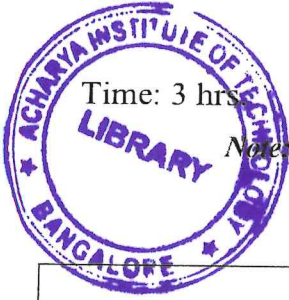


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Sixth Semester B.E./B.Tech. Degree Examination, June/July 2026
Natural Language Processing



Time: 3 hrs

Max. Marks: 100

*Notes: 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. Explain the challenges of natural language processing.	10	L2	CO1
	b.	Explain the role of transformational rules in transformational grammar with the help of example.	10	L2	CO1

OR

Q.2	a.	Write a note on the following with example : i) X-bar Theory ii) Theta-Theory.	10	L2	CO1
	b.	Examine the n-gram model and derive its expression. Also using the bi gram model solve the following test case sentences : Training set <s>The Arabian Knights </s> <s> these are the fairy tales of the east </s> <s> the stories of the Arabain knights are translated in many languages </s> Test sentence : <s> the Arabian Knights are the fairy tales of the east </s> Apply the bigram model for the test sentence and estimate the Probability.	10	L3	CO1

Module – 2

Q.3	a.	Describe DFA and NFA with example. Mention the properties of finites automation.	10	L2	CO2
	b.	Explain the minimum edit distance algorithm and compute the minimum edit distance between EXECUTION and INTENTION.	10	L3	CO2

OR

Q.4	a.	What is POS tagging? Explain Rule based tagger and Hybrid tagger.	10	L2	CO2
	b.	Write CYK algorithm. Tabulate the sequence of states created by CYK algorithm while parsing "The girl wrote an essay".	10	L3	CO2

Module – 5

Q.9	a.	What is Machine Translation? Explain in detail.	4	L2	CO2
	b.	Explain the concept of “Digital Divide” in the context of machine translation and information access.	6	L2	CO1
	c.	Discuss the challenges posed by language divergences for machine translation providing examples from the text.	10	L3	CO5
OR					
Q.10	a.	List three applications of machine translation mentioned in the text.	5	L1	CO5
	b.	Describe the basic work order typologies in languages and their implications for machine translation.	5	L2	CO5
	c.	Analyze the difference between web-framed and satellite-framed languages and discuss how these differences might affect machine translation systems.	10	L3	CO5

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