



(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 110856

Roll No.

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B. Tech.

(SEM. VIII) THEORY EXAMINATION, 2014-15
NATURAL LANGUAGE PROCESSING

Time : 3 Hours]

[Total Marks : 100

Note: Attempt all questions.

1 Attempt **any four** parts of the following: **4×5=20**

- (a) Define the term language? What do you mean by language understanding?
- (b) What is a language processing system? Explain with an example.
- (c) Define the terms 'Lexicon' and 'Morpheme' related to linguistic analysis.
- (d) Describe the role of natural language processing in speech recognition.
- (e) What is language modeling?
- (f) Describe major tasks of natural language processing.

- 2 Attempt any two parts of the following: **2×10=20**
- (a) Write short notes on the following:
 - (i) Semantics
 - (ii) Knowledge representation
 - (b) What are the different machine learning methods used in language translation? Explain any two methods in detail.
 - (c) Describe the role of NLP in language interpretation.
- 3 Attempt **any two** parts of the following: **2×10=20**
- (a) Compare and contrast top-down and bottom-up parsers approaches.
 - (b) Write short notes on the following:
 - (i) Augmented grammars
 - (ii) Ambiguous grammars
 - (c) Write short notes on the following:
 - (i) Lexicon analysis
 - (ii) Augmented transition networks
- 4 Attempt **any two** parts of the following: **2×10=20**
- (a) Explain the power of a context free grammar for handling questions generated to its language set.
 - (b) How does movement phenomenon affect any natural language processing system?
 - (c) Explain the following terms:
 - (i) Deterministic parser
 - (ii) Statistical NLP

5 Write short notes on **any four** of the following: **4×5=20**

- (a) NLP State-of-the-Art
 - (b) Probabilistic language processing
 - (c) Word senses and ambiguity
 - (d) Probabilistic CFG
 - (e) Viterbi algorithm
 - (f) Evaluation of NLP
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