

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA - SEMESTER-V • EXAMINATION – SUMMER • 2015

Subject Code: 2650014**Date: 11-05-2015****Subject Name: Language Processing (LP)****Time: 02:30 pm to 05:00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1 (a)** Discuss in detail the different form of knowledge relevant for Natural Language Understanding? **07**
- (b)** Explain Syntax, Semantics & Pragmatics. **07**
- Q.2 (a)** Describe fore-tracking parser & Backtracking Parser? **07**
- (b)** Natural Language Understanding requires a capability to represent and reason about knowledge of the word? Justify? **07**
- OR**
- (b)** Write an algorithm for parsing a finite-state transducer using the pseudo-code. Explain the algorithm with an example. Also give the merits and demerits of this algorithm. **07**
- Q.3 (a)** How the natural language processing systems are evaluated? Explain. **07**
- (b)** Differentiate between natural language processing and natural language understanding. **07**
- OR**
- Q.3 (a)** Discuss the following: **07**
- (a) Language as a rule-based system.
- (b) Stochastic Part-of-Speech tagging.
- (b)** Write an algorithm for converting an arbitrary context-free grammar into Chomsky normal form. Explain it with a suitable example. **07**
- Q.4 (a)** Describe the following with suitable example: **07**
- (a) Reference resolution.
- (b) Elements of a language.
- (b)** Give an algorithm for pronoun resolution and explain it with an example. **07**
- OR**
- Q.4 (a)** Give an algorithm for pronoun resolution and explain it with an example. **07**
- (b)** Describe the following with suitable example: **07**
- (a) Probabilistic Models
- (b) N-Grams
- Q.5 (a)** Describe the following with suitable example: **07**
- (a) English Word Classes
- (b) POS Tagging
- (b)** Explain various Context-Free Rules & Trees and also Explain about Sentence-Level Constructions. **07**
- OR**
- Q.5 (a)** What do you mean by Semantic Analysis & Lexical Semantics? **07**

(b) Write short notes on the following:

07

- (a) Text planning.
- (b) Goals of NLP.
- (c) Lexicons.
- (d) Applications of NLP.
