

Total No. of Questions : 10]

SEAT No. :

**P2360**

[Total No. of Pages : 2

**[5254] - 693**

**B.E. (I.T.)**

**NATURAL LANGUAGE PROCESSING (Elective - II)  
(2012 Pattern)**

*Time : 2½ hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) Solve any 1 out of Q1 or Q2 and any 1 out of Q3 or Q4 and*
- 2) Solve and 1 out of Q5 or Q6 and any 1 out of Q7 or Q8 and any 1 out of Q9 or Q10.*
- 3) Draw neat diagrams and assume suitable data wherever necessary.*
- 4) Figures to the right indicate full marks.*

- Q1)** a) State and explain applications of Natural Language processing. [5]  
b) Describe syntactic and semantic level of language understanding in natural language processing. [5]

OR

- Q2)** a) Draw and explain flow of information in natural language understanding system. [5]  
b) What is augmented grammar? [5]

- Q3)** Explain basic feature systems for English with an example. [10]

OR

- Q4)** Describe top - down chart parsing algorithm with example. [10]

- Q5)** a) Explain verbs and states in logical form. [8]  
b) Describe estimating probabilities for part of speech tagging. [8]

OR

- Q6)** a) Draw and explain shift - reduce parsing in natural language processing. [8]  
b) Describe a simple context dependent best first parser. [8]

**P.T.O.**

- Q7)** a) Explain probabilistic context - free grammar. [8]  
b) Explain the human preferences in encoding uncertainty during parsing. [8]

OR

- Q8)** a) Explain the role of ontology in natural language processing. [8]  
b) Explain word senses and ambiguity in natural language processing. [8]

- Q9)** a) Describe application of natural language processing in information extraction. [9]  
b) Describe the challenges in the automatic machine translation problem. [9]

OR

- Q10)** a) Explain natural language processing techniques used in speech processing. [9]  
b) How is natural language processing useful in semantic web search? [9]

