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 | **Date:10-04-2019**REG NO: |  |
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| **ST. JOSEPH’S COLLEGE (AUTONOMOUS), BANGALORE-27** |
| **M.Sc COMPUTER SCIENCE - II SEMESTER** |
| **SEMESTER EXAMINATION: APRIL 2018** |
| **CS 8218- Machine Learning** |
|  |  |  |  |  |  |
| **Time- 2 1/2 hrs** |  | **Max Marks-70** |
|  |  |  |  |  |  |
| **This paper contains ONE printed page and ONE part** |
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**Answer any SEVEN questions (10X7 )**

1. a) Write the differences between AI and machine learning. (5 marks)

b) With an example explain supervised and unsupervised learning. (5 marks)

1. a)What is dimensionality reduction? Mention its types. (3 marks)

b) Describe how principal component analysis is carried out to reduce dimensionality of data sets. (7 marks)

1. Define perceptron. Explain multi-layer perceptron model with a neat diagram.(10 marks)
2. a)Summarize the working of k – means clustering algorithm with suitable example. (5 marks)

b)Explain how decision tree can be used for classifying a data set. (5 marks)

1. Explain hidden Markov models in detail. (10 marks)
2. a) Name the key terms in support vector machine. (2 marks)

b) Describe the working behaviour of support vector machine with diagrams.(8 marks)

1. Describe the working of agglomerative hierarchical clustering with suitable example.

Draw the dendogram. (10 marks)

1. a) Define baye’s theorem. (2 marks)

b)Explain how naïve baye’s algorithm is useful for learning and classifying dataset.(8 marks)

1. a) Write short notes on reinforcement learning. (5 marks)

b)What is belief propagation? (5 marks)

**CS8218\_A\_19**