# PCS5H004 INFORMATION RETRIEVAL (4-0-0)

**Module1**
**Introduction:** Definition, Objectives, Functional Overview, Relationship to DBMS, Digital libraries and Data Warehouses. **Information Retrieval System Capabilities:** Search, Browse, Miscellaneous.**Cataloging and Indexing:** Objectives, Indexing Process, Automatic Indexing, Information Extraction.

**Module2**
**Data Structures:** Introduction, Stemming Algorithms, Inverted file structures, N-gram data structure, PAT data structure, Signature file structure, Hypertext data structure. **Automatic Indexing:** Classes of automatic indexing, Statistical indexing, Natural language, Concept indexing, Hypertext linkages

**Module3**
**Document and Term Clustering:** Introduction, Thesaurus generation, Item clustering, Hierarchy. of clusters. **User Search Techniques:** Search statements and binding, Similarity measures and ranking, Relevance feedback, Selective dissemination of information search, Weighted searches of Boolean systems, Searching the Internet and hypertext.
**Information Visualization:** Introduction, Cognition and perception, Information visualization technologies.

**Module4**
**Text Search Algorithms:** Introduction, Software text search algorithms, Hardware text search systems. **Information System Evaluation:** Introduction, Measures used in system evaluation, Measurement example – TREC results.

**TEXTBOOK:**
1. Kowalski, Gerald, Mark T Maybury: Information Retrieval Systems: Theory and Implementation, Kluwer Academic Press, 1997.
2. Natural Language Processing and Information Retrieval, U. S. Tiwary & Tanveer Siddiqui, Oxford University Press

**REFERENCES:**
1. Frakes, W.B., Ricardo Baeza-Yates: Information Retrieval Data Structures and Algorithms, Prentice Hall, 1992.
2. Modern Information Retrival By Yates Pearson Education.
3. Information Storage & Retieval By Robert Korfhage – John Wiley & Sons.