R10

Set No. 1

IV B.Tech II Semester Supplementary Examinations, July - 2014
INFORMATION RETRIEVAL SYSTEMS
(Computer Science and Engineering)

Time : 3 hours **Max. Marks: 75**

Answer any Five Questions
All Questions carry equal marks
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1. a) What is WAIS? What are the Information Retrieval Systems? In what way it is related to DBMS.
    b) What are the objectives of IRS? With a neat diagram, describe the Item Normalization.

2. a) What are the similarities and differences between use of fuzzy searches and term masking? What are the potentials for each to introduce errors?

    b) Ranking is one of the most important concepts in Information Retrieval Systems. What are the difficulties in applying ranking when Boolean queries are used?

3. a) What is stemming algorithm. Describe in detail, how stemming algorithm helps to improve the recall.
    b) Describe hypertext structure.

4. What is statistical indexing? Describe in detail about Probabilistic weighting and vector weighting.

5. a) With an example, prove that a term could not be found in multiple clusters when using the single link technique.
    b) Describe item clustering.

6. a) What is binding and what are its levels? With an example describe Query binding.
    b) What is a similarity measure? Why Normalization factor is required for similarity measures? Briefly describe the threshold process.

7. What is continuity and Connectedness? Briefly describe any two visualization techniques.

8. a) What is Software text search algorithm? With an example, briefly describe Knuth-Pratt-Morris algorithm.
    b) What is the relationship between precision and TURR?

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Set No. 2

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Time : 3 hours   **Max. Marks: 75**
Answer any Five Questions
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*****

1. a) What is precision and what is recall? Briefly describe the effects of Precision and Recall on total document search space, and describe ideal and achievable values.
   b) What is Item Normalization? With suitable diagrams, describe in detail about total IRS and Normalization process.

2. a) What is CWP? With an example, briefly describe the usage CWP as a search operator.
   b) What is thesaurus? Briefly describe semantic thesaurus.

3. What is symbol tree? What is succor stemmer? With an example, describe in detail about the usage of four successive techniques to segment the word.

4. a) What are the benefits of a weighted index system over a Binary index system? Are there benefits that the binary system can provide over a weighted system?
   b) With an example, describe in detail about IDF.

5. a) With an example, describe the process of creating clusters using existing clusters. What is its time complexity?
   b) Will the clustering process always come to the same final set of clusters no matter what the starting clusters? Explain your answer.

6. a) What and why are the three levels of binding in the creation of a search?
   b) Briefly describe the ranking algorithms.

7. What is cognition and what is perception? What is Preattentive Detection Mechanism? Briefly describe the aspects of the Visualization Process.

8. a) With a neat diagram, describe text streaming architecture.
   b) Briefly describe Fast Data Finder Architecture.

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Set No. 3

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Time : 3 hours   **Max. Marks: 75**

Answer any Five Questions
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1. a) What are the two major measures associated with information systems? Describe in detail their impact.
    b) What is Recall? With an example, describe achievable precision/ recall graphs.

2. a) What is term masking? With suitable example, briefly describe the usage of term masking in IRS.
    b) What is canned query? Briefly describe Architectural standards.

3. Describe how use of Natural Language Processing will assist in the disambiguation process. What is the impact on index structure and the user search interface to take advantage of the results of disambiguation?

4. a) Briefly describe porter stemming algorithm. What is its time complexity?
    b) Briefly describe dictionary lookup stemmers and succor stemmers.

5. What is a word relationship? What is word coordination approach? With suitable example, describe in detail manual clustering for generating Thesaurus.

6. a) What is relevance feedback? With an example, describe in detail about relevance feedback and its impact and effect of relevance feedback.
    b) Describe dissemination systems.

7. With an example describe in detail about Cone-Tree visualization technique. What are its advantages compared with other hierarchical representations.

8. a) What algorithmetic basis is used for tile GE-SCAN and Fast Data Finder hardware text search machines? Why was this approach used over others?
    b) With a neat diagram, describe in detail Hardware Text Search System.

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INFORMATION RETRIEVAL SYSTEMS
(Computer Science and Engineering)

Time : 3 hours **Max. Marks: 75**

Answer any Five Questions
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*****

1. a) With an example, describe the impact of precision and recall on the use of stop list and stop algorithm.
   b) Briefly describe selective dissemination of Information.

2. a) What is capability? Describe in detail about Search capabilities.
   b) What is proximity? Why it is used? With an example, briefly describe the use of proximity.

3. a) What is automatic indexing? Briefly describe data flow in information processing system.
   b) Briefly describe concept indexing and hypertext linkages.

4. Describe the similarities and differences between term stemming algorithms and n-grams and also illustrate how they affect precision and recall.

5. What is Homographic resolution? What is complete term relation model? What is term relation matrix? Describe in detail about clique algorithm to create clusters.

6. a) What is Ranking? Describe in detail about similarity measures.
   b) What is Logicon Message Dissemination System? In what way it is different from Personal Library Software (PLS) system.

7. What is cognition and what is perception? Briefly describe the need for information visualization and also describe Tree Map visualization technique.

8. a) What is unity measure? Briefly describe novelty ratio, coverage ratio, sought recall for judging the results of searches.
   b) With an example, describe in detail Boyer-Moore Algorithm.

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