



National Institute of Technology, Tiruchirappalli – 15  
Department of Computer Science & Engineering

Retest

CSPE73 – Natural Language Processing (Elective)

Class / Semester : IV CSE / VII Time : 3.00 PM to 4.00 PM  
Date : 04.11.2025 Marks : 20 Section : A

Answer all questions

1. Draw the pronunciation networks for the word "Slight" using Hidden Markov Model. [CO3] (4)

2. Consider the CNF grammar G defined for a language L. [CO2] (8)

S → AB | BC  
A → BA | a  
B → CC | b  
C → AB | a

Check whether the string  $aab \in L(G)$  or not using CYK parsing.

3. Consider the grammar G given below.

S → NP VP | Wh NP VP | Wh NP Aux NP VP  
S → Aux NP VP | VP  
NP → Proper-Noun | Noun | Personal Pronoun | NP PP  
NP → Determiner Nominal | Possessive Pronoun Noun  
NP → Adjective Noun  
Nominal → Noun | Noun Nominal  
Nominal → Adjective Nominal  
PP → Preposition NP  
VP → Verb | Verb NP | Verb PP | Verb PP NP

By using the above grammar, check whether the sentence "The monkey pick the hat from a boy"  $\in L(G)$  or not by using Chunk Parser and FST Parser. [CO2] (8)