

# Exam: Knowledge Management and Business Intelligence

## June 2017

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### 12 Multiple Choice Questions on these topics

1. Neural networks and how to avoid overfitting (cf example question)
2. Certainty Factors (uncertainty) : if farmer X says it will rain (0.8) then it will rain (0.7) =
  - a) 0.8
  - b) 0.7
  - c) 0.56
  - d) 0.75
3. Decision modelling/mining presentation given by Bazhenova E.
4. When not to use backward search or goal driven search (cf example question)
5. Clustering (Hierarchical (Agglom & Divisive) , Kmeans & PAM )
6. Feature Selection ( Wrapper / Filter / PCA / Normalization)
7. Network Models / Social Networks
8. Sequence Mining: which is a correct subsequence?
9. Ensembles: which method uses different types of algorithms to then combine these outcomes in a new learner? choice between Bagging - Boosting - STACKING - Random Forests
10. Visualization: which one of the statements is correct as seen in the slides?  
**(Correct answer: The representation of numbers, as physically measured on the surface of the graph itself, should be directly proportional to the numerical quantities represented) other options where surrounding color, deletion of parts of the graph and an incorrect statement on representing monetary units.**
11. Question on Conflict Resolution as in the example questions.
12. Performance Metrics : give the write naming sequence for these 3 metrics (slide 7 evaluation)
  - a)  $TP/(TP+FN)$
  - b)  $TP+TN/(TP+TN+FP+FN)$
  - c)  $TN/(TN+FP)$

### APRIORI

Impurity Calculation: given a tree; which split is better

- a) t: 400 - 400 / l: 300 - 400 / r: 100-0
- b) t: 400 - 400 / l: 200-400 / r: 200-0

How vs Why in Knowledge Based Systems

12 MAKES: example question => Service Based & Low Volatility => Codification