(A37306) NATURAL LANGUAGE PROCESSING LAB

B. Tech.(AI&ML) VI-Semester ` **L T P C**

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Course Objectives:

1. Become familiar with basic principles of AI toward problem solving, knowledge representation,and learning.
2. Knowledge on basic Language processing features, design an innovative application using NLP components

Course Outcomes:

1. Apply basic principles of AI in solutions that require problem solving, knowledge representation, and learning.
2. Show sensitivity to linguistic phenomena and an ability to model them with formal grammars.
3. Understand and carry out proper experimental methodology for training and evaluatingempirical NLP systems
4. Able to design, implement, and analyze NLP algorithms

List of Experiments (AI)

1) Write a program in prolog to implement simple facts and Queries
2) Write a program in prolog to implement simple arithmetic
3) Write a program in prolog to solve Monkey banana problem
4) Write a program in prolog to solve Tower of Hanoi
5) Write a program in prolog to solve 8 Puzzle problems
6) Write a program in prolog to solve 4-Queens problem
7) Write a program in prolog to solve Traveling salesman problem
8) Write a program in prolog for Water jug problem

List of Experiments (NLP)

1. Word Analysis
2. Word Generation
3. Morphology
4. N-Grams
5. N-Grams Smoothing
6. WORD TOKENIZER
7. SENTENCE TOKENIZER
8. PARAGRAPH TOKENIZER
9. CORPORA
10. .PROBABILISTIC PARSING
11. PROBABILISTIC CONTEXT FREE GRAMMER
12. LEARNING GRAMMAR
13. CONDITIONAL FREQUENCY DISTRIBUTIONS
14. LEXICAL ANALYSER
15. WORDNET
16. CONTEXT FREE GRAMMAR
17. LARGE CONTEXT FREE GRAMMAR AND PARSING
18. NAMED ENTITY RECOGNITION
19. NAMED ENTITY RECOGNITION

TEXT BOOKS:

1. Artificial Intelligence: A Modern Approach Third Edition Stuart Russell and Peter Norvig,

2010.Pearson Education, Inc. ISBN: 978-0-13-604259-4

2. Daniel Jurafsky, James H. Martin—Speech and Language Processing: An Introduction to Natural Language Processing, Computational Linguistics and Speech, Pearson Publication, 2014.
3. Steven Bird, Ewan Klein and Edward Loper, —Natural Language Processing with Python, First Edition, O'Reilly Media, 2009.

REFERENCE BOOK:

1. Breck Baldwin, —Language Processing with Java and Ling Pipe Cookbook, Atlantic Publisher, 2015.