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T.E. (Artificial Intelligence and Data Science) (Insem)
NATURAL LANGUAGE PROCESSING
(2019 Pattern) (Semester - II) (Elective - II) (317532B)

Time : 1 Hour]   *[Max. Marks : 30*

Instructions to the candidates:
    1) Answer Q.1 or Q.2, Q.3 or Q.4.
    2) Neat diagrams must be drawn wherever necessary.
    3) Figures to the right indicate full marks.
    4) Use of Calculator is allowed.
    5) Assume suitable data if necessary.

Q1) a) Define the Natural language processing. Elaborate the applications and challenges of NLP. **[8]**

    b) What role does knowledge play in language processing, and how is ambiguity addressed in natural language? **[7]**

OR

Q2) a) Describe the text pre-processing method in NLP. **[7]**

    b) In what ways do rule-based, data-based, and knowledge-based approaches impact NLP development? **[8]**

Q3) a) How is the effectiveness of the English to Marathi translation analyzed? Explain with suitable example. **[7]**

    b) What are the key concepts in Finite-State Morphological Parsing? **[8]**

OR

Q4) a) How does the porter stemmer enhance text processing, and what benefits does it offer in linguistic analysis? **[6]**

    b) In spelling error detection and correction, how does the concept of minimum edit distance help improve accuracy, and what methods are used to implement it effectively? **[9]**

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