



Sixth Semester B.E./B.Tech. Degree Examination, June/July 2025
Natural Language Processing

Time: 3 hrs.

Max. Marks: 100

*Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
 2. M : Marks , L: Bloom's level , C: Course outcomes.*

Module – 1			M	L	C
Q.1	a.	Define NLP. What are the applications of NLP?	08	L1	CO1
	b.	Briefly explain variously levels of NLP.	08	L1	CO1
	c.	List and explain the challenges of NLP.	04	L1	CO2
OR					
Q.2	a.	Discuss N-gram model in detail.	08	L1	CO1
	b.	Explain importance of Karaka Theory in NLP.	06	L1	CO2
	c.	What are different types of process analysis?	06	L1	CO2
Module – 2					
Q.3	a.	Explain different categories of POS tagging. Illustrate parts of speech tagging with an example.	08	L1	CO2
	b.	Discuss DFA and NFA. Mention the properties of finite automata.	06	L1	CO1
	c.	Explain CYK algorithm.	06	L1	CO1
OR					
Q.4	a.	Explain two step morphological parser with a neat diagram.	06	L1	CO1
	b.	Explain top-down parsing and bottom-up parsing with an example.	08	L1	CO2
	c.	Briefly explain part-of-speech tagging.	06	L1	CO1
Module – 3					
Q.5	a.	Discuss Naïve Bayes classifiers and explain how Naïve Bayes classifier applied to a movie review (BOW assumption).	08	L2	CO1
	b.	What is Sentiment Analysis? Discuss different types of sentiment analysis.	08	L1	CO1
	c.	Explain Confusion Matrix in detail.	04	L1	CO1
OR					
Q.6	a.	Explain how Naïve Bayes is used under text classification tasks. Illustrate with an example.	08	L1	CO1
	b.	Discuss how Naïve Bayes served as a language model. Illustrate with an example.	06	L1	CO1

Q.6	c.	Define Language Model, explain how Naïve Bayes model serve as language model with the classes of (+ve) and (-ve) probability to the sentence.	06	L2	CO1
Module – 4					
Q.7	a.	With a neat diagram explain design features of information retrieval systems.	08	L2	CO1
	b.	Explain the Cluster and Fuzzy models of information retrieval systems.	08	L1	CO1
	c.	Discuss wordNet with its applications.	04	L1	CO1
OR					
Q.8	a.	Explain Boolean and vector Space information retrieval models.	08	L1	CO1
	b.	Discuss major issues information retrieval.	08	L1	CO1
	c.	Explain the benefits of eliminating stop words. Give examples in which stop word elimination may be harmful.	04	L2	CO1
Module – 5					
Q.9	a.	Explain Encoder-Decoder Transformer architecture.	10	L1	CO1
	b.	What are Multilingual Models? What are the advantages of multilingual model?	05	L1	CO1
	c.	Discuss different automatic evaluation metrics of machine translation evaluation.	05	L1	CO1
OR					
Q.10	a.	What is Data Augmentation? Explain back translation technique.	10	L1	CO1
	b.	Write a short note on : i) Beam Search ii) Minimum Bayes Risk (MBR)	10	L1	CO1
