UNIVERSITY of LIFE SCIENCES in Lublin
FACULTY OF VETERINARY MEDICINE

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The evaluation of knowledge
Inorganic, general chemistry

1. Types of solutions and their properties
2. Methods of expressing the concentration of solutions
3. Conversion of concentrations (molar and percent concentrations) - calculations
4. Theory of electrolytic dissociation - basic rules, electrolytes and nonelectrolytes
5. Mechanism of dissociation
6. The constant and degree of electrolytic dissociation
7. Ostwald's dilution law
8. Definition of acids and bases according to Arhenius', Brönstred' and Lewis' theory
9. Water dissociation constant
10. Negative logarithm of the hydrogen ions concentration pH scale
11. Methods of determination of pH in solutions
12. Theory of pH indicators
13. pH of strong and weak acids and bases - dependence on the concentration of electrolyte
14. Hydrolysis of salts - the mechanism and significance in titration
15. Buffers - mechanism of action, buffer capacity, preparation of buffer solutions
16. pH of buffers - Henderson-Hasselbalch equation
17. Types of chemical reactions: criteria for divisions, reactions of synthesis, exchange, oxidation and reduction, exo- and endothermic, complexation, dissolution and precipitation. Solvation and hydration
18. Chemical bonds: ionic, covalent, polar, hydrogen bonding.
19. Reactions, chemical and biological properties of ions analysed during practicals
20. Periodic table of elements
21. Titration analysis: alkacymetry, redoximetry, precipitometry, complexometry
22. Solutions: iso-, hypo- and hypertonic, Donnan's equilibrium, adsorption and absorption, dialysis, osmosis, diffusion, osmotic and oncotic pressure