

## INFORMATION RETRIEVAL SYSTEM: CONCEPT AND SCOPE

L. No.	Title of the Lesson	Skills	Activity
15 B.	Information Retrieval System: Concept and Scope	Evaluation, Selection, Justification of search strategy, Effective Communication, ICT skills, Problem Solving and Decision Making	Devising Search Strategy, Searching Sources and Databases, Evaluating and making available Information/information sources

### **Summary**

Information retrieval is the process of obtaining information resources that are relevant to an information need from a collection of these resources. In other words, an Information Retrieval System (IRS) is usually designed to analyse, process and store information resources and further retrieve those resources or information that match a particular user's requirements.

Components of a traditional information retrieval system include the-

- Indexing system – indexing and searching methods and procedures (an indexing system can be human or automated), and
- Collection of documents – text, image or multimedia documents, or document surrogates (for example bibliographical records).

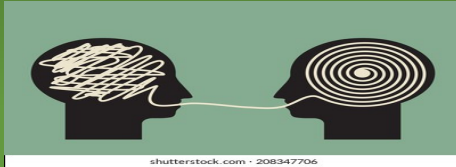
The chief objective of an information retrieval system is to retrieve the information. It is, either the actual information or through the documents containing the information surrogates that fully or partially match the user's query.

The functions of IRS are- representation, storage, organization and access of information items. The representation and organization of information items should provide with easy access to the information in which the user is interested.

In this lesson, you will be introduced to the importance, definitions and objectives of information retrieval. You will also study in detail the concept of subject approach to information, process of information retrieval, and indexing languages.

### **Principal Points**

- The term 'information retrieval' was coined by Kelvin Mooers in 1950.
- Information retrieval is the activity of obtaining information resources relevant to an information need from a collection of information resources.
- The term information retrieval was earlier used to mean retrieval of bibliographic information from stored document databases.
- Information storage and retrieval, information organization and retrieval, information processing and retrieval, text retrieval, information representation and retrieval and information access are different connotation of information retrieval.
- A library fulfils its function of information retrieval by maintaining some system for searching information out of documents from its collection.
- Modern information retrieval systems deal with storage, organization and access to text, as well as multimedia information resources.
- The major objective of an IRS is to retrieve the information either the actual information or through the documents containing the information surrogates – that fully or partially match the user's query.
- The first librarian to consider the detailed arrangement by subject was Melvil Dewey.
- Natural indexing language is not really a separate language but the 'natural language' or 'ordinary language' of the document being indexed.
- Free indexing language is not a listed language of terms, but the terms are provided by the indexer suitable to describe the contents of a document. Controlled indexing language is an indexing language in which the terms used to represent subjects, and the process whereby terms are assigned to a particular document, are controlled or executed by a person.



### Build your Understanding

1. Most of the online IR systems direct users to physical as well as virtual resources, and as such might be termed 'hybrid' systems in the same way that libraries offering a mix of physical and digital information resources are sometimes referred to as hybrid libraries.
2. *Precision* and *Recall* are the two parameters of retrieval effectiveness. *Precision* refers to how many of the retrieved documents are relevant to the user, whereas *Recall* refers to what fraction of relevant documents in the collection are retrieved.
3. The purpose of controlled vocabularies is to organise information and to provide terminology to catalogue and retrieve information.

### What's



1. IR is the activity of obtaining information from large collections of information resources in response to a need. The process of information retrieval starts when a user creates any query into the system, the query is converted into appropriate index term, searched in the system and eventually appropriate matching information is retrieved.
2. Information retrieval (IR) did not begin with advent of computers or with web. In fact, the field of information retrieval involving indexing evolved in response to need for information access. It is only in the past couple of decades that computer applications have become a necessity for searching indexes and for information retrieval.
3. The more advanced areas of information retrieval focus on Cross-lingual IR, Multimedia IR and Semantic-based IR.
4. Every internet search engine is based on information retrieval. Google and Yahoo are examples of prominent computer-aided information gathering.



1. Information search can be based on full-text or content-based indexing. Information Retrieval is the science of searching for information in a document, searching for documents themselves, or searching the databases.
2. Information Retrieval tools aid the library user to locate, retrieve and use the desired information in various formats. Various information retrieval tools are – classification Schemes, Library Catalogues, OPACs, Bibliographies, Indexes and Abstracts.
3. The two main kinds of Controlled Vocabulary tools used in libraries are Subject Headings and Thesauri. The use of controlled vocabularies ensure consistent description of resources and their attributes and enables information retrieval.
4. Until the 1950's information retrieval was a very crucial aspect of library science. However, when computers were first introduced, the possibility of computerised information retrieval systems was seen. And with the advent of Internet, information retrieval became increasingly relevant and researched. Presently, most people use some kind of IRS on a daily basis, whether on Google or some other system specially for libraries.

### **Extend your Horizon**

On the topics '*Tokyo Olympics 2020*' and '*COVID-19 Vaccine*' search the relevant information from sources available in any two libraries. Compare the retrieved results from both the libraries with search conducted on Google.

### **Evaluate Yourself**

1. Write the major objective of Information Retrieval System (IRS) ?
2. Distinguish between the three main types of indexing languages.
3. What are the two chief methods for providing information contained in documents using the subject approach to information ?
4. Depict diagrammatically the use of natural language indexing.