Reg. No. | | | | | | | | |

G. VENKATASWAMY NAIDU COLLEGE (AUTONOMOUS), KOVILPATTI – 628 502.

PG DEGREE END SEMESTER EXAMINATIONS - NOVEMBER 2025.

(For those admitted in June 2025 and later)

PROGRAMME AND BRANCH: M.Sc., INFORMATION TECHNOLOGY

SEM	CATEGORY	COMPONENT	COURSE CODE	COURSE TITLE
I	PART - III	CORE ELECTIVE - 1	P25IT1E1C	NATURAL LANGUAGE PROCESSING

Date & Session: 05.11.2025/FN **Time : 3 hours** **Maximum: 75 Marks**

Course Outcome	Bloom's K-level	Q. No.	SECTION – A (10 X 1 = 10 Marks) Answer ALL Questions.
CO1	K1	1.	NLP stands for ____. a) Natural Language Processing b) Neural Learning Protocol c) Native Linguistic Protocol d) Natural Logic Parsing
CO1	K2	2.	What are Finite-State Automata used for in NLP? a) Modeling regular grammars b) Word prediction c) Semantic parsing d) Coherence checking
CO2	K1	3.	What technique adjusts for zero-probability in N-grams? a) Normalization b) Smoothing c) Filtering d) Parsing
CO2	K2	4.	Which tagging method uses probability based on word sequence? a) Rule-based b) Logical tagging c) Stochastic tagging d) Frequency scoring
CO3	K1	5.	Which parsing uses probabilistic rules? a) Probabilistic CFG b) Rule-based parser c) Lemmatizer d) Chunker
CO3	K2	6.	What is ambiguity in parsing? a) Repetition b) Tag error c) Token mismatch d) Multiple valid interpretations
CO4	K1	7.	What is semantic role labeling? a) Grammar tagging b) Identifying agent, object in a sentence c) Tokenization d) Sentiment analysis
CO4	K2	8.	What is a lexical database that supports semantics? a) WordNet b) Treebank c) CYK d) Freebank
CO5	K1	9.	What is coreference resolution? a) Sentiment analysis b) Linking pronouns to entities c) Syntax rule checking d) Morphological parsing
CO5	K2	10.	What is anaphora resolution? a) Resolving pronouns and references b) Fixing grammar c) Spelling correction d) Parsing noun phrases

Course Outcome	Bloom's K-level	Q. No.	**SECTION – B (5 X 5 = 25 Marks)** **Answer ALL Questions choosing either (a) or (b)**
CO1	K2	11a.	Elucidate the major challenges in processing natural languages. **(OR)**
CO1	K2	11b.	Distinguish between the Statistical LM and Grammar-based LM.
CO2	K2	12a.	Analyze the concept of smoothing in N-gram models. **(OR)**
CO2	K2	12b.	Summarize the interpolation and back-off in language modeling.
CO3	K3	13a.	Identify the grammar rules used for English syntactic structure. **(OR)**
CO3	K3	13b.	Estimate the normal forms of grammars with example.
CO4	K3	14a.	Assess the requirements for semantic representation in NLP. **(OR)**
CO4	K3	14b.	Illustrate the purpose of description logics.
CO5	K4	15a.	Evaluate the reference phenomenon in discourse analysis. **(OR)**
CO5	K4	15b.	Conclude the algorithms used for coreference resolution.

Course Outcome	Bloom's K-level	Q. No.	**SECTION – C (5 X 8 = 40 Marks)** **Answer ALL Questions choosing either (a) or (b)**
CO1	K4	16a.	Assume the detecting and correcting spelling errors with example. **(OR)**
CO1	K4	16b.	Express the different techniques used in tokenization.
CO2	K5	17a.	Outline the use of rule-based POS tagging with example. **(OR)**
CO2	K5	17b.	Compare and construct the stochastic and transformation-based tagging.
CO3	K5	18a.	Determine the techniques of dynamic programming parsing. **(OR)**
CO3	K5	18b.	Estimate the importance of probabilistic lexicalized CFGs.
CO4	K5	19a.	Discover the implementation of word similarity using thesaurus. **(OR)**
CO4	K5	19b.	Examine the need of syntax-driven semantic analysis.
CO5	K6	20a.	Review the structure and use of WordNet. **(OR)**
CO5	K6	20b.	Predict the role of Brown Corpus and British National Corpus (BNC).