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GIET UNIVERSITY, GUNUPUR – 765022
B. Tech (Eight Semester) Examinations, April- 2024
BPECS7014 – Natural Language Processing
(CSE)

Time: 3 hrs

Maximum: 70 Marks

The figures in the right hand margin indicate marks.

PART – A: (Multiple Choice Questions)**(1 x 10 = 10 Marks)**Q.1. Answer ALL questions

		[CO#]	[PO#]
a. What is the main challenge/s of NLP?		CO1	PO1
(i) Handling Ambiguity of Sentences	(ii) Handling Tokenization		
(iii) Handling POS-Tagging	(iv) All of the mentioned		
b. What type of ambiguity exists in the word sequence “Time flies”?		CO1	PO1
(i) Syntactic	(ii) Semantic		
(iii) Phonological	(iv) Anaphoric		
c. Machine Translation is that converts		CO1	PO1
(i) Human language to machine language	(ii) One human language to another		
(iii) Any human language to English	(iv) Machine language to human language		
d. What is Morphological Segmentation?		CO3	PO1
(i) Does Discourse Analysis	(ii) Separate words into individual morphemes and identify the class of the morphemes		
(iii) Is an extension of propositional logic	(iv) None of the mentioned		
e. The words ‘there’ and ‘their’ causes which of the following type of ambiguity?		CO3	PO1
(i) Syntactic	(ii) Semantic		
(iii) Phonological	(iv) Pragmatic		
f. ____ concerns how the immediately preceding sentences affect the interpretation of the next sentence		CO2	PO1
(i) Pragmatics	(ii) Syntax		
(iii) Discourse	(iv) Semantics		
g. Nouns, Verbs, Adjectives, Adverbs belong to ____ class type in POS		CO2	PO1
(i) Join Class	(ii) Open Class		
(iii) Sub Class	(iv) Closed class		
h. What is morphology?		CO3	PO1
(i) The study of the rules governing the sounds that form words	(ii) The study of the rules governing sentence formation		
(iii) The study of the rules governing word formation	(iv) The study of the rules governing sounds		
i. Choose form the following areas where NLP can be useful.		CO4	PO1
(i) Automatic Text Summarization	(i) Information Retrieval		
(iii) Information Retrieval	(iii) All of the Above		
j. Which one of the following is type of spelling errors?		CO3	PO1
(i) Sentence errors	(ii) Non-word errors		
(iii) Non-cognitive errors	(iv) Syntax errors		

PART – B: (Short Answer Questions)**(2 x 10 = 20 Marks)**Q.2. Answer ALL questions

	[CO#]	[PO#]
a. Differentiate between rationalist and empirist approach.	CO1	PO1
b. List some common components of NLP.	CO2	PO1
c. Explain text summarization.	CO2	PO1
d. Differentiate d-structure and s-structure of GB.	CO3	PO1
e. Describe working principle of n-gram in NLP.	CO2	PO1
f. Explain briefly about Pragmatic Ambiguity.	CO3	PO1
g. What do you mean by Information retrieval?	CO4	PO1
h. Explain the difference between Karta and Agent.	CO2	PO1
i. What do you mean by Machine Translation?	CO3	PO1
j. Explain Part of speech tagging.	CO3	PO1

PART – C: (Long Answer Questions)**(10 x 4 = 40 Marks)**Answer ALL questions

	Marks	[CO#]	[PO#]
3. a. Write a short note on NLP. Explain the significance of NLP in today's world.	5	CO1	PO1
b. Explain Lexical Functional Grammar with some examples.	5	CO2	PO2
(OR)			
c. Describe different applications of NLP.	5	CO2	PO2
d. Explain the principles of Paninian Grammar.	5	CO2	PO2
4. a. Differentiate between Rule based tagger and Stochastic tagger?	5	CO3	PO3
b. Explain different algorithms that can be used for spelling correction.	5	CO3	PO1
(OR)			
c. How top-down parsing is different from bottom-up parsing?	5	CO2	PO1
d. Write the c-structure and f-structure for the sentence "She saw Stars" with the help of the following CFG rules	5	CO2	PO2
S -> NP VP			
VP -> V {NP} {NP} PP* {S'}			
PP -> P NP			
NP -> Det N {PP}			
S' -> Comp S			
5. a. Compute the minimum edit distance between <i>paecflu</i> and <i>peacful</i>	5	CO3	PO1
b. Write short notes on	5	CO4	PO1
(i) Machine translation (ii) Text summerisation			
(OR)			
c. Narrate the role of transformational rules in transformational grammar	5	CO3	PO1
d. Explain the three conditions imposed by LFG on f-structure.		CO2	PO2
6. a. Narrate what additional benefit a smoothing and caching principle provide to the n-gram model.	5	CO2	PO2
b. Explain different algorithms that can be used for spelling correction.	5	CO4	PO1
(OR)			
c. Describe augmented grammar in Syntactic Analysis.	5	CO3	PO3
d. Distinguish between semantics, pragmatics and discourse analysis.	5	CO3	PO2

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