NARSIMHA REDDY ENGINEERING COLLEGE
UGC-AUTONOMOUS INSTITUTION
NRCM
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An **Autonomous** Institute
NAAC Accreditation **'A'** Grade
Accredited by **NBA**
Approved by **AICTE**, Affiliated to **JNTUH**

School of Computer Science

QUESTION BANK

UNIT–I

S.No		Questions	BT	CO	PO
Part –A(ShortAnswerQuestions)					
1		List the methods of Word components	L1	CO1	PO1,PO2
2		What is a Token	L1	CO1	PO1,PO2
3		Define NLP	L1	CO1	PO1,PO2
4		What do you mean by Morphemes?	L1	CO1	PO1,PO2
5		What is Natural Language Processing? Discuss With some applications.	L1	CO1	PO1,PO2
6		What is Morphology?	L1	CO1	PO1,PO2
7		Analyze the usage of feature structures in NLP.	L1	CO1	PO1,PO2
8		List out the morphological models?	L1	CO1	PO1,PO2
9		What do you meant by NLP algorithm	L1	CO1	PO1,PO2
10		What is Lexeme.	L1	CO1	PO1,PO2
Part– B(LongAnswerQuestions)					
11	a)	Analyse how statistical methods can be used in machine Translation	L6	CO1	PO1,PO2
	b)	Design a finite state transducer with E-insertion orthographic rule that parses from surface level "foxes" to lexical level "fox+N+PL" using FST.	L5	CO1	PO1,PO2
12	a)	Explain the complexity approaches	L2	CO1	PO1,PO2
	b)	Explain the Performances analysis	L2	CO1	PO1,PO2
13	a)	Explain the structure documents	L2	CO1	PO1,PO2
	b)	What are the issues and challenges of Morphology.	L1	CO1	PO1,PO2
14	a)	Explain in detail about Morphological models.	L2	CO1	PO1,PO2
	b)	Explain Generative Sequence classification methods.	L2	CO1	PO1,PO2
15	a)	Explain Discriminative local classification methods.	L2	CO1	PO1,PO2

			BT	CO	PO
	b)	Explain the hybrid approaches .	L2	CO1	PO1,PO2
16	a)	Explain the two types of morphemes in detail.	L2	CO1	PO1,PO2
	b)	Explain how the morphological typology divides languages into groups.	L2	CO1	PO1,PO2

UNIT–II

S.No		Questions	BT	CO	PO
Part –A(ShortAnswerQuestions)					
1		Define Parsing	L1	CO2	PO3,PO4
2		What is CFG.	L1	CO2	PO3,PO4
3		What is Treebank?	L1	CO2	PO3,PO4
4		What are the two approaches to construct treebank?	L1	CO2	PO3,PO4
5		Define Syntax	L1	CO2	PO3,PO4
6		What is dependency Parsing.	L1	CO2	PO3,PO4
7		List the parsing algorithms	L1	CO2	PO3,PO4
8		What are the rules of CNF.	L1	CO2	PO3,PO4
9		Define Multilingual	L1	CO2	PO3,PO4
10		Define Minimum spanning tree.	L1	CO2	PO3,PO4
Part– B(LongAnswerQuestions)					
11	a)	Explain the parsing of NLP	L2	CO2	PO3,PO4
	b)	Explain the TreeBank method with example	L2	CO2	PO3,PO4
12	a)	Construct Shift reduce parsing N-> N 'and' N N->N 'or' N N->'a'|'b'|'c'	L3	CO2	PO3,PO4
	b)	Explain data–driven mechanism	L2	CO2	PO3,PO4
13	a)	How can we resolve parsing challenges.(CKY)		CO2	PO3,PO4
	b)	Explain the Multilingual issues	L2	CO2	PO3,PO4
14	a)	Explain the models of ambiguity resolution	L2	CO2	PO3,PO4

	b)	Find out the probability for the grammar S ->NP VP [0.80] NP->Det N [0.3] VP->V NP [0.20] V->includes [0.05] Det->the [0.4] Det->a [0.4] N->meal [0.013] N->flight [0.02] for the input string " The flight includes a meal"		CO2	PO3,PO4
15	a)	Explain Minimum spanning tree with an example dependency graph.	L2	CO2	PO3,PO4
	b)	Differentiate Generative and discriminative models for parsing.	L4	CO2	PO3,PO4
16	a)	Explain Syntax analysis using phrase structure trees.	L2	CO2	PO3,PO4
	b)	Explain hyper graphs and chart parsing with an example.	L2	CO2	PO3,PO4

UNIT–
III

S.No	Questions	BT	CO	PO
Part –A(ShortAnswerQuestions)				
1	Define semantic parsing	L1	CO3	PO3,PO4.PO5
2	What is Semantic Interpretation.	L1	CO3	PO3,PO4.PO5
3	List the semantic rules	L1	CO3	PO3,PO4.PO5
4	Define named entity recognition.	L1	CO3	PO3,PO4.PO5
5	Define system paradigm	L1	CO3	PO3,PO4.PO5
6	What is semi supervised learning.	L1	CO3	PO3,PO4.PO5
7	What is wordsense system	L1	CO3	PO3,PO4.PO5
8	What is supervised learning.	L1	CO3	PO3,PO4.PO5

			BT	CO	PO
9		Define Unsupervised learning	L1	CO3	PO3,PO4. PO5
10		What is Coreference resolution.	L1	CO3	PO3,PO4. PO5
Part– B(LongAnswerQuestions)					
11	a)	Explain in detail about semantic interpretation.	L2	CO3	PO3,PO4. PO5
	b)	Explain System paradigms	L2	CO3	PO3,PO4. PO5
12	a)	Explain the methods of word sense systems	L2	CO3	PO3,PO4. PO5
	b)	Explain the software"s associated with semantic interpretation	L2	CO3	PO3,PO4. PO5
13	a)	Briefly explain the structural ambiguity.	L2	CO3	PO3,PO4. PO5
	b)	What is entity and event resolution.	L1	CO3	PO3,PO4. PO5
14	a)	Describe Predicate Argument structure.	L2	CO3	PO3,PO4. PO5
	b)	Explain Lesk algorithm.	L2	CO3	PO3,PO4. PO5
15	a)	What is Rule based system for word sense disambiguation.	L4	CO3	PO3,PO4. PO5
	b)	What is Supervised system for word sense disambiguation.	L1	CO3	PO3,PO4. PO5
16	a)	What is UnSupervised system for word sense disambiguation.	L1	CO3	PO3,PO4. PO5
	b)	What is the software used for measuring disambiguation.	L1	CO3	PO3,PO4. PO5

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UNIT–
IV

S.No	Questions	BT	CO	PO
Part –A(ShortAnswerQuestions)				

			BT	CO	PO
1	Define Predicate Logic	L1	CO4	PO3,PO4
2	Give example for predicate logic	L3	CO4	PO3,PO4
3	Define argument structure	L1	CO4	PO3,PO4
4	Define structure management	L1	CO4	PO3,PO4
5	Define representation in NLP	L1	CO4	PO3,PO4
6	Define frame elements.	L1	CO4	PO3,PO4
7	What is Prop Bank.	L1	CO4	PO3,PO4
8	Name the other resource of prop Bank.	L2	CO4	PO3,PO4
9	What is Argument identification.	L1	CO4	PO3,PO4
10	What is Argument classification.	L1	CO4	PO3,PO4
Part– B(LongAnswerQuestions)					
11	a)	Explain in detail about predicate logic with examples.	L2	CO4	PO3,PO4
	b)	Explain in detail about argument structure in NLP	L2	CO4	PO3,PO4
12	a)	Explain in detail about meaning representation system	L2	CO4	PO3,PO4
	b)	List and explain the meaning representation	L1	CO4	PO3,PO4
13	a)	Describe the resources of predicate argument.	L2	CO4	PO3,PO4
	b)	Illustrate the Frame Net of predicate argument structure.	L4	CO4	PO3,PO4
14	a)	What are the syntactic representations.	L1	CO4	PO3,PO4
	b)	Explain Phrase Structure Grammar.	L2	CO4	PO3,PO4
15	a)	Explain the meaning representation systems.	L2	CO4	PO3,PO4
	b)	Describe the rule based system in predicate structure.	L2	CO4	PO3,PO4
16	a)	Describe the supervised system in predicate structure.	L2	CO4	PO3,PO4
	b)	What is ATIS and Communicator.	L1	CO4	PO3,PO4

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UNIT–V

S.No	Questions	BT	CO	PO
Part –A(ShortAnswerQuestions)				
1	Define cohension	L1	CO5	PO3,PO5

			L1	CO5	PO3,PO5
2		Define reference resolution	L1	CO5	PO3,PO5
3		Define discourse cohension	L1	CO5	PO3,PO5
4		Define modeling	L1	CO5	PO3,PO5
5		What do you meant by crosslingual	L1	CO5	PO3,PO5
6		What is the formula for probability of n-Gram model.	L1	CO5	PO3,PO5
7		What is Baye'srule.	L1	CO5	PO3,PO5
8		What is the need of language model adaptation.	L1	CO5	PO3,PO5
9		Draw the diagram of neural network language model.	L1	CO5	PO3,PO5
10		What is cross lingual language modeling.	L1	CO5	PO3,PO5
Part– B(LongAnswerQuestions)					
11	a)	Explain in detail about reference resolution	L2	CO5	PO3,PO5
	b)	Explain in detail about discourse of cohesion	L2	CO5	PO3,PO5
12	a)	Explain in detail about N-Gram Models	L2	CO5	PO3,PO5
	b)	Explain in detail about language specific models	L2	CO5	PO3,PO5
13	a)	Discuss about language model adaptation.	L2	CO5	PO3,PO5
	b)	Illustrate spoken versus written languages.	L4	CO5	PO3,PO5
14	a)	Describe multilingual language modeling.	L2	CO5	PO3,PO5
	b)	Describe cross lingual language modeling.	L2	CO5	PO3,PO5
15	a)	What are the language specific modeling problems.	L1	CO5	PO3,PO5
	b)	Explain neural network language models.	L2	CO5	PO3,PO5
16	a)	What are the different types of language models.	L1	CO5	PO3,PO5
	b)	What is language model adaptation	L1	CO5	PO3,PO5

***BloomsTaxonomyLevel(BT)**(L1–Remembering;L2–Understanding;L3–Applying;L4–Analyzing;L5–Evaluating;L6–Creating)**Course Outcomes (CO)Program Outcomes(PO)**

Sample Question paper

MODEL QUESTION PAPER

COLLEGE(UGC AUTONOMOUS)

III B.Tech I Semester (NR20) Regular Examination, January 2023

Natural language processing

(**CSE** / **AI&ML**)

	Time :3 hours	Maximum marks:

Note:
- This question paper contains two parts A and B
- Part A is compulsory which carries 25 marks (1st 5 sub questions are one from each unit carry 2 Marks each & Next 5 sub questions are one from each unit carry 3 Marks). Answer all questions in Part A
- Part B Consists of 5 Units. Answer any one full question from each unit. Each question carries 10 Marks and may have a, b sub questions

Part-A (25 Marks)
Answer all questions

Q.No		Question	M	BL	CO	PO
1)	a.	List the methods of Word components	2	L1	CO1	PO1,PO2
	b.	What is a Token	2	L1	CO1	PO1,PO2
	c.	What is CFG	2	L1	CO2	PO3,PO4
	d.	What is Treebank?	2	L1	CO2	PO3,PO4
	e.	What is Semantic Interpretation	2	L1	CO3	PO3,PO4.PO5
	f.	List the semantic rules	3	L1	CO3	PO3,PO4.PO5
	g.	Define argument structure	3	L1	CO4	PO3,PO4
	h.	Define structure management	3	L1	CO4	PO3,PO4
	i.	Define reference resolution	3	L1	CO5	PO3,PO5
	j.	What is the need of language model adaptation	3	L1	CO5	PO3,PO5

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Part-B   **50 Marks)**

**Answer any five
questions All Questions carry
equal Marks**

Q.No		Question	M	BL	CO	PO
		UNIT–I				
2)	a.	Explain the complexity approaches.	5	L2	CO1	PO1,PO2
	b.	Explain the Performances analysis	5	L2	CO1	PO1,PO2
		OR				
3)	a.	Explain in detail about Morphological models.	5	L3	CO1	PO1,PO2
	b.	Explain Generative Sequence classification methods	5	L2	CO1	PO1,PO2
		UNIT–II				
4)	a.	Construct Shift reduce parsing N-> N 'and' N N->N 'or' N N->'a'|'b'|'c'	5	L2	CO2	PO3,PO4
	b.	Explain data–driven mechanism	5	L2	CO2	PO3,PO4
		OR				
5)	a.	Explain the models of ambiguity resolution	5	L3	CO2	PO3,PO4
	b.	Find out the probability for the grammar S ->NP VP [0.80] NP->Det N [0.3] VP->V NP [0.20] V->includes [0.05] Det->the [0.4] Det->a [0.4] N->meal [0.013] N->flight [0.02] for the input string " The flight includes a meal"	5	L3	CO2	PO3,PO4
		UNIT–III				
6)	a.	Describe Predicate Argument structure.	5	L2	CO3	PO3,PO4 .PO5

			M	BL	CO	PO
	b.	Explain Lesk algorithm.	5	L2	CO3	PO3,PO4.PO5
OR
7)	a.	What is Rule based system for word sense disambiguation.	5	L1	CO3	PO3,PO4.PO5
	b.	What is Supervised system for word sense disambiguation.	5	L1	CO3	PO3,PO4.PO5
UNIT–IV
8)	a.	What are the syntactic representations.	5	L1	CO4	PO3,PO4
	b.	Explain Phrase Structure Grammar.	5	L4	CO4	PO3,PO4
OR
9)	a.	Explain the meaning representation systems	5	L3	CO4	PO3,PO4
	b.	Describe the rule based system in predicate structure.	5	L4	CO4	PO3,PO4
UNIT–V
10)	a.	Discuss about language model adaptation	5	L2	CO5	PO3,PO5
	b.	Illustrate spoken versus written languages	5	L4	CO5	PO3,PO5
OR
11)	a.	Describe multilingual language modeling	5	L2	CO5	PO3,PO5
	b.	Describe cross lingual language modeling.	5	L2	CO5	PO3,PO5

M – Marks   **CO –** Course Outcomes   **PO –** Program Outcomes

BL – Bloom's Taxonomy Levels (**L1–**Remembering, **L2–**Understanding, **L3–**Applying,**L4–**Analyzing, **L5–**Evaluating, **L6–**Creating)

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