

**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR**

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QUESTION BANK (DESCRIPTIVE)**Subject with Code : INTRODUCTION TO MACHINE LEARNING(20CS0904)****Course & Branch : B. Tech – CSM****Year & Sem : III B.Tech & I-Sem****Regulation : R20**

UNIT –I
INTRODUCTION MACHINE LEARNING

1	Describe about Machine Learning with their predictions?	[L2][CO1]	[12M]
2	Define basic concepts in Machine Learning.	[L1][CO1]	[12M]
3	Discuss the Machine Learning techniques	[L2][CO2]	[12M]
4	Explain about Supervised Learning techniques.	[L2][CO3]	[12M]
5	Explain the Supervised Learning techniques.	[L2][CO2]	[12M]
6	Explain the Reinforcement Learning techniques.	[L2][CO3]	[12M]
7	List the Machine Learning Algorithm in testing near to excepted.	[L1][CO1]	[12M]
8	Write about brief explanation for Probability theory	[L3][CO1]	[12M]
9	Differentiate the Bias and Variance tradeoff in Machine Learning.	[L4][CO1]	[12M]
10	Illustrate the concept of turning data into Probabilities using ML.	[L3][CO3]	[12M]

UNIT –II
CLASSIFICATION AND REGRESSION

1	Explain about machine learning classification and its usage.	[L2] [CO1]	[12M]
2	Define how decision tree plays vital role in real life.	[L1] [CO1]	[12M]
3	Describe about Univariate Tree prediction.	[L1] [CO1]	[12M]
4	Describe about Multivariant Tree prediction.	[L1][CO1]	[12M]
5	Explain the role of Pruning in machine learning.	[L2][CO1]	[12M]
6	Explain about Linear Regression and its types.	[L2][CO3]	[12M]
7	List out to possible for find the best fit line using Linear regression.	[L1][CO1]	[12M]
8	Describe about Multiple linear regression and MLR equations	[L1][CO2]	[12M]
9	Explain in details of types of Regression model in ML.	[L2] [CO2]	[12M]
10	Explain about Application of linear regression in machine learning.	[L2] [CO1]	[12M]

UNIT –III
LOGISTIC REGRESSION

1	a	What is logistic discrimination?	[L1][CO3]	[4M]
	b	Explain logistic regression in detail?	[L2][CO3]	[8M]
2	a	Explain types of logistic regression?	[L2][CO3]	[6M]
	b	Write the steps used to implement logistic regression?	[L3][CO3]	[6M]
3	a	List out the features of logistic regression?	[L1][CO3]	[6M]
	b	Define logistic regression? Explain types of logistic regressions?	[L1][CO3]	[6M]
4		What is multilayer perceptron? Explain in detail.	[L1][CO3]	[12M]
5	a	State and explain implementation of multilayer perceptron.	[L1][CO4]	[6M]
	b	What are the advantages of multilayer perceptron?	[L1][CO4]	[6M]
6		Explain back propagation algorithm with example?	[L2][CO4]	[6M]
7	a	Explain back propagation algorithm with example.	[L2][CO4]	[6M]
	b	What are the features of back propagation algorithm?	[L1][CO4]	[6M]
8		Explain Bayesian logistic regression in detail.	[L2][CO4]	[12M]
9		Distinguish logistic regression and Bayesian logistic regression.	[L4][CO3]	[12M]
10	a	Explain back propagation algorithm briefly?	[L2][CO4]	[6M]
	b	What are the drawbacks of logistic regression?	[L1][CO4]	[6M]

UNIT –IV
BAYESIAN DECISION THEORY AND PARAMETRIC METHODS

1	Explain Bayesian decision theory in detail.	[L2][CO4]	[12M]
2	Write are the classifications in Bayesian decision theory? State with example?	[L3][CO4]	[12M]
3	Describe the losses obtained in Bayesian decision theory?	[L1][CO5]	[12M]
4	Explain discriminant functions?	[L2][CO4]	[12M]
5	Define parametric methods? explain maximum likelihood estimation.	[L1][CO4]	[12M]
6	State and explain the following a. Bernoulli density b. Multinomial density c. Gaussian density	[L1][CO4]	[12M]
7	a Write about bias and variance?	[L3][CO4]	[6M]
	b Describe the Bernoulli density? Give an example?	[L1][CO3]	[6M]
8	Write about bias and variance?	[L3][CO5]	[12M]
9	a What is bias/variance dilemma? Explain in detail?	[L1][CO3]	[6M]
	b What is estimator? explain briefly	[L1][CO4]	[6M]
10	Explain various model selection procedures?	[L2][CO4]	[12M]

UNIT –V

MULTIVARIATE METHODS

1	Write about multivariate methods?	[L3][CO5]	[12M]
2	What is parameter estimation? Explain in detail?	[L1][CO5]	[12M]
3	Explain multivariate normal distribution in detail?	[L2][CO4]	[12M]
4	a List the features of multivariate normal distribution?	[L1][CO6]	[6M]
	b Write the applications of multivariate normal distribution?	[L3][CO4]	[6M]
5	State and explain tuning complexity?	[L1][CO5]	[12M]
6	a Write some features of multivariate normal distribution?	[L3][CO5]	[6M]
	b List few parameter estimation techniques?	[L1][CO3]	[6M]
7	Explain multivariate regression in detail?	[L2][CO5]	[12M]
8	a Explain how multivariate regression is implemented?	[L3][CO5]	[6M]
	b Describe the uses of multivariate regression?	[L1][CO4]	[6M]
9	Explain multivariate normal distribution? Explain its features and applications?	[L2][CO5]	[12M]
10	a Explain maximum likelihood estimation in detail?	[L2][CO5]	[6M]
	b What is minimum mean square error estimation?	[L1][CO4]	[6M]

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