

## 19AD601 – Natural Language Processing

### IAE 1 Important Questions

#### PART A

1. Define Natural language processing.
2. List out the challenges of NLP.
3. What is NLTK? List few text processing operations using NLTK.
4. Classify various N-gram language models.
5. Differentiate Extrinsic Evaluation and Intrinsic Evaluation.
6. Mention the applications of NLP.
7. Define Levenshtein Distance.
8. Compare the two types of spelling errors.
9. What is smoothing? List its types.
10. Write about backoff and interpolation.

#### PART B

1. Write in detail grammar-based language model and statistical language model.
2. Explain in detail different methods used for tokenization and write python program for each.
3. Describe the use of NLTK and its various text processing operations with example.
4. How to evaluate the N-gram models? Discuss in detail various approaches used for evaluation.
5. Describe in detail various challenges and limitations of Natural language processing.
6. Summarize various word segmentation and sentence segmentation methods in NLP with appropriate example program.
7. Explain with suitable example the minimum edit distance algorithm using dynamic programming.
8. Elaborate various ways to perform smoothing.

#### PART C

1. Consider a scenario, where you are going to develop an application for an online e-commerce startup. They intend to get the customer reviews and feedback and wishes to include automatic spell correction function in reviews. Suggest an algorithm that best suits for the above situation and explain it clearly.
2. Suppose, if you want to calculate the joint probability of entire word sequence it would become too complex. Identify the best method for the above problem and explain.
3. Evaluate the different text processing methods used in NLTK and suggest the best method with proper justification.
4. Analyze the performance of N-gram models and justify the model which has the highest accuracy.