

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: **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.
