2004M159 Candidate's Seat No :_____

Integ. M.Sc DS Semester-4 Examination

CC-214

Introduction to NLP

Time : 2-30 Hours] April-2024 [Max. Marks : 70

Instructions: All questions are compulsory. Use of non-programmable scientific calculator is allowed.

Q.1 **(a)** What is NLP? Describe major components of NLP.
(b) Why NLP is difficult? Discuss various ambiguities and uncertainties in NLP.

OR

(a) Explain various phases of NLP.
(b) Discuss TreeBank corpus with its types and applications.

Q.2 **(a)** Explain top-down parsing using a suitable example.
(b) Discuss various methods to combine morphemes to create words.

OR

(a) What are Parse/Derivation Trees? Discuss types of derivation with suitable examples
(b) Explain FSA and its types in detail with suitable examples.

Q.3 **(a)** Explain the classical approach of WSD with a suitable example.
(b) Write a note on discourse processing.

OR

(a) Write a note on POS tagging and its types.
(b) Discuss text coherence relations in discourse structure with suitable examples

Q.4 **(a)** Define Information Retrieval. Explain the process of information retrieval.
(b) Discuss design features of IR system.

OR

(a) Discuss various types of information retrieval.
(b) Describe various grammatical categories with a suitable example of each.

Q.5 Attempt any **SEVEN** out of **TWELVE:**
(1) List out various NLP applications.
(2) Discuss WordNet corpus in brief.
(3) List out major challenges of NLP.
(4) Describe the use of RE.
(5) Define the terms with suitable examples: morphotactics, orthographic rules
(6) Define CFG.
(7) List out major difficulties in WSD.
(8) Describe the properties of coherence in brief.
(9) Discuss reference resolution in brief.
(10) List out various components of any language.
(11) Discuss ad-hoc retrieval problem.
(12) How Information Retrieval differs from Information Extraction?

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