

JK Lakshmipat University Jaipur

INSTITUTE OF ENGINEERING AND TECHNOLOGY

End Term Examination, April 2024

B. Tech. (CSE), Semester VI, 23-24

Roll No.....

CS1231: Natural Language Processing and Machine Translation

Time: 3 Hours

MM:40

Instructions to students:

1. Do not write anything other than your roll number on question paper.
2. Mention all the assumptions for your answers clearly.
3. The question paper has questions with total 50 marks. You can attend any number of questions as long as the sum of the Marks doesn't exceed 40. Please tick the question number on the front page of answer sheet which you want to be checked. You can't choose part of a question.

Q1. Tag (POS Tagging) the following text and calculate the bigram probabilities: (4M+4M)

CO2

Once upon a time there was a Princess. One afternoon she found her favorite ball from childhood, the one that sparkled when she threw it up high to the sun. She took the ball to the palace yard and threw it higher and higher.

Q 2. Write at least 5 sentences which use "put" as part of the phrasal verbs giving different meanings to the sentences. Give translation of each sentence in Hindi . (5M)

CO1,CO2

Q 3. What do you understand by open and closed classes of words? Explain with examples.(2M)

CO1,CO2

Q 4. Parse the sentence "I can see a boy on the top of hill with my binoculars" using Left Corner (LC) strategy. (6M)

CO3

Q. 5. Repeat the parsing of the same sentence with CYK parser. (6M)

CO3

Q. 6. Use Porter's Stemmer on following words: (3M)

CO2

(a) *File* (b) *Filed* (c) *Filled*

Q.7 Explain Rule Based Machine Translation, Example Based Machine Translation and Hybrid Example Based Machine Translation with their advantages and disadvantages. (5M)

CO4,CO5

Q.8. (a) What is UNL and why is it used? (2M)

CO5,CO6

(b) Explain the concept of Universal Words, Restricted UW, UNL Attributes, UNL Relations and UNL Expression with examples. (5M)

CO5,CO6

(c) Draw a UNL graph for following sentence: (3M)

CO5,CO6

Yesterday, Mohan gave his book to Ram which he had brought from his home.

Q.9. Preprocess the following text for translation by replacing special constructs by special words (such as hhh0x for heading, eee0x for email, aaa0x for address, ddd0x for date etc.). Give the table of the replaced constructs and their substitutes. (5M)

CO4,CO5

Janata Group Housing Society, Palam Vihar, Kurnool.

NOTICE

March 01, 2018

ATTENTION!

This notice is to inform all the residents regarding the suspension of water supply for 8 hours. It is being done to clean the water tank. The details are as follows:

DATE- March 6

TIME- 10am – 6 pm

Thus, we request you to store the required amount of water beforehand to minimize the difficulty.

Thank you,

Karan Kumar/ Karuna Bajaj

(signature)

Secretary