



R20 Regulation

Subject code:3P5GC

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech V Semester Supplementary Examinations, December 2024

NATURAL LANGUAGE PROCESSING (CSE (AIML))

Maximum Marks: 70

Date:31.12.2024

Duration: 3 hours

- Note:
- 1.This question paper contains two parts A and B.
 2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X2M=20) Marks)		CO	Bloom Tx
1	What is the role of Morphology?	1	L1
2	Write about Topic Boundary Detection	1	L1
3	Differentiate Syntactic and Semantic Parsing	2	L1
4	What is Tree Banks?	2	L1
5	What is Context free Grammar?	3	L1
6	Write the Frame based Knowledge Representation.	3	L1
7	What is Predicate Argument Structure in Syntax?	4	L1
8	What is the work of Word Sense?	4	L1
9	Write about N-Gram model?	5	L1
10	Define Tri-gram model.	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		CO	Bloom Tx
11	Explain in Detail Finite-State Morphology with Example. [10M]	1	L2
	OR		
12	a) Differentiate Lexeme, Morphitic and Orthographic. [5M] b) List out Ambiguity in Issues and Challenges [5M]	1	L2
13	Explain Minimum Spanning Tree and its Applications and Word Segmentation given sentences: S1: Earth is the third planet from the sun S2: Jupiter is the Largest Planet [10M]	2	L2
	OR		
14	Describe Probabilistic Context Free Grammar for given sentence. "Book the flight through the Houston" [10M]	2	L2

	$S \rightarrow NP VP$ [.80] $S \rightarrow Aux NP VP$ [.15] $S \rightarrow VP$ [.05] $NP \rightarrow Det Nom$ [.20] $NP \rightarrow Proper-Noun$ [.35] $NP \rightarrow Nom$ [.05] $NP \rightarrow Pronoun$ [.40] $Nom \rightarrow Noun$ [.75] $Nom \rightarrow Noun Noun$ [.20] $Nom \rightarrow Proper-Noun Nom$ [.05] $VP \rightarrow Verb$ [.55] $VP \rightarrow Verb NP$ [.40] $VP \rightarrow Verb NP NP$ [.05] $Det \rightarrow that$ [.05] the [.80] a [.15] $Noun \rightarrow book$ [.10] $Noun \rightarrow flights$ [.50] $Noun \rightarrow meal$ [.40] $Verb \rightarrow book$ [.30] $Verb \rightarrow include$ [.30] $Verb \rightarrow want$ [.40] $Aux \rightarrow can$ [.40] $Aux \rightarrow does$ [.30] $Aux \rightarrow do$ [.30] $Proper-Noun \rightarrow TWA$ [.40] $Proper-Noun \rightarrow Denver$ [.40] $Pronoun \rightarrow you$ [.40] I [.60]		
15	Explain about list of Resources in Word Sense Disambiguation (WSD). [10M]	3	L2
	OR		
16	Explain Lesk Algorithm With Example. [10M]	3	L2
17	Explain Predicate Structure Argument. [10M]	4	L2
	OR		
18	What is Frame net? Explain its goals, replacement and Inherited Frames.	4	L2
19	Write about Language Modeling. Explain its Types? [10M]	5	L2
	OR		
20	What is Bigram model? Explain with example. [10M]	5	L2