BACHELOR OF TECHNOLOGY (CBCS) (2020 COURSE)

Information Technology

B.Tech.Sem - V :SUMMER : 2023

SUBJECT : ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

Day : Thursday Time : 10:00 AM-01:00 PM

Date : 11-05-2023 **S-24731-2023** Max. Marks : 60

N.B.

1) All questions are **COMPULSORY.**
2) Figures to the right indicate **FULL** marks.
3) Assume suitable data if necessary.
4) Use of non-programmable calculator is allowed.

Q.1	Explain the terms artificial intelligence, machine learning and deep learning. Write applications specific to deep learning.	(10)
	OR	
Q.1	Which parameters should be considered for selection of supervised and unsupervised leaning models. Justify your answer with example.	(10)
Q.2	Explain principal component analysis algorithm in detail.	(10)
	OR	
Q.2	Explain multi dimensionality algorithm and its applications.	(10)
Q.3	Explain the concepts of precision and recall with formulae and example.	(10)
	OR	
Q.3	Explain the significance of hyperplane in support vector machine algorithm.	(10)
Q.4	Explain the need of Huber loss and quantile loss functions with formulae and terms involved.	(10)
	OR	
Q.4	When lasso regression and ridge regression algorithms are used over linear regression. Explain with formulae and example.	(10)
Q.5	Explain the importance of hyper-parameters. How it improves efficiency of an algorithm?	(10)
	OR	
Q.5	How efficiency of supervised learning models is improved?	(10)
Q.6	What is the need of Bagging and boosting?	(10)
	OR	
Q.6	Explain the working of random forest algorithm.	(10)

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