CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
III–B.TECH–II–Semester End Examinations (Regular) - June- 2025
NATURAL LANGUAGE PROCESSING
(CSM)

[Time: 3 Hours]   [Max. Marks: 60]

Note: This question paper contains two parts A and B.
  Part A is compulsory which carries 10 marks. Answer all questions in Part A.
  Part B consists of 5 Units. Answer any one full question from each unit. Each question
  carries 10 marks and may have a, b, c as sub questions.

PART-A   (10 Marks)

1. a) Define natural language processing.   [1M]
   b) Which approach is commonly used to find the structure of documents?   [1M]
   c) Define syntactic parsing.   [1M]
   d) How does a syntactic structure represent?   [1M]
   e) What is an ambiguity in parsing?   [1M]
   f) Give an example of a system paradigms used in semantic parsing.   [1M]
   g) What is a predicate-argument structure?   [1M]
   h) What does semantic parsing aim to achieve?   [1M]
   i) What is the purpose of language model evaluation?   [1M]
   j) Name one type of variable-length language model.   [1M]

PART-B   (50 Marks)

2. Identify different morphological models used in NLP. How does they help in understanding word structure?   [10M]

OR

3. Design a basic system that extract features from document structure. Justify your approach.   [10M]

4. Compare different syntactic structure representation techniques in NLP.   [10M]

OR

5. Describe the process and challenges of parsing in NLP. Provide examples.   [10M]

6. Analyze the challenges of multilingual parsing and proposed solutions.   [10M]

OR

7. What is semantic interpretation in NLP? Illustrate with examples.   [10M]

8. Compare and evaluate different meaning of Representation systems. Which one do you think is more effective and why?   [10M]

OR

9. Explain in detail Predicate-Argument Structure with example and why is it important in semantic analysis?   [10M]

10. Evaluate the effectiveness of multilingual and cross-lingual language models. What are the key challenges?   [10M]

OR

11. Describe Bayesian parameter estimation in the context of language modeling. How does it improve model performance?   [10M]

****