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**Question Paper Code: 55Q21**

Ph.D COURSE WORK EXAMINATION, MAY 2018

Elective

Course Work

15PCS521 - MACHINE LEARNING

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 20 = 100 Marks)

1. (a) Explain the Machine Learning Approach to Knowledge Acquisition. CO1-U (20)  
Or  
(b) Explain detail about theory of generalization. CO1-U (20)
2. (a) Explain Support Vector Classification in details CO2- U (20)  
Or  
(b) Determine and report the performance of SVMs for the same set of kernels and the same sets of features. To determine the trade-off parameter C, use 10-fold cross validation with the ten folds previously defined (let the other parameters of polynomial kernels in libsvm,  $\gamma$  and c, be equal to their default values 1). Give a plot comparing the performance of SVMs with that of the Navie algorithm for each value of P. CO2- App (20)
3. (a) Explain detail about navie Bayes classifier. CO3-U (20)  
Or  
(b) Explain major types of learning. CO3-U (20)
4. (a) Discuss the issues in decision tree learning. CO4-U (20)  
Or  
(b) Explain detail about kernel regression. CO4-U (20)

5. (a) Illustrate genetic algorithms and evolutionary programming. CO5-App (20)  
Or  
(b) Identify Why Game Theory at COLT. CO5-App (20)