

**START OF QUIZ**

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## Question 1

Topic: Lecture 6

Source: Lecture 6

We've seen that seed lexicons can help with semisupervised learning. Explain how we might be able to use LDA to derive a translation seed lexicon. (2)

## Question 2

Topic: Lecture 5

Source: Lecture 5

Explain the logic behind the IDF part of TF-IDF (ie, why does it give higher weights to more "interesting" words?). (1)

### Question 3

Topic: Lecture 7

Source: Lecture 7

Explain why the cosine similarity between a document and query vector is roughly equivalent to adding up the TF-IDF scores of each word in the document that occurs in the query.  
(2)

## Question 4

Topic: Lecture 8

Source: Lecture 8

What is the reasoning behind substituting TF-IDF with Okapi BM25? (1)

## Question 5

Topic: Lecture 7

Source: Lecture 7

Define  $P @ R$ . (1)

## Question 6

Topic: Lecture 5

Source: Lecture 5

What impact do sparse matrices have on similarity metrics like cosine similarity? (1)

## Question 7

Topic: Lecture 6

Source: Lecture 6

Imagine we performed LDA on the classes in this block. What might their Beta distributions look like? (2)



## Question 8

Topic: Lecture 8

Source: Lecture 8

What do we mean by interpolation? (1)

## Question 9

Topic: Coding

Source: Coding

Write a function that returns the most likely  $n$  documents given a term-document matrix, a smoothing parameter, and a query. (3)

**END OF QUIZ**