Exam.Code:0925
Sub. Code: 6547

2074

B.E. (Information Technology)
Seventh Semester
IT-702: Machine Learning

Time allowed: 3 Hours **Max. Marks: 50**

NOTE: Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.

x-x-x

1.	a.	What do you understand by noise in the data? How it affects the results?	2
	b.	How is KNN different from k-means clustering? Explain briefly.	2
	c.	Define Precision and Recall.	2
	d.	When should you use classification over regression? Explain using example.	2
	e.	What do you understand by over fitting of data? Give any two methods to avoid over fitting.	2
		UNIT I	
2.	a	What is Linear Regression? Explain in detail using example and list all the assumptions to be met before starting with linear regression.	8
	b	Differentiate between regression and classification.	2
3.	a	How generative learning is different from discriminative learning with respect to accuracy and handling of missing data? List the different classifiers used in both kind of learning.	5
	b	Explain Bayesian estimation and maximum likelihood estimation in generative learning.	5
4.	a	What are Artificial Neural Networks? Explain any three activation functions used in neural networks?	5
	b	Explain the Feed Forward Neural Network using example. List the applications areas where it can be used.	5
		UNIT II	
5.	a	What are Bayesian Networks? Explain using Example. What do they predict?	4
	b	What are hidden markov models used for? What is the difference between Markov model and hidden Markov model?	6
6.		Explain expectation maximization algorithm and when we need to use it? What is Gaussian mixture density estimation?	10
7.	a	What do you mean by Feature Extraction? Explain Principal Component Analysis (PCA) algorithm for feature extraction.	5
	b	What is Feature selection? Explain any two methods for feature selection.	5

x-x-x