Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER–V • EXAMINATION – SUMMER 2017

Subject Code: 2650014 Date:08/06/ 2017

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 details with examples: (a) Pronoun and its types (b) Properties of verbs	**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) Simplification Rules (b) Translation Rules	**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: (a) Coherence (b) Goals of NLP (c) Co-reference (d) Applications of NLP	**07**

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