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

PAPER ID : 110856

Roll No.

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.

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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 langauge processing system?

(c) Explain the following terns:

(i) Deterministic parser

(ii) Statistical NLP

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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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