ASSIGNMENT - 1

1. List and explain the challenges of Natural Language Processing.
2. What is natural language processing (NLP)? List down the various stages involved in NLP?
3. Describe the different levels of language understanding that NLP models can achieve, such as syntax, semantics, and pragmatics.
4. Explain about Grammar based language models. Discuss the differences between rule-based and dependency grammar models in NLP.
5. Explain about some successful early NLP systems.
6. Discuss the role of knowledge representation in enhancing the performance of NLP systems.

ASSIGNMENT - 2

1. What is parsing? Explain Top-down & Bottom-up approach of parsing with suitable examples.
2. Explain POS tagging with an example.
3. Define regular expressions in the context of NLP. Explain the purpose and significance of regular expressions in text processing.
4. Explain CFG with suitable examples.
5. Explain spelling correction algorithms.
6. What do you mean by constituency? Explain following key constituents’ with suitable example w.r.t English language: 1: Noun phrases 2) Verb phrases 3) Prepositional phrases

ASSIGNMENT 3

1. Define discourse & pragmatic analysis . Discuss reference resolution problems in detail.
2. Explain how ambiguity is encoded in logical form language.
3. What is semantic analysis? Why is semantic analysis difficult? Explain various approaches to semantic analysis. Explain the terms Lexical Semantics, Vector Semantics.
4. Explain why reference resolution is crucial for various NLP applications.
5. Explain how a supervised learning algorithm can be applied for word sense disambiguation.
6. Define coherence in the context of NLP. Explain the importance of coherence in natural language generation and text understanding tasks.