

K. J. Somaiya Institute of Technology, Sion, Mumbai-22
(Autonomous College Affiliated to University of Mumbai)

End Semester Exam

May 2022-23

Program: B. Tech

Examination: LY Semester: VIII

Course Code: EXDLC8031 and Course Name: Natural Language Processing

Duration: 03 Hours

Date: 18-05-2023

Max. Marks: 60

Instructions:

- (1) All questions are compulsory.
- (2) Draw neat diagrams wherever applicable.
- (3) Assume suitable data, if necessary.

		Max. Marks	CO	BT level
Q 1	Solve any six questions out of eight.	12		
i)	What is tokenization? Give an example	2	2	U
ii)	What do you mean by ambiguity in NLP?	1	2	U
iii)	Write two applications of Machine Translation.	2	6	U
iv)	Identify the object and subject in the sentence given below. "Satish and Ramesh wanted to see the Luxurious car in the showroom".	2	4	An
v)	What do you mean by corefer? Explain with an example.	2	5	U
vi)	Consider the following sentence: He rushed to the airport to receive his childhood friend. Identify the grammatical categories and mention the PoS tagging for each token.	2	3	An
vii)	List out the processes followed in morphological analysis?	2	2	U
viii)	What is Semantic Analysis?	2	4	U
Q.2	Solve any four questions out of six.	16		

i)	What are important grammatical categories in NLP? Give appropriate examples	4	1	U
ii)	Compare Deterministic and Non deterministic FSA?	4	2	An
iii)	Draw the flow diagram for named Entity Recognition and explain in brief.	4	6	U
iv)	Compare Sematic analysis with Syntax Analysis. How the ambiguity resolution is different in both analysis?	4	4	An
v)	Derive the probability models in N grams with an example.	4	2	U
vi)	What is Penn tree bank? List out the various Tags for the same.	4	3	U
Q.3				
Solve any two questions out of three.		16		
i)	Analyse the ambiguity differences at each level of NLP stage with suitable examples.	8	1	An
ii)	Define conditions required to apply the Semantic Analysis with respect to grammatical agreements. Elaborate with examples.	8	4	U
iii)	Apply the open sets and close sets in all grammar categories. Give examples of corpora related to open and close sets.	8	3	Ap
Q.4				
Solve any two questions out of three.		16		
i)	Analyse the difference between Finite state automata and Finite State Transducers. Draw the transition diagrams for both by taking an example. Draw the various tapes used in the process.	8	2	An
ii)	Compare Reference resolution and co reference Resolution? What are the similarities?	8	5	An
iii)	Design a chatbot for Ecommerce company to resolve customer queries regarding a product. Apply the NLP knowledge	8	6	Ap