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ANNA UNIVERSITY  
B.E./B.TECH/B.ARCH/ (FULL TIME) – END SEMESTER EXAMINATIONS,  
NOV/DEC-2023

COMPUTER SCIENCE AND ENGINEERING  
SEVENTH SEMESTER  
CS6030-NATURAL LANGUAGE PROCESSING (RUSA 2019)

Time: 3 hrs

Max. Marks 100

CO1	To Understand basics of Linguistics, Probability & Statistics
CO2	To Study Concepts of Morphology, Syntax, Semantics & Pragmatics
CO3	To Learn various Machine Learning Techniques used in NLP
CO4	To Understand Statistical Approaches to Machine Translation
CO5	To Understand Deep Learning for NLP

BL- Bloom's Taxonomy Levels

(L1-Remembering, L2- Understanding, L3-Applying, L4-Analysing, L5-Evaluating, L6-Creating)

Part-A (10\*2=20)

Answer all Questions

Sl.No	Answer the following	Marks	CO	Bloom
1	Give example statements for Pragmatic Ambiguity.	2	2	3
2	What are the applications of Earley Algorithm?	2	2	2
3	Define: Term Frequency, Inverse Document Frequency	2	3	1
4	Identify the Morphological Type: 1. Important to Bill 2. Looked Up the Tree	2	2	2
5	Distinguish: Anaphora & Cataphora	2	2	2
6	Draw the block diagram for N-gram Topic Modelling.	2	5	6
7	What are the challenges in handling Word Sense Disambiguation during Machine Translation?	2	4	2
8	What is LSI?	2	1	1
9	Why is Independence assumption followed in Naïve Bayes?	2	1	4
10	How is Bag-of-words model useful in Machine Translation?	2	4	5

Part-B (8\*8=64)

(Answer any 8 Questions)

Sl.No	Answer the following	Marks	CO	Bloom
11	Explain Dependency Parsing with 2 examples of your choice.	8	2	3
12	Discuss various POS tags in English. Provide an example text and tag the POS within the text using POS markers.	8	2	1
13	Explain Lexicon, Lexeme and the different types of relations that hold between lexemes.	8	2	2
14	Is ABSTRACT a summary of research paper? Explain with block diagram on arriving at a better summarisation system, if any.	8	4	3
15	Discuss ways of using word embedding using pre-trained Language Model? Justify.	8	5	3
16	Discuss the processes involved in creating a Recommender System for Re-targeted Ads Generation in Social Media. Please depict using a block diagram and support with an explanation.	8	5	4
17	Draw ambiguous parse trees for "I saw a man with a telescope" and "I saw a man with a telescope on the boat". Explain the ambiguity.	8	2	2
18	Discuss with block diagram how Language Models are used in developing a Mobile App for Dyslexia Children.	8	4	5
19	Explain and Show examples for distinguishing Information Extraction vs. Information Retrieval.	8	3	4
20	How do you apply Machine Translation techniques to dynamically translate the Quora results? Explain with block diagram.	8	4	6
21	State & Explain any 3 different evaluation metrics available for Text Classification.	8	3	2
22	Explain Vector Space Model with neat illustrated example.	8	3	3

Part-C (8\*2=16)

Sl.No	Answer the following	Marks	CO	Bloom
23	Compare and Contrast word embedding models through 1 sample example paragraph.	8	3	4



24	Give a sample paragraph and explain the process for obtaining N-grams from the text.	8	2	5
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