

BLOCK EXAM PAPER



National Forensics Sciences University, Goa Campus Mid- semester Examination

Programme –MTECH AIDS Sem – II

Subject Name: NATURAL LANGUAGE PROCESSING

Time- 1.5 Hours

Date -

07/04/25

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

Subject Code- CTMTAIDS SII P3

Max. Marks- 50

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

Q.1 Solve any four

20 marks

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

5 marks

5 marks

5 marks

5 marks

5 marks

Q.2 Attempt all

15 marks

a. Explain interpolation and Backoff in NLP

5 marks

b. Convert the Following CFG into CNF Form.

5 marks

1. $S \rightarrow Aba$ 2. $S \rightarrow bA \mid aB$

$A \rightarrow aab$ $A \rightarrow bAA \mid aS \mid a$

$B \rightarrow Ac$ $B \rightarrow aBB \mid bS \mid b$

c. Explain different types of Ambiguity

5 marks

Q.3 a. With a Neat Diagram Explain NLP Pipeline

8 marks

OR

b. 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

$S \rightarrow AB \mid BC$

$A \rightarrow BA \mid a$

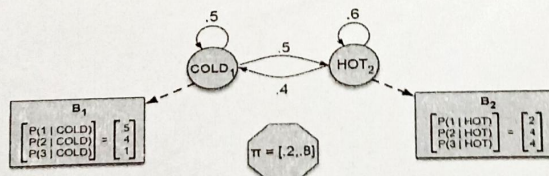
$B \rightarrow CC \mid b$

$C \rightarrow AB \mid a$

Q.4

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

7 marks



OR

b. Define Mathematically Hidden Markov Model and explain with simple example.

7 marks

*** All the best***