

Printed Page:- 03

Subject Code:- ACSAI0622N

Roll. No:

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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

B.Tech

SEM: VI - THEORY EXAMINATION (2023 - 2024)

Subject: Social Media Analytics

Time: 3 Hours

Max. Marks: 100

General Instructions:

IMP: Verify that you have received the question paper with the correct course, code, branch etc.

1. This Question paper comprises of **three Sections -A, B, & C**. It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.
2. Maximum marks for each question are indicated on right -hand side of each question.
3. Illustrate your answers with neat sketches wherever necessary.
4. Assume suitable data if necessary.
5. Preferably, write the answers in sequential order.
6. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

SECTION-A

20

1. Attempt all parts:-

- 1-a. In semantic analysis, what does Latent Dirichlet Allocation (LDA) aim to achieve?(CO1) 1
- (a) Identifying the most frequent words in a document
 - (b) Capturing the syntactic structure of sentences
 - (c) Modeling topic distributions in a collection of documents
 - (d) Analyzing the sentiment expressed in text data
- 1-b. The primary purpose of tokenization in natural language processing is?(CO1) 1
- (a) Identifying the language of a text document
 - (b) Breaking text into individual words or tokens
 - (c) Generating word embeddings for text representation
 - (d) Analyzing the sentiment of a text document
- 1-c. The term for the list of hyperlinks displayed by a search engine in response to a user's search query is__(CO2) 1
- (a) Search results
 - (b) Index
 - (c) Web directory
 - (d) Cache
- 1-d. Out of the following metrics which measures the total number of times a web page or element is viewed by visitors?(CO2) 1

- (a) Bounce rate
 - (b) Conversion rate
 - (c) Pageviews
 - (d) Click-through rate (CTR)
- 1-e. Common challenge faced in social media mining related to data volume is__(CO3) 1
- (a) Limited availability of social media data
 - (b) Excessive amounts of irrelevant data
 - (c) Lack of computational power
 - (d) Insufficient storage capacity
- 1-f. The purpose of data visualization in Social Media Mining is__(CO3) 1
- (a) To collect data from various sources
 - (b) To clean and preprocess the data
 - (c) To analyze patterns and trends visually
 - (d) To interpret the insights derived from data analysis
- 1-g. The purpose of LDA topic modelling in natural language processing is(CO4) 1
- (a) To identify the most frequently occurring words in a text
 - (b) To identify the grammatical structure of a sentence
 - (c) To identify the sentiment of a text
 - (d) To discover latent topics in a corpus of text
- 1-h. Topic modeling is a _____(CO4) 1
- (a) Technique of only labeling a text.
 - (b) Technique of changing data labels.
 - (c) Technique to understand and extract the hidden topics from large volumes of text.
 - (d) None of the above.
- 1-i. Downward trend is known as(CO5) 1
- (a) Bull market
 - (b) Bear market
 - (c) Range bound
 - (d) None of the above
- 1-j. Which of the following is a recent trend in social media analytics(CO5) 1
- (a) Focus solely on vanity metrics
 - (b) Emphasis on qualitative data analysis
 - (c) Ignoring user-generated content
 - (d) Relying solely on manual analysis

2. Attempt all parts:-

- 2.a. Define Feature Vector Representation(CO1) 2
- 2.b. Discuss Query optimization.(CO2) 2

- 2.c. Define Marketing and Advertising as a Application of Information Diffusion in social media.(CO3) 2
- 2.d. Explain the two broad categories of Text Summarization.(CO4) 2
- 2.e. What is the importance of trend analysis?(CO5) 2

SECTION-B

30

3. Answer any five of the following:-

- 3-a. Explain Text Representation- tokenization, stemming, stop words.(CO1) 6
- 3-b. Discuss Opinion spam detection with examples.(CO1) 6
- 3-c. Describe social graphs.(CO2) 6
- 3-d. Explain challenges faced while Scraping.(CO2) 6
- 3.e. Explain Information Diffusion in social media.(CO3) 6
- 3.f. Explain how can LDA be used in real-world applications such as recommender systems or sentiment analysis.(CO4) 6
- 3.g. Explain few examples of social media analytics.(CO5) 6

SECTION-C

50

4. Answer any one of the following:-

- 4-a. Describe in detail Sentiment Analysis Process.(CO1) 10
- 4-b. Elaborate the role of opinion summarization in enhancing the interpretability and usability of sentiment analysis results for decision-making purposes.(CO1) 10

5. Answer any one of the following:-

- 5-a. Describe Search Engine and all three components of Search Engine in detail.(CO2) 10
- 5-b. Describe all Steps to build an inverted index with example.(CO2) 10

6. Answer any one of the following:-

- 6-a. Elaborate Connections, Distributions and Segmentation in terms of Social Networks Measures.(CO3) 10
- 6-b. Explain in detail the procedure involved in social media mining.(CO3) 10

7. Answer any one of the following:-

- 7-a. Define phrase mining in text processing. How can Phrase Mining be applied in the domain of customer feedback analysis.(CO4) 10
- 7-b. Explain some challenges in semantic topic tagging, and how do you overcome them.(CO4) 10

8. Answer any one of the following:-

- 8-a. Explain the term trend analysis in social media. Explain five social media trends.(CO5) 10
- 8-b. Discuss three categories of trends. Explain the role of trend analysis in Finance.(CO5) 10