**Business Modelling 5 Decision Making**

1. Managers make the decisions within an organisation. is this statement:
   1. true
   2. sometimes true
   3. false
2. Are decisions easy when there is only one event?
   1. yes
   2. usually
   3. no

3. What is a decision-making criterion?

* 1. an alternative course of action
  2. the combination of an alternative course of action and a uncontrollable event
  3. another name for a payoff matrix
  4. a simple rule to help choose the best course of action

1. Which decision-making criterion assumes the worst will happen and then looks for the best possible payoff from these?
   1. The maximin criterion
   2. The minimax regret criterion
   3. The maximax criterion
   4. The expected value criterion
2. With the following payoff matrix, which action would a maximin criterion recommend?

A B C

1 10 5 2

2 4 8 4

3 3 5 6

4 5 6 2

1. Action 1
2. Action 2
3. Action 3
4. Action 4
5. With the following payoff matrix, which action would a minimax regret criterion suggest?

A B C

1 10 5 2

2 4 8 4

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1. Action 1
2. Action 2
3. Action 3
4. Action 4
5. A problem has 4 alternative courses of action, A, B, C, and D, with 2 uncontrollable events X, and Y. Which action would the maximin criterion recommend with the following payoff table?

X Y

A £20000 -£10000  
B £2000 £5000  
C -£1000 £8000  
D 0 £6000

* 1. A
  2. B
  3. C
  4. D

1. A problem has 4 alternative courses of action, A, B, C, and D, with 2 uncontrollable events X, and Y. Which action would the minimax regret criterion recommend for the following payoff table?

X Y

A £20000 -£10000  
B £2000 £5000  
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* 1. B and D are equally desirable
  2. B and C are equally desirable
  3. A and C are equally desirable
  4. A and B are equally desirable

1. If events X and Y are equally likely, which action would the expected value suggest?
   1. A
   2. B
   3. C
   4. D
2. Which of the following statements about decision trees is not true?
   1. A decision point is represented by a square node
   2. Each route through the tree represents one possible combination of decisions and uncontrollable events
   3. A payoff can be assigned to each route through the tree
   4. A decision tree is only appropriate when there is only one decision to make and one set of uncontrollable events.
3. How do you find the value at a decision point in a decision tree?
   1. from the following node with the best value
   2. calculating the expected value of following nodes
   3. calculating the expected value of preceding nodes
   4. from the value of the terminal node
4. How do you find the value of an uncertainty node in a decision tree?
   1. from the following node with the best value
   2. calculating the expected value of following nodes
   3. calculating the expected value of preceding nodes
   4. from the value of the terminal node

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| Question | Answer |
| 1 | A |
| 2 | C |
| 3 | D |
| 4 | A |
| 5 | B |
| 6 | A |
| 7 | B |
| 8 | D |
| 9 | A |
| 10 | D |
| 11 | A |
| 12 | A |