

**NATIONAL INSTITUTE OF TECHNOLOGY, TIRUCHIRAPPALLI-15**  
**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**  
**B.TECH. DEGREE, VII SEMESTER, I CYCLE TEST, AUG-2025**  
**CSPE73 – Natural Language Processing**

**DATE: 21-08-2025      TIME: 11.00 a.m. – 12.00 p.m.      MAX.MARKS:20 marks**  
**Answer all Questions      5 x 4=20 marks**

1. Given the following data, find the class of the test document using Naïve Bayes Classifier.

	Class	Documents
Training	Home	Bed TV Kitchen
	Home	TV Bed Bed Printer
	Home	Kitchen Cook TV Computer
	Office	Desk Printer Printer Computer
	Office	Computer Desk Desk Printer
Test	?	Bed Kitchen Desk Desk Computer Printer

2. Estimate Unigram and Bigram probabilities for the following sentences

<s> My name is Alice </s>

<s> Alice my name is </s>

<s> A girl said that her name is Alice </s>

<s> My daughter's name is Alice </s>

3. Explain morphological analysis using Finite State Methods and Finite State Transducer with examples.
4. Explain Top-Down Parsing and Bottom-Up Parsing in the context of Context-Free Grammars with an example.
5. Write short notes on Named Entity Recognition using Maximum Entropy models.

-----Best Wishes-----