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BENGALURU
School of Information and Science
Mid - Term Examinations - November 2024

Semester: V

Date: 06-11-2024

Course Code: CSA3014

Time: 02.00pm to 03.30pm

Course Name: Natural Language Processing

Max Marks: 50

Program: Bachelor of Science (Data Science)

Weightage: 25%

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks.

5Qx2M=10M

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|---|---|---------|----|-----|
| 1 | Define Natural Language Processing (NLP) | 2 Marks | L1 | CO1 |
| 2 | What is the role of tokenization in NLP? | 2 Marks | L2 | CO2 |
| 3 | Define word sense disambiguation in the context of NLP. | 2 Marks | L1 | CO1 |
| 4 | Name two current applications of NLP. | 2 Marks | L1 | CO3 |
| 5 | List the purpose of text normalization in NLP | 2 Marks | L1 | CO2 |

Part B

Answer ALL Questions. Each question carries 10 marks.

4QX10M=40M

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|---|--|----------|----|-----|
| 6 | Explain the different levels of Natural Language Processing (NLP) and how machines process language at each level, with examples for each. | 10 Marks | L2 | CO1 |
|---|--|----------|----|-----|

Or

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|---|---|----------|----|-----|
| 7 | Explain the concept of Part of Speech (PoS) tagging. How is it implemented in NLP, and what problems does it solve? | 10 Marks | L2 | CO1 |
|---|---|----------|----|-----|

8 Explain the process of lemmatization in Natural Language Processing (NLP). Additionally, lemmatize the word "running" and provide its base form. 10 Marks L2 CO2

Or

9 Summarize the Named Entity Recognition (NER) process and its significance in NLP. Discuss real-world applications of NER in language processing. 10 Marks L2 CO2

10 Demonstrate how n-grams are extracted from text, and analyze their application in feature extraction for NLP tasks. 10 Marks L2 CO3

Or

11 Justify the removal of stop words in NLP. Evaluate how stop words influence text analysis and the performance of NLP models. 10 Marks L4 CO3

12 Explain the different types of tokenizers in NLP. 10 Marks L2 CO4

Or

13 Analyze the role of Natural Language Processing (NLP) in language translation. Translate the following sentence from English to Spanish: "I am learning NLP." 10 Marks L4 CO4