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Even Semester Examination-2023

Paper Name: Natural Language Processing
Time: 3 Hours

Paper Code: BTCSE MOOCS1
Maximum Marks: 75

Section A

All questions are compulsory

(7 x 5 = 35)

S. No.	Questions	Marks	CO	BL
Q.1	What is Natural Language Processing? Discuss with some applications.	5	CO1	L2
Q.2	What are the first few steps you'll take before applying a natural language processing (NLP) machine-learning algorithm on a corpus?	5	CO1	L3
Q.3	Differentiate top -down and bottom -up parsers with an example.	5	CO1	L2
Q.4	What is text summarization? What are main stages of text summarization?	5	CO2	L6
Q.5	Analyze the significance of Word Sense Disambiguation in NLP. Explain any one WSD method.	5	CO3	L5
Q.6	What is word embedding? Explain two techniques of word embedding?	5	CO5	L4
Q.7	What is sentiment Analysis? Write some Application where sentiment analysis is used.	5	CO4	L3

Section-B

Attempt any Four Questions out of Six

(4 x 10 = 40)

S. No.	Questions	Marks	CO	BL
Q.1	What is the need of NLP system? Why is it difficult to process the natural languages?	10	CO5	L2
Q.2	Define the following with respect to Information Retrieval: a) Vector Space Model b) Term Frequency c) Inverse Document Frequency d) Term Frequency-Inverse Document Frequency (TF-IDF)	10	CO4	L3, L1
Q.3	Answer the following: a) What is information Extraction? Write some application of information extraction.	10	CO3	L4

	b) What is relation Extraction? What are various approaches of relation extraction?			
Q.4	What is topic modeling? Explain Latent Dirichlet Allocation (LDA) topic modeling with example.	10	CO5	L2, L6
Q.5	What do you understand by distributional semantics? Explain the following: a) Continuous Bag of Words Model (CBOW) b) Skip gram	10	CO1	L5
Q.6	Write short note on the following: a) N-gram b) Dependency parsing c) POS tagging d) Pointwise Mutual Information (PMI) e) One hot vector	10	CO4	L2

BL – Bloom's Taxonomy Levels (1- Remembering, 2- Understanding, 3- Applying, 4- Analyzing, 5- Evaluating, 6- Creating)

CO-Course Outcomes

*****End of Paper*****