

# CSE 4/535-Introduction to Information Retrieval - Fall 2023

## Midterm 2 Examination Instructions

Date: 13th November 2023, 5:10-6:10 PM EST

Please read the following instructions carefully:

1. **Duration:** The total time allocated for this exam is **1 hour**. Please manage your time efficiently.
2. **Question Format:** The exam consists of **30** Multiple Choice Questions (MCQs). Choose the most appropriate answer for each.
3. **Belongings:** All bags should be placed on the ground. Ensure your workspace is clear of any items not needed for the exam. Please **bring your UBIT card** and put it on your desk. Make sure to bring your own pens/ pencils.
4. **Unauthorized Materials:** No copies, papers, notes, or other reference materials are allowed. If any are found in your possession, they will be confiscated, and you may face penalties.
5. **Calculators:** Calculators are permitted.
6. **Seating:** There are no specific seating arrangements. Choose any available seat that you feel comfortable in. However, please ensure to maintain a respectful distance from your peers.
7. **Restrictions:** Usage of ChatGPT, any assistive technology, or search engines such as Google is strictly prohibited. Any student caught using these technologies will receive a 0 for the exam.
8. **Laptop Settings:** Ensure the brightness is high enough, and the display should be set to **light mode**. This is to maintain visibility for the invigilators. Tab should not be changed during the exam.
9. **Mobile Devices:** All mobile devices should be switched off or set to airplane mode and placed in your bag. They should not be accessible during the examination.
10. **Washroom:** If you need to use the restroom, raise your hand to get the attention of an invigilator. Please note that frequent or lengthy restroom breaks may be noted and considered suspicious.
11. **Queries:** If you have any queries or require clarification during the exam, please raise your hand and wait for an invigilator to attend. Speaking or trying to communicate with other students is not permitted.
12. **Honesty:** Academic honesty is expected from all students. Any cheating, impersonation, or misconduct will result in severe penalties, per the institution's policy.

## Sample Questions

### Question 1

The BM25 weighting scheme is developed as a way to build a probabilistic model sensitive to term frequency and document length. T/F

Answer: True

### Question 2

Consider an information retrieval scenario where there are 2 relevant documents in the collection. The top 5 results are judged for relevance as follows (the leftmost item is the top-ranked search result):

R N R N N

Where R represents a relevant document, and N represents a non-relevant document. What is the R-Precision of this system?

- A) 1.0
- B) 0.5**
- C) 0.4
- D) 0.2

### Question 3

In Binary Independence Model, the terms occurring in a document are independent of each other. T/F

Answer: True

### Question 4

In the Mercator scheme, Back Queues manages Prioritization: T/ F

Answer: False

### Question 5

Incorporating which of the following helps conceptualize PageRank as an ergodic Markov chain?

- A. Random Walk
- B. Teleportation**
- C. SVD
- D. Low-Rank Approximation