



Seventh Semester B.E. Degree Examination, Jan./Feb. 2021
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 NLP? Explain two major approaches to NLP (Natural Language Processing). (04 Marks)
b. Explain the components of transformational grammar. (06 Marks)
c. Explain the different levels of NLP with example. (06 Marks)

OR

- 2 a. Explain Paninian frame work and their issues. (06 Marks)
b. Explain \bar{X} - theory with example. (04 Marks)
c. Explain different smoothing techniques to handle the data sparsness problem in n - gram model. (06 Marks)

Module-2

- 3 a. What is Morphological Parsing? Explain the two step of Morphological Parser. (04 Marks)
b. Explain Spelling Correction algorithms. (06 Marks)
c. Explain Hybrid tagger. (06 Marks)

OR

- 4 a. With example, explain basic top down , depth first algorithm. (06 Marks)
b. Explain CYK algorithm. (06 Marks)
c. Discuss the disadvantages of probabilistic CFG. (04 Marks)

Module-3

- 5 a. With neat diagram, explain the learning framework architecture. (08 Marks)
b. Explain the following : (08 Marks)
i) Domain knowledge ii) Knowledge roles.

OR

- 6 a. With neat diagram, explain functional overview of InFact System. (08 Marks)
b. Write a short note on : (08 Marks)
i) The shortest path hypothesis ii) Learning with dependency path.

Module-4

- 7 a. Explain SVM (Support Vector Machine) Learning method in Sequence Model estimation. (08 Marks)
b. Explain Latent Semantic Analysis (LSA) feedback system. (08 Marks)

OR

- 8 a. Define the following : (08 Marks)
i) Cohesion ii) Interestingness.
iii) Coverage iv) Plausibility of origin.

- b. With neat diagram, explain the evolutionary model for KDT (Knowledge Discovery from Text). (08 Marks)

Module-5

- 9 a. State and explain Zipf's law. (04 Marks)
b. Explain Non – classical model of IR (Information Retrieval). (06 Marks)
c. With example, explain Boolean model for Classical Information Retrieval. (06 Marks)

OR

- 10 Write short note on :

- a. Word Net.
b. Frame Net.
c. Stemmer.
d. PoS tagging.

(16 Marks)
