

**Department of Data Science**  
**IIT Palakkad**  
**CS5624 : Natural Language Processing**

08:00-08:40

Quiz 2 (07 Mar 2022)

Marks : 10

**Instructions**

1. Write your answers neatly in Blue/ Black ink. Do not use pencil / Red ink. If your answer is not legible, you will not get any marks for that.
2. Doubts and questions will not be answered during the exam. If you have to make any assumption about unspecified things, write the assumption clearly with justification.
3. Answer all parts of a question together. If the parts of a single question are not together, then only the first part will be evaluated. Other parts will not get any marks.
4. Write your name and ID number at the top of the answer sheet. Save the pdf with the following naming convention: [roll\_no]\_nlp22\_quiz\_2.pdf and upload to the designated assignment in LMS. Do not email.
5. Write question number clearly for each answer. Draw a line after the answer.
6. No hard or soft material are permitted for consultation during the exam.
7. There will be partial markings for the questions, so even if you are not able to solve the entire problem be sincere with the steps.
8. **Be precise.**

1. A company wants to automate its recruitment process and is planning to deploy an intelligent bot developed using the recent advances in NLP. The goal of the bot is to screen and interview candidates solely on the basis of their resumes. (3)  
The final decision of offering (or not offering) a job will be solely taken by the bot.  
Who could benefit from such a bot? How?  
Who can be harmed by such a bot? How?
2. What is the Bayes' theorem? (1)
3. Explain conditional independence with an example (2)
4. Consider the following genres of documents. What type of prior knowledge can be collected and incorporated while building a genre-specific Multinomial model of text? How?. (4)
  1. Movie reviews
  2. Scientific documents related to NLP

The goal is to assign high probability to the documents of the above genres and low probability to other documents.