P3114

[5154]-681

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

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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.