ADA PRE-COURSE QUIZ

Multiple Choice. Select the letter that best answers the question.

PART I. DECISION ANALYSIS

1. For a *positively-skewed* distribution, what is the proper sequence?
   a) mean < median < mode
   b) mode < *P50* < median
   c) mode < median < mean
   d) mean < mode < median

2. If a corporation's goal is to maximize value, the decision policy that best achieves this is choosing the alternative having the highest:
   a) most likely value
   b) *P50* value (median)
   c) *NPV*
   d) expected value *NPV*

3. Decision trees are generally better than Monte Carlo simulation for which type of problem?
   a) value of information problems
   b) portfolio problems
   c) probabilistic cash flow analysis
   d) modeling material flows

4. The *risk tolerance coefficient* used in an exponential utility function for risk policy represents:
   a) a scaling factor for risk aversion
   b) the maximum amount the company would risk on any one project
   c) the company's net worth
   d) the maximum amount the company is willing to pay to avoid risk

5. Latin hypercube sampling applies to:
   a) collecting data samples, as in field studies
   b) reducing the time to convergence in Monte Carlo simulation
   c) method of correlating dependent chance events
   d) method of correlating independent chance events

6. The chronology or sequence of nodes in a decision tree generally should follow:
   a) Decision. nodes first, then chance events
   b) the historical sequence of nature
   c) the sequence of the project
   d) independent chance events first

7. If $P(AB) \geq 0$ then
   a) A and B are independent
   b) A and B are not mutually exclusive
   c) A and B are dependent
   d) none of the above

8. Which representation shows the importance of input variables contributing to outcome uncertainty?
   a) tornado chart
   b) influence diagram
   c) scatter diagram of input variables
   d) joint probability table

9. Which is used to revise probabilities based upon new, imperfect information?
   a) influence diagram
   b) addition theorem
   c) stochastic inversion
   d) Bayes' rule

10. Which is the most useful statistic to measure uncertainty?
    a) correlation coefficient
    b) range
    c) standard deviation
    d) median

PART II. MICROSOFT® EXCEL®

1. The Excel program uses what discounting assumption in its **NPV** function?
   a) continuous cashflows
   b) cashflows at period starts
   c) cashflows at period ends
   d) cashflows at mid-periods

2. Algebra for the Excel's Boolean **AND** function is about the same as:
   a) summation of 0s and 1s
   b) multiplication of 0s and 1s
   c) addition of 0s and 1s
   d) ⊕ operator

3. If cell **B3** contains a logic function, then an expression equivalent to
   =IF(B3,10,5) is:
   a) = B3*(10)+(1-B3)*5
   b) **= B3*10-(1-B3)*5**
   c) **= B3*10**
   d) none of the above

4. Business models often use the **EXP** function for:
   a) adding an explanatory note to a cell
   b) calculating x to the nth power
   c) calculating a projection that converges exponentially
   d) raising e to a power, where e is the natural log base

5. The difference between Excel's **LN** and **LOG** functions is:
   a) **LN** is the inverse of **LOG**.
   b) **LN** is the complement of **LOG**.
   c) **LN** and **LOG** are equivalent.
   d) **LN** and **LOG** are the same except for the reference base

6. Excel's Goal Seek capability:
   a) matches a calculation outcome to a specified value by changing one of the input cells
   b) optimizes (or minimizes) a calculation cell by changing one or more input parameters

   c) recognizes the satisficing condition that all goals have been satisfied
   d) finds a combination of decision variables that satisfies all goals or constraints for the problem

7. Defining cell and range names is useful mostly to:
   a) provide meaningful labels for charts
   b) provide meaningful names to report and chart headings
   c) reduce formula errors
   d) drawing arrows to where-used on a worksheet

8. Excel evaluates which function first?
   a) addition
   b) multiplication
   c) division
   d) exponentiation

9. An Excel **IF** statement is useful for:
   a) asking for user input
   b) conditional branching logic
   c) specifying a font color
   d) Boolean "OR" operation

10. In Excel **IF** statements, true may be represented by:
    a) **True** or **True()**
    b) **1**
    c) **-1**
    d) all of the above

To obtain your score, the instructors' answers, plus another 11 DA (non-Excel) practice questions with answers, please email your numbered answers to either instructor:

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