Name:	
Enrolment No:	

UPES
End Semester Examination, May 2025
Course: Natural Language Processing
Semester: VI
Program: B.Tech (CSE)   Time   : 03 hrs.
Course Code: CSEG 3043P   Max. Marks: 100
Instructions: Attempt all questions

SECTION A (5Qx4M=20Marks)

S. No.	1	P a g e	Marks	CO
Q 1	What is the classical approach to NLP? List two reasons why NLP is considered challenging.	4	CO1
Q 2	Define smoothing in language modeling and explain its importance with an example.	4	CO2
Q 3	Explain the concept of Word Sense Disambiguation (WSD) in semantic processing.	4	CO3
Q 4	Briefly describe the role of NLP in biomedical text extraction. Provide an example.	4	CO4
Q 5	What is the significance of rule-based machine translation? Give an example of its limitation.	4	CO5

SECTION B (4Qx10M= 40 Marks)

Q 6	Discuss the role of semantic and pragmatic analysis in NLP. Provide examples to illustrate their importance in language understanding.	10	CO1
Q 7	Explain the concept of bigram and trigram language models. Discuss how Maximum Likelihood Estimation (MLE) is used to evaluate them.	10	CO2
Q 8	Describe the challenges of garden path sentences in syntactic processing. Explain how probability-based syntactic processing can address these challenges.	10	CO3
Q 9	Explain the process of document clustering in NLP. Discuss its application in information retrieval with a real-world example. **OR** Explain the concept of sentiment analysis and its implementation in NLP. Discuss one real-world use case with an example.	10	CO4

	SECTION-C (2Qx20M=40 Marks)		
Q 10	a) Explain the process of probability-based machine translation and its advantages overrule-based methods. b) Discuss a case study of a machine translation tool, highlighting its strengths and limitations.	**10+ 10**	**CO5**
Q 11	a) Discuss the role of Markov Models in NLP and their application in language modeling. b) Explain how these models support applications like automated chatbots and question answering, with examples. **OR** c) Explain the process of creating a corpus for NLP tasks, including challenges and best practices. d) Explain how these models support applications like automated chatbots and question answering, with examples.	**10+ 10**	**CO1 & CO4**