Course Code: 20CS5005 **R20**

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR (AUTONOMOUS)
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QUESTION BANK (DESCRIPTIVE)

Subject with Code: Machine Learning (20CS5005)

Year & Sem: I M.Tech & II-Sem **Course & Branch**: M.Tech - CSE

UNIT –I
SUPERVISED LEARNING

1.		Explain in detail distance based methods?	[L2] [CO1]	**[12M]**
2.		What is a decision tree? Explain in detail?	[L1] [CO1]	**[12M]**
3.		Discuss the nearest neighbor with a neat sketch?	[L2] [CO1]	**[12M]**
4.		Write a detail note on naïve bayes linear models?	[L1] [CO1]	**[12M]**
5.		What is support vector machine? Discuss in detail?	[L1] [CO1]	**[12M]**
6.		Explain the following		
	a	Linear regression in Supervised Learning	[L2] [CO1]	**[6M]**
	b	Logistic Regression in Supervised Learning	[L2] [CO1]	**[6M]**
7.		Define Multiclass Classification with a neat diagram?	[L1] [CO1]	**[12M]**
8.		Outline in detail on kernel methods?	[L2] [CO1]	**[12M]**
9.		Examine ranking and its concepts in Supervised Learning?	[L3] [CO1]	**[12M]**
10.		What is the significance of classification & explain their types?	[L1] [CO1]	**[12M]**

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UNIT –II
UNSUPERVISED LEARNING

1.	Define clustering. What are the different types of clustering explain in detail?		[L1][CO2]	**[6M]**
2.	Explain generative models in detail		[L2][CO2]	**[6M]**
3.	Discuss PCA and its kernel PCA?		[L2][CO2]	**[6M]**
4.	Explain the following			
	a	Matrix completion in Unsupervised Learning	[L2][CO2]	**[6M]**
	b	Generative Models in Unsupervised Learning	[L2][CO2]	**[6M]**
5.	How Matrix factorization works in PCA. Explain in detail?		[L2][CO2]	**[6M]**
6.	Explain PCA and its process with their applications.		[L2][CO2]	**[6M]**
7.	Explain in detail the concept of Kernel and K- Means?		[L2][CO2]	**[6M]**
8.	Demonstrate Mixture models in Unsupervised machine Learning.		[L2][CO2]	**[6M]**
9.	Explain Latent factor model and its uses?		[L2][CO2]	**[6M]**
10.	Define Matrix Completion and its uses?		[L1][CO2]	**[6M]**

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UNIT – III

1.	Explain the evaluation technology of machine learning algorithm?	[L2][CO3]	**[12M]**
2.	Define Model Selection & Discuss in detail?	[L1][CO3]	**[12M]**
3.	Define statistical theory how it is performed in machine learning?	[L1][CO3]	**[12M]**
4.	What is Boosting? Discuss with neat relevant example?	[L1][CO3]	**[12M]**
5.	Explain the concept of Bagging with its uses?	[L2][CO3]	**[12M]**
6.	What is Random forest? Explain with example?	[L1][CO4]	**[12M]**
7.	Explain any 2 machine learning algorithms and their performance factors?	[L2][CO4]	**[12M]**
8.	Discuss Linear Discriminate Analysis algorithm with neat sketch?	[L2][CO4]	**[12M]**
9.	Discuss Learning Vector Quantization algorithm with neat sketch?	[L2][CO4]	**[12M]**
10.	Explain boosting and ADA boosting algorithm with neat sketch?	[L2][CO4]	**[12M]**

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UNIT – IV

1.	What is Sparse Modelling? Explain its functions?		[L1][CO5]	**[12M]**
2.	Explain the concept of Modelling sequence timing series data?		[L2][CO5]	**[12M]**
3.	What is deep learning? Discuss its importance?		[L1][CO5]	**[12M]**
4.	Illustrate the following concepts			
	a)	Semi supervised learning	[L3][CO5]	**[6M]**
	b)	Active learning	[L3][CO5]	**[6M]**
5.	Discuss scalable Machine learning with distributed & online?		[L2][CO5]	**[12M]**
6.	How does inference in graphic model occurs explain the technology?		[L2][CO5]	**[12M]**
7.	What is reinforcement learning explain its detailed concepts?		[L1][CO5]	**[12M]**
8.	Define Bayesian learning & how it impacts in machine learning?		[L1][CO5]	**[12M]**
9.	Discuss the feature representation learning.		[L2][CO5]	**[12M]**
10.	Illustrate how to estimate sparse modeling?		[L3][CO5]	**[12M]**

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UNIT – V

1.	Examine in detail various learning techniques.		[L3][CO6]	**[12M]**
2.	Compile the recent trends in various learning techniques of machine learning.		[L6][CO6]	**[12M]**
3.	Explain IOT and its features with any one application?		[L2][CO6]	**[12M]**
4.	Give a detail note on Classification methods for IOT with neat sketch.		[L2][CO6]	**[12M]**
5.	Explain the various models for IOT applications discuss with example?		[L2][CO6]	**[12M]**
6.	What are advantages and disadvantages of IOT discuss with real time example?		[L1][CO6]	**[12M]**
7.	Write a note on			
	a.	Trust for IoT & Security and Privacy for IoT	[L1][CO6]	**[6M]**
	b.	Physical IoT Security	[L1][CO6]	**[6M]**
8.	Explain different networking and communication model in IoT.		[L2][CO6]	**[12M]**
9.	Describe the properties of smart physical objects.		[L2][CO6]	**[12M]**
10.	Interpret various design principles for IoT		[L3][CO6]	**[12M]**

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