



R22 Regulation

Subject code: 4E6GA

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech VI Semester Regular Examinations, May 2025

NATURAL LANGUAGE PROCESSING

(CSE(AI&ML))

Maximum Marks: 60

Date: 18.06.2025

Duration: 3 hours

- Note:**
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 10 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X1M=10 Marks)		Marks	CO	Bloom Tx
1.a)	What are the components of the NLP?	1M	1	1
b)	Define morphology.	1M	1	1
c)	What is Syntax?	1M	2	1
d)	List out the Applications of Parsing in NLP.	1M	2	2
e)	What is word sense?	1M	3	2
f)	Define Semantic interpretation in NLP?	1M	3	1
g)	What is Entity and Event Resolution in semantic theory?	1M	4	2
h)	What is the purpose of Meaning Representation Systems?	1M	4	1
i)	Brief the Uses of Language Modeling.	1M	5	2
j)	Define the term N-Grams.	1M	5	1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	Bloom Tx
2	a) Explain four major functional Components of NLP. b) List and explain the issues and challenges of NLP System in detail.	5M 5M	1	1&2
OR				
3.	a) What are the steps in NLP? Explain each of the steps clearly with appropriate applications? b) Discuss the Problems in morphological processing.	6M 4M	1	2&3
4	a) Construct The syntax top-down tree for the sentence given below is as follows: "I drive a car to my college"? b) Explain in detail about Treebanks: A Data-Driven Approach to Syntax.	4M 6M	2	2&6
OR				
5	a) What is Language Syntax? Explain, how are words arranged together? b) Explain the Syntax Analysis Using Dependency parsing.	5M 5M	2	2&1
6	a) Construct the Probabilistic context-free grammar for the following sentence "John Bought a shirt with pockets"? b) How to reduce ambiguity in NLP? Explain it?	6M 4M	3	6&2
OR				

7	a) Explain the challenges of multilingual learning. b) Discuss any two Examples of Semantic Interpretation.	5M 5M	3	2
8	a) Explain the role of predicate argument structure (PAS) in NLP? b) Discuss the Importance of Meaning Representation Systems?	5M 5M	4	2&1
OR				
9	a) Describe about thematic roles possible in predicate and argument structure. b) List out the four representational systems and explain them.	5M 5M	4	3&2
10	a) Consider the sentence "I love natural language processing." Write Unigrams, Bigrams and Trigrams for the given sentence? b) Explain the Bayesian parameter estimation with an example.	5M 5M	5	3&2
OR				
11	a) Explain Language Modeling in NLP. b) How n-grams are used in NLP? Write down the advantages and Disadvantages of it?	5M 5M	5	2&3