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SEAT No. :

P2046

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[5059] - 651**B.E. (Computer Engineering)****MULTIDISCIPLINARY NATURAL LANGUAGE PROCESSING****(2012 Pattern) (Elective - II) (Semester - I)***Time : 2½ Hours]**[Max. Marks : 70**Instructions to the candidates:-*

- 1) *Answer Q1 or Q2 , Q3 or Q4, Q5 or Q6, Q7 or Q8, Q9 or Q10.*
- 2) *Figures to the right indicate full marks.*
- 3) *Assume suitable data if necessary.*

Q1) a) Define the following terms: [6]

i) Parsing ii) Robust Parsing

b) Explain Automatic Stochastic Tagging of natural language texts. [4]

OR

Q2) a) Explain the significance of Lexical Knowledge Networks in NLP. [6]

b) Write a short note on : Viterbi algorithm of FSM process. [4]

Q3) a) Illustrate the Basic steps of EM algorithm alongwith it's Analysis. [6]

b) Explain in short : Forward Backward probability.. [4]

OR

Q4) a) Define HMM. Draw the diagram that shows Ergodic and non-ergodic models [6]

b) What is Conditional Random Field (CRF)? How it is advantages than HMM? [4]

- Q5)** a) Explain the following levels of Speech chain: [8]
 i) Linguistic level
 ii) Physiological level
 iii) Acoustic level
 b) What is Speech Disorders ? Give it's Causes. [8]

OR

- Q6)** a) Explain Sentence-level Phenomena. Explain how it differs from adaptation level phenomenon. [8]
 b) Define Speech Perception. Explain it's role in recognition of speech. [8]
- Q7)** a) What do you mean by Multilingualism? Differentiate between Multilingualism and bilingualism, [8]
 b) Explain in short the following approaches of Word Sense Disambiguation. [8]
 i) Knowledge-Based
 ii) Supervised
 iii) Unsupervised

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- Q8)** a) Explain Multilingual Dictionary. Also Explain automatic detection of Multilingual Dictionaries on the Web. [8]
 b) Write a note on: Semantic role [8]
- Q9)** a) Explain the following terms of NLP applications: [10]
 i) Web mining
 ii) Text mining
 b) What is Cross Lingual Information Retrieval ? Explain it. [8]

OR

- Q10)** Write a Note on: [18]
 a) Robust and Scalable Machine Translation
 b) Question Answering in Multilingual Setting
 c) Sentiment Analysis

