

CBCS SCHEME

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15CS741

Seventh Semester B.E. Degree Examination, Dec.2018/Jan.2019

Natural Language Processing

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. What is Natural language processing? And explain challenges of natural language processing. (08 Marks)
- b. Explain applications of natural language processing. (08 Marks)

OR

- 2 a. What is statical language model and explain features of n-gram model. (06 Marks)
- b. What is government and binding theory and explain its components and organization. (10 Marks)

Module-2

- 3 a. What is morphological parsing and explain two step morphological parser with example. (08 Marks)
- b. Explain minimum edit distance algorithm and compute the minimum edit distance between tumour and tutor. (08 Marks)

OR

- 4 a. What is parts of speech tagging and explain different methods of parts of speech tagging. (08 Marks)
- b. What are advantages and disadvantages of top-down and bottom up parsing and give top down and bottom up search space for sentence 'paint the door' by applying following grammar.

S → NP VP

VP → Verb NP

S → VP

VP → Verb

NP → Det Nominal

PP → Preposition NP

NP → Noun

Det → this | that | a | the

NP → Det Noun PP

Verb → sleeps | paint | open | sings

Nominal → Noun

Preposition → from | with | on | to

Nominal → Noun Nominal

Pronoun → She | he | they

(08 Marks)

Module-3

- 5 a. Explain dependency – Path Kernel for relation extraction. (06 Marks)
- b. Explain a software framework for the task of learning to annotate cases with knowledge roles. (10 Marks)

OR

- 6 a. Explain functional overview of Infact system. (08 Marks)
- b. What is frame semantics theory and how semantic role labeling can be done. (08 Marks)

Module-4

- 7 a. How to evaluate self explanations in START. (10 Marks)
- b. How to measure cohesion of Text structures using latent semantic analysis (LSA). (06 Marks)

OR

- 8 a. Explain document separation as a sequence mapping problem. (08 Marks)
b. Describe the evolutionary model for knowledge discovery from texts. (08 Marks)

Module-5

- 9 a. Give design features of information Retrieval systems. (06 Marks)
b. Explain Boolean and vector space information retrieval models. (10 Marks)

OR

- 10 a. Explain the word Net for English language and its applications. (08 Marks)
b. Explain the cluster and fuzzy models of information retrieval systems. (08 Marks)

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