



National Forensics Sciences University, Goa Campus

Mid- semester Examination

Programme –MTECH AIDS Sem – II

Date - 20/3/2025, 11:00 AM to 12:30 PM

Subject Name: NATURAL LANGUAGE PROCESSING

Subject Code- CTMTAIDS SII P3

Time- 1.5 Hours

Max. Marks- 50

Instructions - 1) Answer all questions. 2) Assume suitable data.

Q.1 Solve any four 20 marks

- List any 10 tasks than can be solved using NLP. 5 marks
- List and explain the challenges of NLP 5 marks
- What is named entity recognition. Give example. 5 marks
- What is Markov Model and Markov Property. 5 marks
- Write an algorithm for the Minimum Edit Distance or Explain with example. 5 marks

Q.2 Attempt all 15 marks

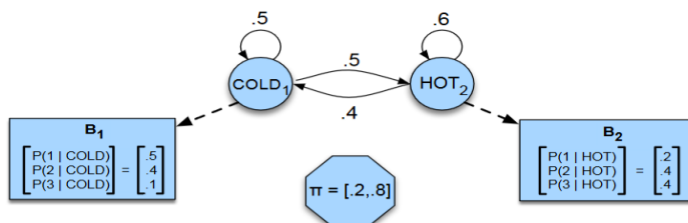
- Explain interpolation and Backoff in NLP 5 marks
- Convert the Following CFG into CNF Form. 5 marks
 - $S \rightarrow Aba$
 - $S \rightarrow bA \mid aB$
 $A \rightarrow aab \quad A \rightarrow bAA \mid aS \mid a$
 $B \rightarrow Ac \quad B \rightarrow aBB \mid bS \mid b$
- Explain different types of Ambiguity 5 marks

Q.3 a. With a Neat Diagram Explain NLP Pipeline 8 marks
OR

- Check whether the following grammar is valid or not for the given sentence of “baaba” using CKY. Show all the intermediate steps and show it in a table. 8 marks

$S \rightarrow AB \mid BC$
 $A \rightarrow BA \mid a$
 $B \rightarrow CC \mid b$
 $C \rightarrow AB \mid a$

Q.4 a. Compute the best path through the hidden state space for the ice-cream eating events 3 1 3. 7 marks



OR

- Define Mathematically Hidden Markov Model and explain with simple example. 7 marks

*** All the best***