CS0601 Introduction to Artificial Intelligence

**Week 22**

**Expert Systems Part 3: uncertain management**

**Part A: Multiple Choices**

1. Consider an expert system for diagnosing diseases. The system might give different answers (conclusions). Which is the following is NOT uncertain?

A. The disease is X

B. The disease is most likely X

C. The disease is either X or Y.

D. The disease is not likely to be X

2. Which of the following is NOT a source of uncertainty:

A. Weak implications

B. Imprecise language

C. Unknown data

D. Combining the views of different experts

E. None of above

3. Which of the following is true?

A. Experts always reach exactly the same conclusions.

B. Experts often have contradictory opinions and produce conflicting rules.

C. Experts never reach exactly the same conclusions.

D. Experts should not have contradictory opinions and produce conflicting rules.

4. Which of the following ARE true?

A. The concept of probability is associated with words like “probably”, “likely”, “maybe”

B. Probability cannot be represented by an exact number.

C. Probability should be strictly less than 1

D. Probability can be expressed mathematically as a numerical index with a range from 0 to 1

**Part B: Fill-in-the-blank/Short-answer Questions**

1. For the rule of "If you fail your coursework and you have problems with the written exam, then you have 80% chance of failing the whole module", is there any uncertainty with it? Why?

2. Calculate the probability of getting the following number from a single throw of a dice:

a) an even number;

b) an odd number;

c) a number less than 6;

d) a number bigger than 0

**Part C: General Format Questions**

1. Please discuss the difference of probability and fuzzy membership in measuring the uncertainty.