Reg. No._____   Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

FOURTH SEMESTER MCA DEGREE EXAMINATION, DEC 2018

RLMCA208 INTRODUCTION TO MACHINE LEARNING

Max. Marks: 60   Duration: 3 Hours

PART A

(Answer all the questions. Each question carries 3 marks)

1. Explain about machine learning and the different techniques need to select the right features

2. Explain in detail about k-NN with its choice of k

3. Explain in detail about simple linear regression and Ordinary least squares estimation Correlations

4. Write a note on perceptron rule and create a neural network of AND gates

5. What is kernel function in SVM and how Gaussian kernel works

6. What is confusion matrix and explain precision and recall

7. The values of capacitances, in micro farads, of ten capacitors selected at random from a large batch of similar capacitors are: 34.3, 25.0, 30.4, 34.6, 29.6, 28.7, 33.4, 32.7, 29.0 and 31.3. Determine the standard deviation from the mean for these capacitors, correct to 3 significant figures.

8. Explain the principle of random forest algorithm with suitable example

PART B

(Answer all the questions. Each question carries 6 marks)

9. Explain PCA with suitable example

OR

10. Differentiate between Uniform and normal distribution with suitable example

11. Describe Naive Bayes classifier with suitable examples.

OR

12. Explain Joint probability, Conditional probability and Naive Bayes theorem

13. Describe Decision tree algorithm with suitable examples.

OR

14. Write a note on Regression Methods and how it helps in supervised learning

15. Explain Back-propagation algorithm with suitable example

OR

16. Explain Activation functions, cost function and its optimization

17. Write a note on finite dimensional vector spaces and Hyper planes

OR

18. Differentiate between linear, non-linear and multi class SVM

19. Explain bagging and boosting

OR

20. Explain the evaluation criteria for different learning models with suitable example

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