B.E./CMPN/SEM-VIII(CBCGS)/NOV. 2022

Time: 3Hours

Marks: 80

N.B. Attempt any Four
Assume suitable data wherever necessary

Q.1

A. Explain lexicon, lexeme and the different types of relations that hold between lexemes 10

B. What is a language model? Write a note on the N-Gram language model. 10

Q2

A. What do you mean by word sense disambiguation (WSD)? Discuss knowledge-based WSD. 10

B. Why is POS tagging hard? Discuss possible challenges while performing POS tagging. 10

Q3

A. Explain Natural Language Understanding and Natural Language Generation 10

B. Explain regular expression in Natural language processing 10

Q4

A. What is the role of FSA in morphological analysis? Explain FST in detail 10

B. Explain the generic NLP system and the ambiguities of NLP 10

Q5

A. What is the need for preprocessing text data in natural language? Explain the steps of preprocessing with an example. 10

B. Explain information retrieval versus Information extraction systems 10

Q6

A. Define discourse & pragmatic analysis. Discuss reference resolution problem in detail. 10

B. Explain derivational and inflectional morphology in detail with suitable example 10

B.E / Paper / Subject Code: 52753 / High Performance Computing (DLOC)

SEM VIII / CMPN / (CBCGS) / NOV. 2022

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N.B. (1) Question one is Compulsory.

(2) Attempt any 3 questions out of the remaining.

(3) Assume suitable data if required.

Q. 1 a)Explain blocking and non-blocking communication using MPI? 10

b) Write an MPI program to find the factorial of a number? 10

Q. 2 a) Explain the various criteria for classification of parallel computer? Explain the Flynn's classification in details? 10

b) Explain in brief any two classification of Parallel architecture? 10

Q. 3 a)Discuss in detail Pipeline hazards with its types? 10

b) Short note on SIMD matrix multiplication? 10

Q. 4 a)Explain in detail communication cost in parallel machine? 10

b)Explain Communication Model of Parallel Platforms? 10

Q. 5 a)List type of Decomposition Technique Explain in detail any two types of Decomposition technique? 10

b)Discuss various mapping techniques for load balancing? 10

Q. 6 a) Describe the terms cost, scalability, granularity with respect to. parallel computing? 10

b) State and explain Gustavson's Law. Differentiate Amdahl'slaw vs Gustavson's Law? 10
