins in foods. Classification of proteins. Determination of the total protein content and protein composition of the foods.

15.) Water and fat-soluble vitamins in Food. Their physiological properties and their analysis in foods.

16.) Toxic compounds (pesticide residues, mycotoxins, and veterinary drug residues). Chromatographic analysis of toxic compounds in foods.

17.) Food spoilage caused by microorganisms. Sensorially detectable food spoilage. Post-processing contamination. Food spoilage and foodborne diseases, endotoxin- and exotoxin-producing microorganisms.

18.) Methods of inhibiting microbial reproduction. pH reduction, addition of organic acids, salting, reduction of water activity by water withdrawal, cooling-freezing, cooking-smoking, combined processes.

19.) Procedures for the destruction of microorganisms. Procedures ensuring practical sterility and complete sterility. Effect of heat-treatment parameters (i.e., temperature and duration) on microbial destruction and chemical composition. Chemical preservation.

20.) Increasing product stability and creating flavor with the help of microbes. Acidified products. Product stabilization primary and secondary metabolic products produced by microbes.

21.) Special requirements for physically stabilized products. Chilled-frozen foods, heat-treated foods (canned and semi-canned-canned), powdered products.