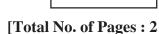
Total No. of Questions : 8]

PA-1677





[Max. Marks : 70

[6]

[5927]-465

B.E. (Computer Engineering) HONOURS IN DATA SCIENCE **Machine Learning and Data Science** (2019 Pattern) (Semester - VII) (410501)

Time : 2¹/₂ Hours]

Instructions to the candidates :

- 1) Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.
- Neat diagrams must be drawn wherever necessary. 2)
- Figures to the right indicate full marks. 3)
- Assume suitable data, if necessary. **4**)
- Explain K-Means algorithm with an example. *Q1*) a)
 - How to measure the quality of clustering? Explain any three measures.[6] b)
 - What are different types of partitional clustering? Explain any two of c) them. [6]
- Explain KNN algorithm with example. *Q2*) a)
 - .1 C1 Cluster the following dataset using Agglomerative Hierarchical clustering b) <u>5</u>3[6] tech

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Also show intermediate steps

What is the role of dendrograms in choosing number clusters in hierarchical c) clustering? [6]

P.T.O.

Q3) a)	Enlist limitations of MLP.	[4]
b)	What are the types of artificial neural network?	[6]
c)	What is the role of the activation functions in Neural Networks?	List
	down the names of some popular activation functions used in Ne	
	Networks.	[7]
	OR OR	
Q4) a)	Explain Multilayer Perception.	[4]
b)	Explain Generalized Delta Learning Rule.	[6]
c)	How does the learning rate affect the training of the Neural Netwo	ork?
	What do you mean by Hyperparameters?	[7]
Q 5) a)	Explain the different layers in CNN. Explain the significance of the RI	
	Activation function in Convolution Neural Network	[6]
b)	Illustrate Long-short Term Memory along with its structure.	[6]
c)	Explain the terms "Valid Padding" and "Same Padding" in CNN.	
7	down the Hyperparameters of a Pooling Laver.	[6]
	OR	
Q6) a)	Explain CNN Architecture along with diagram.	[6]
b)	Explain Recurrent Neural Network.	[6]
c)	Illustrate Gradient descent optimization using an example.	[6]
		20
Q7) a)	Explain the process of text preprocessing.	[6]
b)	Write short note on document representation.	<u>[6]</u>
c)	What are the practical uses of feature extraction?	[5]
	OR N	
Q8) a)	What are various text similarity measures? Explain any two of them.	[6]
b)	Explain various feature selection methods.	[6]
c)	Illustrate tokenization with an example.	[5]
5		[-]
	$\nabla \nabla \nabla \nabla = \mathcal{O}^* \mathcal{O}^*$	
[5927]	What are various text similarity measures? Explain any two of them. Explain various feature selection methods. Illustrate tokenization with an example. $\nabla \nabla \nabla \nabla$	
[3741]	-465 2	