

**IM.Sc. (DS) Sem.-4 Examination
CC-214**

Introduction to Natural Language Processing

Time : 2-30 Hours]

April-2025

[Max. Marks : 70

Instructions: All questions are compulsory.

- Q.1** (a) Write a short note on Application of NLP. (07)
 (b) Write a short note on POS Tagging & Explain Rule Base POS Tagging. (07)
OR
 (a) Write a short note on ambiguity & uncertainty in NLP. (07)
 (b) Write short note on Reference resolution & explain its terminology & any two types. (07)
- Q.2** (a) Explain Different Types of Finite State Automata. (07)
 (b) Write a short note on User Query Improvement. (07)
OR
 (a) Write a short note on Semantic Analysis. (07)
 (b) Write a short note on Grammatical Categories. (07)
- Q.3** (a) Write a short note on Application of Word Sense Disambiguation. (07)
 (b) Explain all Methods/Approaches are used in Word Sense Disambiguation. (07)
OR
 (a) Write a short note on Tree Bank Corpus. Explain its types & application. (07)
 (b) Draw a proper diagram & explain phase of NLP. (07)
- Q.4** (a) Write a short note on Grammar. Explain its two types with example. (07)
 (b) Write a short note on Vector Space Model. (07)
OR
 (a) Write a short note on Syntactic Analysis. (07)
 (b) Write a short note on Information Retrieval. Explain classic problem in IR System? (07)
- Q.5** Attempt any **SEVEN** out of **TWELVE**: (14)
 (1) Write Only names of components in NLP.
 (2) Definition of Lexicon.
 (3) Write down only name of Morphemes use in Morphological Parsing.
 (4) Write down any two advantages of NLP.
 (5) How many tuples in Finite State Automata? write down only sign of tuples.
 (6) Write down only two properties of stochastic POS Tagging.
 (7) Definition of NLP.
 (8) Write down any two disadvantages of NLP.
 (9) Write one relation between Finite Automata, Regular Expressions & Regular Grammars.
 (10) Write down any two ways to measure corpus size.
 (11) Write down only two properties of regular set-in regular expression.
 (12) Definition of Morphotactics.
