U.S.N ☐☐☐☐☐☐☐☐☐☐

P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)
Sixth Semester, B.E. - Information Science and Engineering
Semester End Examination; June - 2017
Modern Information Retrieval

Time: 3 hrs *Max. Marks: 100*

*Note: Answer **FIVE** full questions, selecting **ONE** full question from each unit.*

UNIT - I

1. a.	Define Information Retrieval system. With a neat flow diagram, explain the process of Ranking and Retrieval.	10
b.	Write a mathematical model used to represent IR model. List and explain the various challenges faced in building Text Information Retrieval system.	10
2 a.	Explain the basic properties of Distance measures. Compare any two classical models.	10
b.	Consider an example of text retrieval system. Design a vector space model for the same example.	10

UNIT - II

3 a.	Why do you need a performance evaluation metrics? Explain any 4 types of metrics available to evaluate IR system.	10
b.	Why do we need a reference collection? List and explain the various tasks (secondary) considered constructing TREC-6 data set.	10
4 a.	With a schematic representation, explain the three main types of structural queries.	10
b.	Define a pattern. List and explain the various types of patterns available.	10

UNIT - III

5 a.	Explain the importance of preprocessing step.	4
b.	Explain the various types of document preprocessing techniques used.	6
c.	Construct Huffman tree and Canonical tree for the given sentence – for each rose, a rose is a rose.	10
6. a	Consider a sample text sentence; explain how do you construct a inverted index for the same sentence? Discuss on complexity issues also.	10
b.	Explain the working principle of sequential searching algorithms (explain atleast 3 algorithms).	10

UNIT - IV

7. a	What is the importance of Indexing? Design a data structure to index multimedia data.	10
b.	Write a short notes on:	5
	i) Two-dimensional color images ii) Trends and research issues on multimedia data.	5

8 a. What are Inverted Files? Explain the two approaches to document partitioning in systems that use inverted files.   10

  b. With neat diagram, explain the working principle of MIMD Architecture.   10

UNIT - V

9 a. List and explain the various challenges/ problems posed by the web data.   10

  b. List and explain at least five recent trends and research issues related to web.   10

10 a. With a neat diagram, explain the working principle of Harvest architecture.   10

  b. Write a short notes on :

    (i) Ranking   10

    (ii) User Interfaces

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