

Code No: 156FK

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**B. Tech III Year II Semester Examinations, July - 2023****NATURAL LANGUAGE PROCESSING****(Common to (CSE(AI&ML) and CSE(N))****Time: 3 Hours****Max. Marks: 75****Note:** i) Question paper consists of Part A, Part B.

ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.

iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

PART – A**(25 Marks)**

- 1.a) Define Morphemes. [2]
b) Identify the morphological type (Noun, Verb and Adjective) of the following segments of the sentences
1) Important to Bill
2) Looked up the tree. [3]
c) Explain treebank in NLP. [2]
d) What do you mean by chart parsing in NLP? [3]
e) What is shallow semantic parsing? [2]
f) State the difference between horizontal scoping and vertical scoping in semantic interpretation. [3]
g) What is the predicate of the sentence “She is running in the park”? [2]
h) List out the applications of predicate-argument structure analysis in NLP. [3]
i) How does language modeling contribute to discourse processing? [2]
j) List out the types of language models in natural language processing. [3]

PART – B**(50 Marks)**

- 2.a) Write short notes on the components of NLP.
b) Write short notes on the steps of NLP. [5+5]
OR
3.a) List the importance and challenges of NLP.
b) Explain lexicon, lexeme and the different types of relations that hold between lexemes. [5+5]

4.a) Elaborate the models for ambiguity resolution in parsing.
b) What are the benefits of using a treebank for syntax analysis? [5+5]
OR
5.a) Explain Top-down parsing and Bottom-up parsing with example.
b) What are the challenges in creating and using treebanks? [5+5]

6. Explain in detail about semantic interpretation. [10]

OR

7. Explain the methods of word sense systems. [10]

8. Describe the process of dependency parsing and how it can be used to extract predicate-argument structure. [10]

OR

9. How does Semantic Role Labeling (SRL) contribute to the identification of predicate-argument structure? [10]

10.a) Explain about the cross-lingual language model in detail.

b) Summarize the application areas of Discourse processing in Natural Language Processing. [5+5]

OR

11.a) Explain the concept of cohesion in discourse processing.

b) Discuss the importance of reference resolution in discourse processing. [5+5]

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