DAYANAND SAGAR COLLEGE OF ENGINEERING

(Autonomous Institution affiliated to VTU, Belagavi)

Vth Semester U.G (Computer Science and Engg.)

Natural Language Processing

19CS5DENLP

QUESTION BANK

	UNIT-2	
1	Discuss N-gram model and its types with an example.	10
2	Illustrate with examples describe all types of POS tagging approaches	10
3	With examples Explain Rule based POS Tagging	6
4	Explain open class and closed word classes with an example	4
5	Explain Stochastic POS Tagging with an example.	6
6	How Part-of Speech Tagging can be done illustrate with an example its types.	10
7	How does smoothing improve N-Gram model?	6
8	What are the problems associated with n-gram model? How are these problems handled	6
9	How can unknown words be handled in the tagging process?	4
10	Explain Stochastic POS Tagging with an example also list out problems arises in Stochastic POS tagging	10
11	Through example explain the disadvantages of N-gram modeling over HMM	06
12	Demonstrate Hidden Markov Model tagger and learn to solve the sequence labeling problem of POS tagging. With that HMM, calculate the probability of the sequence of words(Problems on calculate transition and emission probabilities)	10
13	Formulate and discuss N-gram types and explain with example	6
	UNIT-3	
1	Define CFG, write possible parse tree(s) structure for the sentence **"John ate the apple"** consider the grammar rule shown below 1. S -> NP VP 2. VP -> V NP 3. NP -> NAME 4. NP -> ART N 5. NAME -> John 6. V -> ate 7. ART-> the 8. N -> apple	10
2	Distinguish between top down and bottom up parsing.	4
3	Design an algorithm for CYK Parser.	6
4	Tabulate and explain the sequence of states created by CYK algorithm while parsing, The girl wrote an essay. Consider the rules of lexicon S-> NP VP VP-> Verb NP NP->Det Noun Det-> an | the Verb-> wrote Noun->girl Noun-> essay	10
5	Design an algorithm for Probabilistic CYK Parser.	6
6	Identify the problems with Probabilistic CYK Parser and discuss the solution.	6
7	List and Explain ambiguities in parsing.	4
8	What is Dependency grammar, with an example Explain Shallow Parsing	6
9	With an Example illustrate CYK Probabilistic parser.	10

Syntactic or structural ambiguity: The sentence "I saw a man with a telescope" is it the man who's carrying telescope? Or the man has been seen through the telescope? Such type of ambiguity causes a problem in creating knowledge graphs, relations extraction, machine translation.

Attachment Ambiguity: when particular constituent in the sentence, could be attached to the parse tree at more than one place.

Coordination Ambiguity: different sets or phrases could be created using the conjunction in the sentence.

Practice problems with N-Gram Model, HMM Model, CYK Parser, PCYK	10