PVP 20

Code: 20AM3603

III B.Tech - II Semester – Regular Examinations - APRIL 2025

NATURAL LANGUAGE PROCESSING
(ARTIFICIAL INTELLIGENCE & MACHINE LEARNING)

Duration: 3 hours Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.
2. All parts of Question must be answered in one place.

BL – Blooms Level CO – Course Outcome

			BL	CO	Max. Marks
UNIT-I					
1	a)	Explain the differences between syntax, semantics,and pragmatics in the context of language understanding.	CO1	L2	7 M
	b)	Discuss the primary applications of NLP in daily life. Provide at least three examples.	CO1	L2	7 M
OR					
2	a)	How can text be represented as words, sentences and documents in NLP?	CO1	L2	7 M
	b)	Describe tokenization, stemming and lemmatization? Provide examples for each.	CO1	L2	7 M
UNIT-II					
3	a)	Explain the process of removing stop words, punctuation and special characters from text.	CO2	L3	7 M

	b)	Illustrate text normalization and how it handles misspellings and variations in text.	CO2	L3	7 M
OR					
4	a)	Explain N-grams and their role in NLP. How do they help in feature extraction?	CO2	L3	7 M
	b)	How can text features be evaluated and visualized? Describe at least two techniques.	CO2	L3	7 M
UNIT-III					
5	a)	Compare BERT with traditional language models in NLP.	CO3	L3	7 M
	b)	How can BERT be fine-tuned for specific downstream NLP tasks?	CO3	L3	7 M
OR					
6	a)	Explain real-world applications of BERT in natural language understanding.	CO4	L4	7 M
	b)	Illustrate the advantages of transfer learning in BERT for NLP applications.	CO3	L3	7 M
UNIT-IV					
7	a)	Compare the key differences between traditional language models and Transformer-based models?	CO4	L4	7 M
	b)	Explain multi-head attention and how does it enhance the representation diversity in Transformers?	CO3	L3	7 M
OR					
8	a)	Explain the role of Transformers in language summarization and modeling.	CO3	L3	7 M

	b)	Explain real-world examples of a Transformer-based model.	CO4	L4	7 M
UNIT-V					
9	a)	Compare and Contrast GPT and BERT models.	CO4	L4	7 M
	b)	Analyse the impact of biases on GPT and its output.	CO4	L4	7 M
OR					
10	a)	Illustrate the ethical consideration of large language models like GPT.	CO3	L3	7 M
	b)	Explain GPT model and anlayse its performance in program generation and code completion tasks.	CO3	L3	7 M