



Reg. No. :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**Question Paper Code : 47118**

M.E./M.Tech. DEGREE EXAMINATION, JANUARY 2018

First Semester

Computer Science and Engineering

CP 5191 – MACHINE LEARNING TECHNIQUES

(Common to M.E. Computer Science and Engineering (With Specialization  
Networks))

(Regulations 2017)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

PART – A

(10×2=20 Marks)

1. List out the types of machine learning.
2. Define perceptron.
3. What is a spline ?
4. State the applications of radial basis function network.
5. Write the concept behind ensemble learning.
6. Distinguish between classification and regression.
7. What is dimensionality reduction ?
8. Define evolutionary computation.
9. What is sampling ?
10. Define Bayesian network.

47118



PART – B

(5×13=65 Marks)

11. a) Describe the perspectives and issues in machine learning.  
(OR)  
b) Discuss linear regression with an example.
12. a) Explain multi-layer perceptron model with a neat diagram.  
(OR)  
b) Describe the working behaviour of support vector machine with diagrams.
13. a) Elaborate on Classification and Regression Trees (CART) with examples.  
(OR)  
b) Summarize K-means algorithm and group the points (1, 0, 1), (1, 1, 0), (0, 0, 1) and (1, 1, 1) using K-means algorithm.
14. a) Describe how principal component analysis is carried out to reduce dimensionality of data sets.  
(OR)  
b) i) Write short notes on reinforcement learning.  
ii) What is meant by isomap? Give its significance in machine learning.
15. a) Discuss Markov Chain Monte Carlo Methods in detail.  
(OR)  
b) Explain hidden Markov models in detail.

PART – C

(1×15=15 Marks)

16. a) Choose two destination with different routes connecting them. Apply genetic algorithm to find the optional path based on distance.  
(OR)  
b) Use decision tree to classify the students in a class based on their academic performance.
-