QP Code: SN22BTECH586 | Reg. No | | | | | | | | | | | AR 21

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET University)

B. Tech (Seventh Semester - Regular) Examinations, November – 2025

22BCMPE47011– Computational Linguistics and Natural Language Processing
CSE(AIML)

Time: 3 hrs | Maximum: 70 Marks

(The figures in the right hand margin indicate marks)

PART – A **(2 x 5 = 10 Marks)**

Q.1. Answer ***ALL*** questions

		CO #	Blooms Level
a.	What is pragmatic analysis in NLP?	CO1	K1
b.	Briefly explain f-structure of LFG.	CO1	K1
c.	What do you mean by real world error?	CO1	K1
d.	Explain Part of speech tagging.	CO2	K1
e.	Explain Polysemy briefly.	CO3	K1

PART – B **(15 x 4 = 60 Marks)**

Answer ***all*** the questions

		Marks	CO #	Blooms Level
2. a.	Write a short note on NLP. Explain the significance of NLP in today's world.	8	CO1	K1
b.	Explain Lexical Functional Grammar with some examples.	7	CO1	K1
	(OR)			
c.	Describe different categories of Language Models used in NLP.	8	CO1	K2
d.	Describe different applications of NLP.	7	CO1	K2
3.a.	Explain different algorithms that can be used for spelling correction.	8	CO2	K1
b.	Define a finite automaton that accepts the following language (aa)*(bb)*	7	CO2	K3
	(OR)			
c.	Compare and contrast unigram, bigram, and trigram models in terms of complexity and accuracy.	8	CO2	K2
d.	Calculate the minimum edit distance between changing and challenging.	7	CO3	K3
4.a.	Give two possible parse trees for the sentence, "stolen painting found by tree" and explain the procedures.	8	CO2	K3
b.	How top-down parsing is different from bottom-up parsing?	7	CO3	K1
	(OR)			
c.	Differentiate between Rule based tagger and Stochastic tagger?	8	CO4	K2
d.	By using the following CFG construct a parse tree using top down approach. Explain the procedure of parsing with an example. S → NP VP S → VP NP → (Det) (AP) Nom (PP) VP → Verb (NP) (NP) (PP)* VP → Verb S AP →(Adv) Adj (PP) PP → Prep (NP)	7	CO4	K3
5.a.	What is the significance of morphological parsing?	8	CO4	K1
b.	Explain the role of word sense disambiguation in handling semantic ambiguity.	7	CO3	K1
	(OR)			
c.	Explain the steps involved in a CYK Parser with an example	8	CO2	K2
d.	Explain the difference between lexical and structural ambiguity with examples.	7	CO3	K2

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