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6E7108

Roll No. 23EJCAD031

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B.Tech. VI-Sem. (Main/Back) Examination, April/May - 2026
Artificial Intelligence and Data Science
6AID5-12 Natural Language Processing(NLP)
AID, CAI

Time : 3 Hours

Maximum Marks : 70

Instructions to Candidates:

Attempt All Ten questions from Part A, Five questions out of seven questions from Part B and Three questions out of five questions from Part C.

Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination. (Mentioned in form No. 205).

PART - A

(Answer should be given up to 25 words only) **(10×2=20)**

All questions are compulsory

1. What NLTK stands for?
2. Define Machine learning.
3. Briefly define role of term weighing in text analysis.
4. What is the significance of Argmax in NLP.
5. Give brief description of PCFG.
6. Differentiate between Top-Down and Bottom-up parsing
7. What is role of Parts Of Speech (POS) in NLP?
8. What is syntactic parsing?
9. What do you understand by text classification?
10. What is role of graphical models in sequencing labeling for NLP.

PART - B

(Analytical/Problem solving questions)

Attempt any Five questions. **(5×4=20)**

1. What are Keyphrase extraction techniques and why are they important?
2. How does word Net measure semantic similarity?
3. Explain sequence labelling and its applications in NLP.
4. What are key challenges in probabilistic parsing?
5. Describe the importance of text clustering in NLP.
6. What do you understand by syntactic collocations
7. Write Small note on Wiktionary.

PART - C

(Descriptive/Analytical/Problem Solving/Design questions)

Attempt any Three questions. **(3×10=30)**

1. *Explain different* term Weighting techniques and their applications in NLP.
2. Discuss the different parsing algorithms used in NLP with examples.
3. Explain distributional semantics and its role in text clustering.
4. Discuss probabilistic parsing and the challenges involved in PCFG model.
5. What are measures of word net similarity. Explain in detail their role in semantic relatedness