

Model Question Paper-1 with effect from 2021(CBCS Scheme)

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Sixth Semester B.E. Degree Examination Natural Language Processing

TIME: 03 Hours

Max. Marks: 100

Note: Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

Module -1			*Bloom's Taxonomy Level	COs	Marks
Q.01	a	What is NLP? List and explain applications of NLP.	L2	CO2	6
	b	List and explain the challenges of NLP.	L2	CO2	6
	c	Briefly explain various levels of natural language processing.	L2	CO2	8
OR					
Q.02	a	Explain the role of transformational rules in transformational grammar with the help of an example.	L2	CO1	6
	b	Describe C-structure and f-structure in LFG. Write C- structure and f-structure for the sentence 'She saw stars' using the CFG rules as below: $S \rightarrow NP \ VP$ $VP \rightarrow V \{NP\} \{NP\} \ PP^* \ \{S'\}$ $PP \rightarrow P \ NP$ $NP \rightarrow Det \ N \ \{PP\}$ $S' \rightarrow comp \ S$	L3	CO1	8
	c	Explain X-bar theory with example.	L2	CO1	6
Module-2					
Q. 03	a	Discuss DFA and NFA. Mention the properties of finite automation .	L2	CO1	6
	b	Illustrate minimum edit distance algorithm with example.	L3	CO1	8
	c	Explain CYK algorithm.	L2	CO1	6
OR					
Q.04	a	Explain two step morphological parser with a neat diagram.	L2	CO1	6
	b	What is POS tagging? Explain Rule based taggers and Hybrid tagger.	L2	CO1	8
	c	With example ,explain basic top-down depth first algorithm.	L3	CO1	6
Module-3					
Q. 05	a	Explain Active Learning strategy steps for acquiring labels from a human annotator.	L2	CO3	8
	b	Explain two approaches of relation extraction.	L2	CO3	6
	c	Describe the patterns used to extract relationship between two entity with a given sentence.	L2	CO3	6

OR					
Q. 06	a	What are the different steps used to achieve the goal of case annotation.	L2	CO3	8
	b	Write short notes on the following: (i)Domain Knowledge (ii)Domain concept (iii) Knowledge roles.	L2	CO3	6
	c	Explain functional overview of InFact system with a neat diagram.	L2	CO3	6
Module-4					
Q. 07	a	Briefly describe the evolutionary model for knowledge discovery from texts with a neat diagram.	L2	CO3	10
	b	Describe the following: (i)Topic models (ii)Cohesion and cohesion matrix.	L2	CO3	10
OR					
Q. 08	a	What is iSTART?List the reading strategies used by iSTART.	L2	CO3	6
	b	Explain Literal word matching and soundex word matching approaches.	L2	CO3	6
	c	Briefly describe LSA feedback systems. Mention four benchmarks used by LSA to Assess the level of an explanation.	L2	CO3	8
Module-5					
Q. 09	a	Explain basic Information Retrieval process with a neat diagram.	L2	CO4	6
	b	State and explain the importance of Zipf's Law related to words distribution in NLP.	L2	CO4	6
	c	Explain Boolean and vector space information retrieval models.	L3	CO4	8
OR					
Q. 10	a	Explain the Cluster and Fuzzy models of IR system.	L3	CO4	10
	b	Explain WordNet with its applications.	L2	CO4	10