CBCS SCHEME

15CS741

USN | | | | | | | | | |

Seventh Semester B.E. Degree Examination, July/August 2022
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 any four applications of NLP.　(06 Marks)
　　b.　Define IR (Information Retrieval). Explain major issues in IR.　(06 Marks)
　　c.　Explain the components of GB (Government and Binding).　(04 Marks)

OR

2　a.　Explain Karaka Theory in PG (Paninian Grammar) frame work. List out the issues in PG.　(08 Marks)
　　b.　Explain 'n-gram' model with example. List the techniques to handle the problems in n-gram model.　(08 Marks)

Module-2

3　a.　Explain minimum Edit distance algorithm with example.　(08 Marks)
　　b.　What is morphological parsing? Explain two step morphological parser with example.　(08 Marks)

OR

4　a.　With example, explain top down depth, first parsing algorithm.　(08 Marks)
　　b.　Write CYK (Cocke-Younger-Kasami) Parser algorithm by considering the following sentence, tabulate the sequence of states created by CYK algorithm. 'The girl wrote an essay'.　(08 Marks)

Module-3

5　a.　With neat diagram, explain Infact system.　(08 Marks)
　　b.　Explain generalized sub sequence kernel.　(08 Marks)

OR

6　a.　Explain the following concepts:
　　　　(i)　Domain concept
　　　　(ii)　Knowledge role.
　　　　(iii)　Frame semantics
　　　　(iv)　Semantic role labeling.　(08 Marks)
　　b.　With neat diagram, explain learning framework architecture.　(08 Marks)

Module-4

7　a.　Write a short note on:
　　　　(i)　Word matching feedback system.
　　　　(ii)　LSA feedback system.　(08 Marks)
　　b.　With neat diagram, explain the evolutionary model for knowledge discovery from texts.　(08 Marks)

OR

8 a. Define the following evolution criteria to assess the hypothesis:
      (i)   Cohesion
      (ii) Interestingness
      (iii) Coherence.
      (iv) Coverage.   **(08 Marks)**
   b. Explain sequence model for document separation.   **(08 Marks)**

Module-5

9 a. State and explain Zip's law.   **(04 Marks)**
   b. With diagram, explain Basic information Retrieval process.   **(04 Marks)**
   c. With example, explain Boolean model with their advantages and disadvantages.   **(08 Marks)**

OR

10 Write a short note on:
   a. WORD NET.
   b. FRAMENET.
   c. POS-Tagger.
   d. STEMMER.   **(16 Marks)**

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