LNMIIT/B.Tech./CSE/PE/2018-19/ODD/CSE/ET

16UCS126

LNMIIT
The LNM Institute of Information Technology

The LNM Institute of Information Technology

Department of Computer Science and Engineering

Information Retrieval (IR)
Mid Semester Exam

Time: 90 Minute **Date: 26/09/2018** **Max. Marks: 30**

Instructions: 1) Look through the whole paper and answer the questions that you find easiest first.
2) If necessary, you may make assumptions that are reasonable, and if you do make an assumption, state it clearly.
3) You may use a calculator.

Q1. Give brief notes about user Relevance feedback method and how it is used in query expansion: Suppose we query an IR system for the query **q: "gold silver truck"** **[8]**

The IR collection consists of ~~three~~ 5 documents (D = 5) with the following content,

-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"

-D4: "Agarwal Packers and Movers arrived with TATA gold Tea"

+D5: "TATA produces trucks with gold silver color"

Apply Rocchio Query Expansion method to find the Q_{opt} for at least one iteration forward.

Q2. Write and compare various weighting methods used in Information Retrieval. **[6]**

Q3. What is an inverted index? Consider the following documents:

doc1: phone ring person happy person

doc2: dog pet happy run jump

doc3: cat purr pet person happy

doc4: life smile run happy

doc5: life laugh walk run run

Construct the inverted index required for ranked retrieval for these five documents. Assume that no stemming or stop-word removal is required. Suggest any efficient way to process this index for query processing. **[5+3]**

Q4. Calculate the Precision and Recall for the following retrieved documents at each point: [8]
Here total numbers of relevant documents are 6 (six) . Also calculate F- Measure at point 8.

n	doc #	relevant
1	588	x
2	589	x
3	576	
4	590	x
5	986	
6	592	x
7	984	
8	988	
9	578	
10	985	
11	103	
12	591	
13	772	x
14	990	

n	doc #	relevant
1	588	x
2	576	
3	589	x
4	342	
5	590	x
6	717	
7	984	
8	772	x
9	321	x
10	498	
11	113	
12	628	
13	772	
14	592	x

{Best of Luck}