Seat No.: _____ Enrolment No._____

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: (a) Language as a rule-based system. (b) Stochastic Part-of-Speech tagging.	**07**
	(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: (a) Reference resolution. (b) Elements of a language.	**07**
	(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: (a)Probabilistic Models (b)N-Grams	**07**
Q.5	**(a)**	Describe the following with suitable example: (a)English Word Classes (b)POS Tagging	**07**
	(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.

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