# Final exam makeup quiz: decision support for forest management

**Total of 20 points**

**Multiple choice (6.5 pts)**

1. Holsapple (2003) defined a decision support system as a computer-based system composed of (circle all that apply) (2 pt):
   1. a hardware platform
   2. a language system,
   3. a presentation system,
   4. people and computers dynamically interacting
   5. a knowledge system,
   6. a problem-processing system
2. Common uses of expert systems include (circle all that apply (1.5 pt)):
   1. Diagnosis
   2. Statistical analysis
   3. Classification
   4. Interpretation
3. Compared to other types of expert systems, NetWeaver is often better at handling (circle all that apply) (1.5 pt):
   1. Dimensionally large problems
   2. Complex problems
   3. Probabilistic reasoning
   4. Abstract problems
4. In the AHP process, weights can be (circle all that apply) (1.5 pt):
   1. derived from a full pair-wise comparison process
   2. derived from an abbreviated pair-wise process
   3. arbitrary values provided by the user.
   4. Non-monotonic

**Matching (1.5 points)**

1. Match the following (1.5 pt):

|  |  |
| --- | --- |
| Ecosystem management | Principles for holistic forest management |
| Sustainable forestry | Describes methods for implementing |
| Adaptive management | Sets objectives for forest management |

**True/False (5 pts)**

1. T or F (1 pt): Software applications and tools that are not properly considered decision support systems (sensu Holsapple) are of limited value in decision support systems architectures.
2. T or F (1 pt): A Bayesian decision model is a kind of an expert system.
3. T or F (1 pt): There is no practical difference between the AHP and outranking methods such as PROMETHEE as far as the analytical tools available (e.g., sensitivity and tradeoff analysis).
4. T or F (1 pt): NetWeaver is a kind of object-oriented rule-base system.
5. T or F (1 pt): In NetWeaver, an advantage of a fuzzy node over a fuzzy argument (specified in a data link) is that the fuzzy membership function is hardwired in the model.

**Fill in the blank (7 pts)**

1. Fill in the blank (1 pt): Expert systems are also known as -based systems.
2. Fill in the blanks (2 pt): Integrating workflow engines into a decision-support framework has significant potential to increase the power and flexibility of a DSS in terms of new or enhanced capabilities for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-zation and -mation.
3. Fill in the blank (1 pt): Linear programming systems have been important as DSS tools for many years, but they also have a certain liability in the contemporary context of environmental management because they are often perceived as .
4. Fill in the blanks (2 pt): According to cognitive theory, people have two fundamental modes of reasoning: and .
5. Fill in the blank (1 pt): Most managers and scientists in the field of natural resources get some training in statistics. Part of the attraction of these groups to Bayesian DSS compared to other types of expert system is that Bayesian DSS are grounded in theory.