

Total No. of Questions : 9]

SEAT No. :

P3114

[5154]- 681

[Total No. of Pages : 2

B.E. (Computer Engineering)

**MULTIDISCIPLINARY NATURAL LANGUAGE PROCESSING
(2012 Pattern) (Elective - II) (End Sem.) (410445 D) (Semester - I)**

Time :2½ Hours]

[Max. Marks :70

Instructions to the candidates:

- 1) *Q.9 is Compulsory.*
- 2) *Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.*
- 3) *Neat diagrams must be drawn whenever necessary.*
- 4) *Assume suitable data, if necessary.*

Q1) a) Explain with suitable example : Scope Ambiguity. **[6]**

b) Write a note on : Metaphors. **[4]**

OR

Q2) a) What is Lexical Knowledge Networks? Explain in brief. **[6]**

b) Define the following terms : **[4]**

- (i) Language Modeling (ii) Discourse Processing

Q3) a) Draw FST for the following words : **[6]**

heavy, heavier, heaviest.

b) Enlist Various Unsupervised Methods in NLP. Explain any one method in short. **[4]**

OR

Q4) a) Explain the term : **[6]**

- (i) Log-Linear Models (ii) HMM Ergodic models

b) What is HMM? Why HMM is called as 'Doubly Embedded Stochastic process'? **[4]**

Q5) a) What is Auditory physiology ? Explain with suitable example, The Physiology of Speech Production. **[8]**

b) Explain in terms: **[8]**

- (i) Speech Perception (ii) Speech Synthesis.

OR

P.T.O.

- Q6)** a) Compare adaptation level phenomenon with Sentence-level Phenomena. [8]
b) What is Speech Processing? Explain in detail, the Biology of Speech Processing. [8]
- Q7)** a) Explain in detail : Lexical Knowledge Networks. [8]
b) Give Various approaches of Word Sense Disambiguation. [8]
- OR
- Q8)** a) Give the importance of Multilingual Dictionaries with Bilingual Dictionaries. [8]
b) What is the significance of Semantic Roles in linguistic theory? Explain with example. [8]
- Q9)** Write a short Note on : (Any Three) [18]
a) Text Entailment.
b) Web mining and Text mining.
c) Robust and Scalable Machine Translation.
d) Database interface in NLP.
e) Natural Language Tool Kit (NLTK) in Programming Language.

