**Applied Mathematics for IT- Study questions**

**Topic 11 - Decision Models**

Explain following terms:

* game against nature
* decision-making under certainty
* decision-making under risk
* decision-making under uncertainty
* outcome dominance
* event dominance
* probabilistic dominance
* decision table
* payoff matrix and loss matrix
* decision criterion

Study questions:

1. Describe the decision-making process.
2. Describe the decision model and its forms.
3. What is the decision or strategy and the state of the nature where it is used?
4. Characterize the decision model and model of the game with nature.
5. Characterize the decision problem and its display of the decision tree.
6. What is the decision under certainty, uncertainty and risk?
7. What types of dominance in the decision model do you know? Describe them.
8. How is the loss matrix constructed in decision theory models?
9. Which decision-making rules do you know? Describe them.
10. Specify and briefly describe the basic procedures for solving decision models.