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VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN
 [AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]
 layampalayam – 637 205, Tiruchengode, Namakkal Dt., Tamil Nadu.

Question Paper Code: 60023

M.E. / M.Tech. DEGREE END-SEMESTER EXAMINATIONS – JAN. 2025

Third Semester

Information Technology

P23ITE17 – SENTIMENT ANALYSIS

(Regulation 2023)

Time: Three Hours

Maximum: 100 Marks

Answer ALL the questions

Knowledge Levels (KL)	K1 – Remembering	K3 – Applying	K5 - Evaluating
	K2 – Understanding	K4 – Analyzing	K6 - Creating

PART – A

(10 x 2 = 20 Marks)

Q.No.	Questions	Marks	KL	CO
1.	Write the requirement of sentiment analysis.	2	K1	CO1
2.	How does sentiment analysis handle sarcasm or irony in written texts?	2	K2	CO1
3.	What is purpose of cross-domain sentiment classification?	2	K1	CO2
4.	State the purpose of using traditional machine learning algorithms in sentiment classification.	2	K2	CO2
5.	What is a lexicon-based approach in sentiment analysis?	2	K2	CO3
6.	Mention the main steps involved in a frequency-based approach for sentiment analysis.	2	K2	CO3
7.	Infer the concept of word vectors in sentiment word embedding.	2	K2	CO4
8.	Relate the undesirable facts in sentiment analysis.	2	K3	CO4
9.	How can you distinguish between spam reviews and legitimate ones in a dataset?	2	K2	CO5
10.	Define review hijacking.	2	K2	CO5

PART – B

(5 x 13 = 65 Marks)

Q.No.	Questions	Marks	KL	CO
11. a)	i. Compare and contrast the goals of psychology and sentiment analysis using examples.	7	K2	CO1
	ii. How to evaluate the effectiveness of sentiment analysis in accurately classifying different types of opinions?	6	K2	CO1
(OR)				
b)	i. How to analyze the role of affect, emotion and mood in sentiment analysis and how they influence opinions?	8	K2	CO1
	ii. How to analyze a given text and determine whether the sentiment expressed is positive, negative or neutral?	5	K3	CO1
12. a)	Discuss the limitations of traditional machine learning algorithms in sentiment classification and propose possible solutions.	13	K3	CO2
(OR)				
b)	Illustrate the role of syntactic patterns in improving sentiment analysis accuracy with proper example.	13	K3	CO2
13. a)	Briefly examine the different steps of a frequency-based approach for sentiment analysis with example.	13	K2	CO3
(OR)				
b)	Relate the potential biases that can arise when grouping aspects into categories in sentiment analysis with proper examples.	13	K3	CO3
14. a)	Compare and summarize the different dictionary-based approaches and the corpus-based approaches in sentiment analysis.	13	K3	CO4
(OR)				
b)	i. In what ways can transfer learning be used to enhance the detection of context-dependent sentiment words in various linguistic contexts?	8	K3	CO4
	ii. Discuss how lexicon adaptation can impact the accuracy of sentiment analysis in social media text compared to general text.	5	K3	CO4
15. a)	Demonstrate the limitations of different automated methods in discovering abnormal patterns, and how can these limitations be addressed?	13	K3	CO5

(OR)

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| b) | How can group spam detection impact the overall sentiment analysis process? What steps can be taken to ensure that detection does not falsely flag legitimate reviews? | 13 | K3 | CO5 |
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PART – C

(1 x 15 = 15Marks)

Q.No.	Questions	Marks	KL	CO
16. a)	Write an approach to develop a sentiment classification system for customer reviews (Positive, Negative, and Neutral) using traditional machine learning algorithms. The approach should include the stages like, Data Preparation, feature extraction, algorithm choice and model evaluation.	15	K4	CO2

(OR)

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| b) | Scenario: Suppose you're building a sentiment analysis system for social media posts about a product launch, which include slang, emojis and informal language.
Question: How would you preprocess this social media text and select word embeddings to handle slang and emojis? Additionally, how would you integrate emojis and address ambiguity and sarcasm in your analysis? | 15 | K4 | CO5 |
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