

Code No.: CS8352PE

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**CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS**

**II-M.TECH-I-Semester End Examinations (Regular) - Feb- 2023
NATURAL LANGUAGE PROCESSING (PE-V)
(CSE)**

[Time: 3 Hours]

[Max. Marks: 70]

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 20 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A

(20 Marks)

1. a) Define Stemming? [2M]
- b) Define Segmentation? [2M]
- c) Briefly discuss N-gram Language Models? [2M]
- d) Write the role of Recurrent Neural network? [2M]
- e) Define BERT? [2M]
- f) Discuss about XLnet? [2M]
- g) Discuss briefly Question Answering Bots? [2M]
- h) What is Statically Machine Translation? [2M]
- i) Write about Transformers? [2M]
- j) Discuss briefly Neural Machine Translation. [2M]

PART-B

(50 Marks)

- 2.a) State the advantages of bottom-up chart parser compared to top-down parsing. [4M]
- b) What are the 2 main classes of tagging algorithms in which they can be grouped into? [6M]
Explain each one in detail?

OR

3. Write the following. [10M]
 - i. Representation of word.
 - ii. Sentence.
 - iii. Word embedding.
 - iv. Word Senses.
4. Explain the following. [5M]
 - a) Viterbi algorithm.
 - b) Hidden Markov Models.

OR

5. Explain Vanishing Gradients and exploding gradient? [10M]
 6. Explain LSTM (Long sort term memory)? [10M]
- OR**
7. Explain GRU (Gated recurrent Unit)? [10M]

8. Write the following.
- a) Seq2Seq Modelling. [5M]
 - b) Attention. [5M]

OR

9. Explain the following.
- a) Statically Machine Translation. [5M]
 - b) Neural Machine Translation. [5M]

10. Write the following
- a) 1D-CNN for NLP. [4M]
 - b) Sub-word Models. [3M]
 - c) Contextual Representations. [3M]

OR

11. Discuss the following.
- a) Self-Attention for Generative Models. [5M]
 - b) Natural Language Generation. [5M]
