

Roll No.

67108-N

**MCA 3rd Semester (MCA 2 Year
Programme) w.e.f. 2021-22
Examination – December, 2024**

**NATURAL LANGUAGE PROCESSING & SPEECH
RECOGNITION ELECTIVE II (ii)**

Paper : 21MCA23DB2

Time : Three hours]

[Maximum Marks : 80

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* questions in all, selecting *one* question from each Unit. Question No. 1 is *compulsory*. All questions carry equal marks.

1. Compulsory Question :

- (a) Elaborate five phases of NLP.
- (b) What are advantages of automata ?
- (c) What is minimum edit distance ?
- (d) What is prosody in TTS ?
- (e) Define human speech recognition.

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- (f) What is the use of symbol table in context-free grammar?
- (g) Discuss the principles of compositionality in semantic.
- (h) Where is matrix factorization used?

UNIT - I

- 2. What is lexicon? How lexicon free finite state transducers processing is done?
- 3. How terms are extracted from token? Explain the concept in context of raw text extraction and tokenization.

UNIT - II

- 4. What are latent semantics? How latent semantics are analyzed? Discuss.
- 5. What is phenome? Discuss various phonological rules and how text to phones mapping is done for TTS.

UNIT - III

- 6. What is tagging? Explain stochastic part-of speech tagging and transformation based tagging with appropriate example.
- 7. Explain rules and tree formation for context free grammar. How sentence level construction is specified? Discuss.

UNIT – IV

8. What is parsing in context-free grammar ? Explain the concept of feature structures, their unification and feature structures in grammar.
 9. What is syntax-driven semantic analysis ? How semantic analysis is integrated into the earley parser ?
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