**Applied Mathematics for IT- Study questions**

**Topic 12 - Multiple Criteria Decision Making**

Explain following terms:

* multi-criteria decision making
* multi-criteria optimization
* multi-criteria analysis of variants
* variant, criterion
* dominance of the solution
* ideal and nadir variant and compromise solution
* nominal, ordinal and cardinal information
* preference
* pairwise comparison

Study questions:

1. Characterize the model of multi-criteria analysis of variants.
2. What is the ideal, nadir, Pareto and compromise variant?
3. What is the dominance of variants, dominated, non-dominant and mutually non-dominated variants?
4. Define types of preference information.
5. What is it and how do you specify criteria preferences?
6. What is ordinal and cardinal information?
7. What is a pairwise comparison, what does it serve for, how it is done, what are its advantages and disadvantages?
8. What is the utility function?
9. Characterize the basic difference between scoring and ranking.
10. What is the solution for multi-criterial models, how is it called?
11. Describe the basic principle of the weighted sum method.
12. Describe the AHP method.