

**GOVERNMENT COLLEGE (AUTONOMOUS), RAJAHMUNDRY**

(Accredited by NAAC "A+" Grade)

**DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS**

Semester-IV

**MACHINE LEARNING USING PYTHON**

MODEL QUESTION PAPER

**Time: 2 ½ Hrs.**

**Max Marks: 50**

**SECTION - I**

**Answer any FIVE Questions**

**5 X 3= 15M**

1. What are the applications of VC Dimension?
2. Explain about Inductive bias.
3. Explain the concept of a Perceptron with a neat diagram.
4. Write about Decision Tree.
5. Write about K-means.
6. Explain about error backpropagation.
7. What are the Guidelines for machine learning experiments.
8. What is the difference between CV and K-Fold CV?

**SECTION - II**

**Answer following question**

**5 X 7 = 35M**

**9. Explain about machine learning applications with examples?**

(OR)

10. Explain the following

i) Vapnik-Chervonenkis (VC) dimension.

ii) Probably Approximately Correct (PAC) learning

11. Explain about Bayesian linear regression.

(OR)

12. Explain about Linear Classification Models

13. Discuss in detail about K-means in unsupervised learning.

(OR)

14. Explain about Instance Based Learning with example .

15. Explain in detail about gradient descent optimization

(OR)

16. Explain about ReLU activation function

17. Explain about resampling methods.

(OR)

18. Explain about t test and K-fold CV paired  $t$  test