

Code No: 117DX

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech IV Year I Semester Examinations, November/December - 2016****INFORMATION RETRIEVAL SYSTEMS****(Computer Science and Engineering)****Time: 3 Hours****Max. Marks: 75****Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

**PART- A****(25 Marks)**

- 1.a) Explain Precision and Recall. [2]
- b) Define Incorporating Term Frequency with example. [3]
- c) What is computing New Query Weights? [2]
- d) Explain the following terms with examples.  
i) Ward's Method ii) Rocchio Clustering. [3]
- e) What is use of POS and word sense tagging? [2]
- f) Explain about Phrase Translation. [3]
- g) Define Signature files. [2]
- h) Explain compression based on posting list size. [3]
- i) Explain about Query Log Analysis. [2]
- j) Explain Proximity searches. [3]

**PART-B****(50 Marks)**

2. Explain key concerns with Probabilistic Retrieval Strategies. [10]
- OR**
3. Find the  $P_{avg}(t)$  and  $R_{t,d}$  for the following query using Language Model method  
Query: "gold silver truck"  
D1: "shipment of gold damaged in a fire"  
D2: "delivery of silver arrived in a silver truck"  
D3: "shipment of gold arrived in a truck" [10]
4. Explain about the concept of N-Gram in detail. [10]
- OR**
5. Consider the following example and find the Term co-occurrence  
D1 : "a dog will bark at a cat in a tree"  
D2 : "ants eat the bark of a tree" [10]

6. Explain about Incorporating Distance and Complex Phrases. [10]  
**OR**
7. What is Parsing? Explain Single terms and Simple Phrases? [10]
8. How do you perform Duplicate Document Detection in detail? [10]  
**OR**
9. Explain in detail the partial result set retrieval and vector space simplifications. [10]
10. How to compute the relevance using Unchanged SQL? Explain with example. [10]  
**OR**
11. What is a Distributed information retrieval? Explain about distributed information retrieval system model? [10]

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