Register Number												

SRM Institute of Science and Technology
College of Engineering and Technology
School of Computing
SRM Nagar, Kattankulathur – 603203, Chengalpattu District, Tamilnadu
Academic Year: 2024 - 25 EVEN
B.Tech-School of Computing

Test: FT2 **Date: 21.2.2025**

Course Code & Title: 21CSE356T – Natural Language Processing **Duration: 2 periods**

Sem: VI Sem **Max. Marks: 50**

Batch II **SET : D**

Course Articulation Matrix:

S.No.	Course Outcome	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO12	PSO 1	PSO 2	PSO 3
1	CO1	3	3	2										2		
2	CO2	3	3	2										2		
3	CO3	3	3	2										2		
4	CO4	3			3	3								2		
5	CO5			2	3	3										

	Part – A Answer all questions (10 x 1=10 marks)						
Q. No	**Question**	**Answers**	**Marks**	**BL**	**CO**	**PO**	**PI Code**
1.	What is the field of Natural Language Processing? a. Computer Science b. Artificial Intelligence c. Linguistics d. All the above mentioned		1	2	CO1	1	2.6.1
2.	What are the main challenges of NLP a. Handling Ambiguity of Sentences b. Handling Tokenization c. Handling POS-Tagging d. All the above mentioned		1	2	CO1	1	2.6.2
3.	What is Machine Translation? a. Converts one human language to the other b. Converts human language to machine language c. Converts any human language to English d. Converts Machine Language to Human Language		1	2	CO1	1	2.6.1
4.	What is Morphological Analysis a. Does Discourse Analysis b. Separate words into individual morphemes and identify the class of the morphemes c. Is an extension of propositional logic d. Does Pragmatic Analysis		1	2	CO1	1	2.6.1

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5.	Given a sound clip of a person or people speaking, determine the textual representation of the speech. a. Text to Speech b. Speech to text c. All the mentioned above d. None of the mentioned		1	2	CO1	1	2.6.2
6.	In Linguistic Morphology -------is the process for reducing inflected words to their root form. a. Rooting b. Stemming c. Text-Proofing d. Both Rooting and stemming		1	2	CO1	3	2.6.1
7.	How Many stages are there in NLP? a. 4 b. 3 c.5 d.6		1	2	CO1	1	2.6.1
8.	--------is the steps in which an input sentence is converted into a hierarchical structure that corresponds to the units of meaning in the sentence a. Syntactic Processing b. Semantic Processing c. Graph Processing d. Text Processing		1	2	CO1	1	2.6.1
9.	“I saw bats” contains what type of ambiguity? a. Syntactic b. Semantic C. Lexical d. Anaphoric		1	2	CO1	1	2.6.1
10.	In which of the following NLP stages does one draw a parse tree? a. Morphological b. Syntactic c. Semantic d. Pragmatic		1	2	CO1	1	3.6.2

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3	**CO3**	3	3	2										2		
4	**CO4**	3			3	3								2		
5	**CO5**			2	3	3										

Part –B

Answer ALL questions (4 x 5=20 marks)

Q. No	Question	Marks	BL	CO	PO	PI Code
11.a.	Imagine you are developing a chatbot for customer support. A user sends the following message: "The thief robbed the apartment"." Explain how the parse tree is generated for this statement.	5	4	CO1	3	3.6.2
	(OR)					
11.b.	What is TF-IDF, and how is it used in text analysis?	5	4	CO1	1	3.6.2
12.a.	Explain lexicon, lexeme, and different types of relations that hold between lexemes.	5	3	CO1	3	3.6.1
	(OR)					
12.b.	State the difference between BOW and n gram model	5	4	CO1	3	3.6.2
13.a.	State the similarity and difference between CNF and CNF grammar with example.	5	4	CO1	1	3.6.4
	(OR)					
13.b.	Explain CKY parsing and probabilistic CNF parsing.	5	4	CO1	3	3.6.2
14.a.	What is Smoothing ? define types smoothing technique.	5	4	CO1	1	3.6.2

	(OR)					
14.b.	What is NLTK? How is it different from Spacy?	5	3	CO1	3	3.6.2

Part –C

Answer any 2 questions (2 x 10=20 marks)

Q. No	Question	Marks	BL	CO	PO	PI Code
15.a.	Identify the suitable NLP approaches used to identify the word meaning correctly . For example, "T deposited money in the bank" and "The boat went down the river bank". — From the above 2 sentences analysis the work meaning for the same word "Bank".	10	5	CO4	5	3.6.2
	(OR)					
15.b.	The following sentences are available in the training corpus: • Thank you so much for your help. • I really appreciate your help. • Excuse me, do you know what time it is? • I'm really sorry for not inviting you. • I really like your watch. Let's see the probability of the word "really like, really appreciate, really sorry" occurring after the word "really" using suitable NLP concepts.	10	5	CO3	5	3.6.2
16.a.	Text = "I want to become an NLP Software Developer to get high salary package in the world", for the above sentence, explain different types of N-Gram models.	10	5	CO3	3	3.6.2
	(OR)					
16.b.	Explain the dependency parsing in the NLP.	10	5	CO4	1	3.6.2