Chapter – 1

Introduction
INTRODUCTION

Libraries provide the motivation to the improvement of educational, social and cultural activities. A modern library acquires resources, process it and makes it accessible for use rather than preservation. Twentieth century witnessed a boom in the information technology and the same has benefited the library as well as the printing and electronic media. The world has advanced a lot from the printing machinery invented by Guttenberg (1454) to the latest sophisticated printing machinery which provides thousands of copies per minute. The binding, cutting and packing are now automated with great speed. Electronic media has also developed effectively from CD-ROM to advanced Blue Ray Disc and the smart phones having Android and Mobile Windows operating systems are used for reading books at any time in any place. The audio visual effects also can be achieved in electronic media which cannot be provide by the printed media. The smart phones, palm tops, note books and net books connected through the wireless internet connection by the wireless modems reflect the advancement of the technology. They are portable and can do the communication and information functions together. Thus the need of the users has increased manifold. Now the teaching process itself is taking place through electronic media by the way of smart class rooms.

Now-a-days libraries are inter-connected for sharing the sources. Through this, a very effective usage of resources is obtained. Inter Library Loan (ILL) as well as inter library resource sharing is the main objective of the inter connections of the libraries. Here the users of one library gets the service of another library by using their membership in one library itself. Book lending,
book dropping, reserving books and remittance of fine can also be done in any one of the networked libraries. Primarily, books are the main source of information available in a library. Whatever technologies emerges in the field, printed books are still relevant. It is cheap, affordable, power saving and can be taken anywhere. Moreover, it is easy for circulation. This makes the print media a favorite one of the common man. Some of the other services available in the modern libraries are photocopying, internet browsing facility, electronic search catalogues, book bank and online access catalogues. Electronic bulletin boards give information regarding the latest arrivals in the libraries.

1.1. INFORMATION SOURCES IN ENGINEERING COLLEGE LIBRARIES

Engineering college libraries are mainly having the resources related to the engineering field to meet the information needs of the academic community consisting of students and faculty. There are rapid advancements in the field of engineering and technology. The new technologies are coming into existence very frequently. The students and faculties should aware of the latest trends in their own discipline. Electronic and printed documents are providing wide variety of knowledge to the students and faculties to cope with latest trends in the subject. Libraries in engineering colleges are taking all its efforts to ensure that vide variety of information and services are offered to meet the intellectual demands of user community. Information sources available in the engineering college libraries affiliated to Anna University, Tirunelveli is mentioned in table 1.1.
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of College</th>
<th>Year of Establishment</th>
<th>Total No. of Books</th>
<th>Journals</th>
<th>No. of Journal back volumes</th>
<th>No. of newsletters</th>
<th>No. of magazines</th>
<th>No. of theses</th>
<th>Non-book materials</th>
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<td></td>
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<td>E-books</td>
<td>Book bank</td>
<td>Print</td>
<td>Electronic</td>
<td></td>
<td></td>
<td></td>
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<td>1300</td>
<td>203</td>
<td>No</td>
<td>988</td>
<td>8</td>
<td>28</td>
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<td>2</td>
<td>TRCE</td>
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<td>1100</td>
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<td>1203</td>
<td>7</td>
<td>56</td>
</tr>
<tr>
<td>3</td>
<td>MSEC</td>
<td>Above 10000</td>
<td>600</td>
<td>1200</td>
<td>291</td>
<td>714</td>
<td>745</td>
<td>7</td>
<td>53</td>
</tr>
<tr>
<td>4</td>
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<td>1200</td>
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<td>1008</td>
<td>12</td>
<td>45</td>
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<tr>
<td>5</td>
<td>CSIT</td>
<td>Above 10000</td>
<td>980</td>
<td>1288</td>
<td>146</td>
<td>240</td>
<td>1300</td>
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<tr>
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<td>No</td>
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<td>12</td>
</tr>
<tr>
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<td>433</td>
<td>141</td>
<td>219</td>
<td>256</td>
<td>6</td>
<td>18</td>
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<td>8</td>
<td>SIT</td>
<td>Above 10000</td>
<td>300</td>
<td>890</td>
<td>161</td>
<td>548</td>
<td>2725</td>
<td>3</td>
<td>61</td>
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<td>1500+</td>
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<td>25</td>
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<td>78</td>
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<td>25</td>
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<td>Above 10000</td>
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<td>76</td>
<td>No</td>
<td>1203</td>
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<td>10</td>
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<td>30</td>
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<td>250</td>
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Contd.....
1.2. INFORMATION SERVICES IN ENGINEERING COLLEGE LIBRARIES

Engineering college libraries are providing information services to the users to acquire the required information in faster way and thus they can save their precious time. Information services available in the engineering college libraries affiliated to Anna University, Tirunelveli is given in Table 1.2.

Table 1.2
Information Services in Engineering College Libraries

<table>
<thead>
<tr>
<th>SL No</th>
<th>College Name</th>
<th>Literature Searches</th>
<th>Compiling Bibliographies</th>
<th>Abstract Service</th>
<th>Publication and Research Support Service</th>
<th>Document Delivery</th>
<th>Information Display and Notification</th>
<th>OPAC/Indexes</th>
<th>Reprographic Service</th>
<th>User Orientation</th>
<th>Digital Library Services</th>
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</tr>
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<th>Services Offered</th>
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</table>

Source: Primary data

1.3. NEED AND SIGNIFICANCE OF THE STUDY

Information sources and services represent a significant part of engineering college libraries. This study offers a way to identify the existing resources, services, facilities, perceived usefulness, advantages and barriers encountered while accessing the information sources and services. So far, no systematic research has been done in this area, particularly regarding the information sources and services of engineering college libraries affiliated to Anna University, Tirunelveli. Therefore the researcher conduct the user survey to evaluate the engineering college libraries’ sources and services.

This study helps to get a clear knowledge about the present condition of the resources available, collection development and the services offered by the library to the academic community consists of students and faculty. With the help of this knowledge one could evaluate the strength and weakness and then improve the working conditions of the libraries. The study is expected to be very helpful for improving the utilization of the resources and services of the engineering college libraries.
This study is essential for establishing a bond between the students and the library staff by assessing the collection, arrangements, service and use of library, and thereby improving the library services. It is essential to know their requirements fully and precisely. Right information to the right user at the right time with least cost is the present day slogan. The library community and user community should be aware of the importance of information and its use. The present study helps to identify the strength and weakness of the libraries which enables to adopt remedial measures to improve the status of the libraries.

Anna University of Technology, Tirunelveli is a newly started Engineering University, which is a branch of Anna University, Chennai and approved by the AICTE. The University offers U.G, P.G and Doctorate programmes in Engineering. It is appropriate to make the study regarding the usage of resources and services of engineering college libraries for assessing the strength and weakness of the existing system and to bring out suggestions for the improvement of the library system among the engineering college libraries affiliated to Anna University, Tirunelveli.

1.4. STATEMENT OF THE PROBLEM

If the library is effective, the user community is expected to utilize its sources and services for higher intellectual productivity. However, existing literature survey shows that there is shortage of research studies on the relationship between library sources and services.

It has been observed that the much needed information resources and services in support of research are inadequate in research institutes, colleges and universities. This has motivated the researcher to analyse existing library facilities and services offered by the engineering college libraries and the extent of its use among the user community. The study therefore, investigates the sufficiency of sources and services available in Engineering College Libraries affiliated to Anna University, Tirunelveli. Hence the problem for the study is entitled as "Use of Information Sources and Services by Faculty Members and Students of Engineering Colleges in Anna University, Tirunelveli: An Investigative Study".
1.5. DEFINITION OF KEY TERMS

The following terms are hereby defined in the context in which they have been used for the study:

Use

Use is the act of using something. (www.merriam-webster.com)

The term user here stands for the using of information sources and services from the Engineering College libraries.

Information Source

An Information Source is a source of information for somebody i.e., anything that might inform a person about something or providing knowledge about it. Information sources may be observations, people, speeches, documents, pictures, organizations and websites. They may be primary or secondary or tertiary sources and so on. (en.wikipedia.org)

Information Service

An Information service is a service which provides data or information or knowledge and related service to the users. Here information service refers to services offered to the users of Engineering College libraries

Faculty Members

An educator who works at a College or University. Faculty members here stands for teachers of Engineering Colleges.

Students

Students are learners who attend an educational institution for the award of degrees of titles. Students here refers to students of Engineering Colleges

Anna University, Tirunelveli

Anna University of Technology, Tirunelveli is a newly started Engineering University, which is a branch of Anna University, Chennai and approved by AICTE.
The University offers U.G. P.G and Doctorate programme in various engineering disciplines.

Investigation

Act of examining something in order to know the truth.

(Advanced Deluxe Dictionary)

Engineering College

Engineering college refers to an Institution of higher education offering technical education in various branches of engineering disciplines ranges from Under Graduate to Doctorate level. Engineering College here refers to the colleges, which are affiliated to Anna University Tirunelveli.

1.6. CHAPTERIZATION

The study consists of six chapters.

Chapter I: Introduction

This chapter forms the introduction where the topic is introduced, key terms are defined and relevance of the study are provided.

Chapter II: Review of Literature

This chapter traces the review of various research studies.

Chapter III: Area Profile of Engineering Colleges

This chapter presents the area profile of Engineering Colleges.

Chapter IV: Methodology

This chapter deals with methodology adopted for the study.

Chapter V: Analysis and Interpretation of Data

This chapter presents the Analysis and Interpretation of the collected data.

Chapter VI: Findings, Conclusion and Suggestions

This chapter deals the summary of findings, conclusion and suggestions of the study.

It is followed by list of References and Annexure.

The American Psychological Association (APA) style manual is followed for the preparation of the report.
Chapter-1A
Information Sources and Services
INFORMATION SOURCES AND SERVICES

The modern age is an age of information. Modern man has become information oriented. Information is a vital resource for the development of nation. It is the basic resource and is a link between a variety of intellectual and materialistic activities. Information has become an essential part of day-to-day activities. It is essential for the modern research in the field of science and technology. It also plays an important role in the socio-economic development of a country.

Information as a result of thinking is a product of the human race. It is the knowledge attained by human beings through observations, experiments, experiences and other modes. Information is becoming a vital source in a highly cost-oriented changing society. Almost every literate person is familiar with the term 'information'. One knows what information is. However, when one tries to define, one finds it difficult.

Information is very necessary in the present world of mechanization and computerization. It helps in establishing past, present and future aspects of human civilization. Information providers disseminate the type of information according to the needs of the users within a reasonable time as fast as possible. Information is an essential resource for every organization. It is an essential input for every organization. It is a structured data about ideas, facts and events which could be transferred among individuals. According to Ranganathan, "Idea communication by other or obtained be personal study and investigation is information" (Galhotra, 2008).
1A.1. INFORMATION EXPLOSION

The present era is that of information explosion. One information could be used as a source for another information and when it is achieved, it again provides information for further research. There is a chain of information, the last link of which changes every time. As the quantity of existing data increases, the information management becomes complex, which could lead to information overload.

An explosion is generally understood as a rapid enormous increase in the output. Sometimes it is related with geometrical growth. In Library and Information Science [LIS], the information explosion is the rapid increase in the amount of published information and the effects of this abundance of data (http://en.wikipedia.org, 2011).

Information explosion is rapidly increasing in the field of Library and Information Science. The quantity of information is increasing in every second. New arrivals of books, other publishing and electronic media publishing are coming out in very high frequency. Information is being updated in every field through publications. There are Scientific Research Journals, Medical Journals, Engineering and Technology Journals and Education Journals which help the users in updating the latest developments in their respective fields.

Lot of old books are re-published with CD-ROM facility. Some of the ancient manuscripts which are understandable only by the language experts have been made into book format, which could be easily read by common man. Thus information is being disseminated to all sorts of people. Library websites are being updated almost every day with new information and new arrivals.
1A.2. INFORMATION LITERACY

In this period of information technology, information storage and retrieval system have undergone swift changes. The complexities of information handling system force the need for instructing the users on how to employ the apt tools required for accessing relevant information. A well-known definition of Information literacy is the one developed by the American Library Association (ALA, 1998): "Information literate [people] are not only able to recognize when information is needed, but they are also able to identify, locate, evaluate, and use effectively information needed for the particular decision or issue at hand. The information literate person, therefore, is empowered for effective decision making, freedom of choice, and full participation in a democratic society" (Kapoor, 2010).

According to Bruce and Candy (1995) "Information literacy is the ability to locate, evaluate, manage and use information from a range of sources for problem-solving, decision-making and research".

For instructing, the user community should know how to access the numerous information sources available. Moreover, the library has to re-examine and restructure traditional instructional methods. Without intelligence and systematic assistance and subsequent use of all available sources, the library remains passive. In the Current Information Age, the speed at which we work makes us increasingly dependent on high-quality, accurate information (Pant, 2010). A library could be effective and efficient only when its resources are used to the maximum extent possible by the users. This can be achieved by the way of information literacy. Information literacy enables the users to identify the information need in terms of quantity, quality, format and extent and provides access to information, thus using it effectively to meet the need.
Information literacy instructions aim at creating opportunities for self-directed and independent learning, wherein students could use a wide variety of information sources to improve their knowledge base and sharpen their critical thinking. Information literacy is an integral part of reference services aimed at making the users better conversant of library resources and services for enhancing their information use. LIS professionals have been assisting users in 'how to search through and use the library collections of the printed world'.

1A.3. INFORMATION SOURCES

Information sources are broadly classified into two types. They are documentary and non-documentary sources.

1A.3.1. Documentary Sources

Documentary sources are recorded information which is formal in nature. Documentary sources are principally the printed sources. But due to recent advances in technology, many of them are now available in electronic form. Dictionaries, Encyclopedias, Directories, Yearbooks, Manuals, Biographical sources and Geographical sources are available in electronic form. Documentary sources can be further divided into three types. They are (i) Primary sources, (ii) Secondary sources and (iii) Tertiary sources.

i. Primary Sources

Primary sources are the first published records. Primary publications are those which report, mostly for the first time, the latest results of research investigations. The research experiments carried by the scientists provide very useful information from their experiences and findings. These findings are recorded and published as primary sources. As a result, primary sources are the original medium of scientific communication. Primary sources include
original research literature like primary periodicals, standards, research reports, theses and dissertations. According to UNESCO’s ‘Terminology of Documentation’, primary sources are ‘fundamental authoritative material relating to a subject, used in the preparation of other written work’ (Dilli, 2009).

Primary sources also deal with concepts, theories, new ideas, discoveries and inventions. The information about these developments is not published earlier in other sources. Information available in the primary sources is original in the sense that it is neither filtered nor condensed. The primary sources are (a) Periodicals, (b) Research reports, (c) Conference documents, (d) Patents, (e) Standards and specifications, (f) Thesis/Dissertations, (g) Trade literature and (h) Un-published documents.

The following are the some of the important categories of primary sources.

**a. Periodicals**

Periodicals are the most important media of distribution of information. They are exclusively dedicated in reporting original research. Results of research are regularly first reported in periodicals. Periodicals include journals, bulletins, transaction, proceeding, similar works, which appear regularly and continuously in numbered sequence. However, the newspapers and annuals are excluded (Kumar, 1996). A periodical contains typically original contributions in wide variety of categories. There are specialized research periodicals, technical journals, trade journals, popular journals and house journals. They communicate and circulate and initiates micro thought. They appear at regular intervals. They have very high research value.

**b. Research reports**

Research report is one of the very important categories of primary literature next to periodical. Research reports provide information regarding
research and development projects. Reports are faster than journals in publication. They provide a detailed study. They consist of extensive descriptions of experiments, investigations, studies and evaluations, fully supported by figures, graphs and tables. This kind of literature is mostly called unpublished or semi-published literature.

Reports are classified into (i) Government reports, (ii) Company reports and (iii) Reports of scientific expeditions.

c. Conference documents

The documents which contain the proceedings of the meetings are called as conference literature or documents. These meetings are also called as symposia, seminars, workshops and round tables. The main functions of conferences are (i) Announcement of new knowledge, (ii) Exchange of information and experience, (iii) Education, (iv) Fact finding and (v) Policy formulation

Conference proceedings play a vital role in scientific and technological communication. As a medium of communication, conference documents have a lot of advantages. The oral presentation is replaced by questions, answers and reviews. Conferences also give the opportunity for informal communication and thus develops and strengthens personal contacts with other experts. Conferences deal with all subjects, but the major contribution is in the field of Science and Technology. In these fields a lot of conferences are held every year. The conference publications are of three types. They are (1) Pre-conferences literature (2) Literature published during conferences and (3) Post-conference literature
d. Patents

A patent is the protection granted by the Government to an inventor to prohibit unauthorized exploitation of his invention. The accurate nature of the protection is not the right to make, use or sell, but the right, to exclude others from making, using or selling the invention. For a new invention, its patent right should be obtained from the Government. Patents are part of primary sources because only new invention could be patented. It gives the right to the inventor to prevent others from using the invention for a limited time. Patents are descriptions of inventions and grant the patent holder the exclusive license to produce, distribute and sell the invented item. Protection is granted for a particular period of time. Patent documents thus constitute a record of the result of original research and development work.

Patent literature constitutes an exclusive category of publication. Certain information could know only through patents. Some patent information is later incorporated into trade literature. The information available in patents is more detailed and extensive than other documents. When the inventor applies for the patent, the specifications are analyzed by the patent office. Then the patents are issued by the patent office which is announced in the official publications of National Patent Office. The patented information is usually available in the form of patent abstract and patent information bulletin. Each patent contains patent number, date of issue, date of publication, title, name of the patentee, classification number and specification.

e. Standards and Specifications

Standards are the documents issued by the Government to stipulate the standardization of the items for maintaining their quality. Every area of
activity has been now standardized. In U.K. British Standards Institution (BSI) prescribes the standards. In India, Indian Standard Institution (ISI) prescribes standards. Basically, standards are rules regarding the quality or size or shape of industrial products.

At present, so many accepted standards are widely used in science and technology, and standards and specifications now occupy an important place in technical literature. Standards and Specifications are documents which state how materials and products should be manufactured, defined, measured and tested. The standards are issued by companies, industries, trade association, Government departments, national and international standardizing bodies.

Apart from these bodies, standards are published by independent standard institutions to regulate the manufacturing and design of specific products and to ensure uniformity in quality, size and shape and methods of manufacture.

f. Theses/Dissertations

Theses/Dissertations are an important class of primary literature. Each dissertation deals with some feature of a subject not previously studied. Doctoral dissertations are very important source of original information. One important characteristics of such research report is that they may be the outcome of purely academic pursuit. Most of the theses are unpublished; some of them appear as article in scholarly journals in conference papers or monographs.

Dissertation Abstract International (DAI) provides a monthly collection of doctoral dissertations from 400 Universities in U.S.A and Canada. The Association of Indian Universities, (AIU) has taken attempt in listing the theses submitted to Indian Universities. University News, the bulletin published by AIU gives the list of theses not only submitted but also which are in progress.
g. Trade Literature

Trade literature provides information regarding equipments or goods or processes or services pertaining to manufacturing. The publishers of trade literature are business houses, trade industries and other related bodies. Their plan is to earn business, to sell products, produced by a manufacturer. Trade literature is in various sizes ranging from single sheet to multi volume sets. They provide the basic information regarding the products and services of the trade organizations. The main purpose of the trade literature is to promote the marketing of products. Apart from that they direct the users for installation, operation and maintenance of the products.

h. Unpublished Documents

When scientists interact with each other through informal channels like personal communication, they record the findings and other information in informal diaries and other notes. Some important information is transferred between the scientists through the personal letters and informal memoranda. The notes and other diaries kept by the scientists are not published. Sometimes these records are later published as journal article, reports and other primary sources. The examples of such sources are laboratory notebooks, diaries, memoranda, internal research reports, company files and personal files.

ii. Secondary sources

Secondary sources of information are those which are either compiled from or refer to primary sources. The derived information has been selected, modified or reorganized. All the secondary sources depend upon the primary sources. They appear after the publication of primary sources of information. Secondary sources direct the users to specific primary sources. Secondary
sources consists of (a) Secondary periodicals, (b) Review publications, (c) Abstracts and Indexes, (d) Reference books, (e) Monograph, (f) Treatise and (g) Text books

a. Secondary periodicals

Most periodicals are primary in nature. But there are some periodicals which sort and concentrate the primary literature. Such periodicals are called as secondary periodicals. They focus on analysing the results reported in the primary literature. These periodicals are important because of several reasons. Instead of reading hundreds of journals, it is easier to refer a few number of secondary journals.

b. Review publications

Review publication is a periodical publication which is dedicated largely to critical articles and review of new books. They summarise the primary information and bring together the related parts of subject information. Review publications help the researchers and other users to know what is currently happening in their fields. Such knowledge of most recent information keep the scientists up-to-date of the emerging developments.

c. Abstracts and indexes

Abstracts give the summary of the text contained in the original document with the bibliographical details to trace the original. Indexes provide only the bibliographic data of the documents to know about what exists in a field of knowledge. The main function of abstracts and index is to help retrospective searching of documents and to provide information to the users. They give guidance to analyze the contents of the documents. Abstracts and indexes list and summarize the journal articles, conference documents, reports and patents. Abstracts and indexes are produced regularly to deliver the information about the presently available documents.
d. Reference books

The term 'Reference book' is a specific kind of publication which has been designed and written to be consulted for information. It contains information that has been brought collectively from many sources and organized for quick and easy reference. Reference books are classified into General reference books and Specific reference books. General reference books are the books which do not deal with a particular subject. Specific reference books are written for a specific subject to disseminate specific information.

e. Monographs

Monograph is a short essay on a specific subject. Monographs should be about the latest information. The subject scope of the monograph is a five minute theme. Many monographs appear in sequence under a general editor with individual author for each monograph. This feature is regular in many scientific disciplines. Another problem is that monographs don't possess indexes. Hence sometimes, the successful searching or retrieval of information is found to be difficult.

f. Treatise

A Treatise is a comprehensive collection or summary of information on a subject. It provides basic knowledge, fact and discussion. It constitutes systematical outcome of research and bibliographical details to the primary sources. These are usually multi volume in nature. A treatise on a subject provides adequate information to a person to acquire basic knowledge. It is essential for carrying out advanced research. Treatise avoids the introductory or the elementary part of the topic. The most modern
developments are discussed in detail which aims to supply the requirements of the specialists in each field.

g. **Text books**

The most celebrated and popular of all the information sources are text books. They do not report directly on new research or development. The primary information is analyzed and reported in text books. Text books are used for teaching and learning. The entire information is simplified and presented in text books. Various diagrams, explanations, examples are provided with theoretical descriptions to promote the understanding of a subject.

iii. **Tertiary sources**

Tertiary Sources of information contain information filtered and collected from primary and secondary sources. The primary function of tertiary sources of information is to assist the searcher for information in the use of primary and secondary sources. Out of various kinds of sources, tertiary sources are the last to emerge. The tertiary sources are (a) Bibliography of Bibliographies and (b) Guide to Literature.

a. **Bibliography of bibliographies**

A bibliography of bibliographies lists bibliographies which guide readers to useful bibliographies through subject, place and institution. The bibliographies referred to may be in the form of a separately published book or part of a book or part of periodical article or some other type of document.

b. **Guide to literature**

Guide to literature refers to any work that helps user to use books. The aim of the guide to literature is to keep up-to-date the users and persuade
their needs and necessities. A guide to literature assists a user to make use of literature of a specific subject. It helps to evaluate and introduce literature. There are two types of guides to literature. They are text book type and Reference book type. Guide to the literature is published by professional societies, learned associations and commercial publishers.

1A.3.2. Non-documentary Sources

There are other sources of information in addition to the traditional documentary sources, known as non-documentary sources, which supply the information instantly required by any user. Non-documentary sources are those which are non-print media, but provide required information instantly to the users. The non-documentary sources are of two types (a) Formal sources and (b) Informal sources.

a. Formal sources

Formal sources include Research Organizations, Industries, Public Sector Undertakings, Colleges and Universities, Information Centres and Data Centres.

b. Informal sources

Informal sources include discussions or conversations with colleagues and visitors at learned and professional meetings, seminar and conference. Informal sources are live sources, which are very vital in the course of communication.

1A.3.3 Electronic Information Sources

Electronic resources play an important role as far as the information access is concerned. They exist in digital form. Information which is available on the CD-ROM, DVD, online bibliographical resources and internet based
resources or digitized information is called electronic information resources. College libraries spend a large share of their budget to acquire or gain access to electronic resources. Further, users of a typical library have found little more than a handful of the more famous periodical indexes and abstracts in electronic format. Electronic resources have enabled libraries to improve services in a number of ways. Some of the available electronic information resources are:

a. Internet

One of the most important achievements in the information and communication technology is the internet. It is the network of networks being connected throughout the world. Internet technology connects a computer with millions of computers in the network. Internet is the gateway to vast number of resources covering lot of information.

b. E-mail

E-mail is one of the significant features of internet. It is used for passing messages and rendering Current Awareness Services (CAS) and Selective Dissemination of Information (SDI) to the remote users. E-mails are very common and popular to exchange the communications in the electronic environment. It is the mailing services in the information communication technology. It is economically convincing and has excellent opportunities and discussions facilities everywhere.

c. Online Public Access Catalogue

OPAC is the interface between the user and the collections of a library. It is a combination of cataloguing and circulation of information made
available to the public for interactive searching. It enables the user to search
the library's catalogue, and also provide other facilities, such as checking
records of borrowers, reserving reading materials, reading library news
bulletins and announcements. It is designed to inform the user about the
status of particular document. Library resources are made accessible
remotely through web based OPAC.

d. E-books

E-Book or electronic book refers to the book in electronic or digital
form. They provide direct hyperlinks to reference websites and in turn facilitate
immediate access to information. E-books can be read on a dedicated reading
device, a Personal Digital Assistant (PDA) or other multipurpose device by
using suitable software.

f. E-journals

'Electronic Journals' are electronic version of the journals. E-Journals can be delivered from the publisher to the desktop of the users.
Some publishers provide free access to electronic journals with print copy subscription. Some publishers provide access to electronic version by charging additional charges. Publishers of academic journals provide online access to electronic journals.

g. E-reports

This is mainly for academicians, research scholars and business practitioners. The collection of online analytical reports enables to compare, contrast and summarize the views of multiple analyst firms on industries, markets and technology topics. Other reports like faculties dissertation, students theses and conference proceedings are also available.
h. **E-databases**

E-database is an organized collection of information of a specific subject or multidisciplinary subject which can be electronically accessed and retrieved.

i. **E-newspapers**

Newspapers are also published in digital format in the website concern of the publisher. So, the user can read the newspapers published in foreign countries, on the date of publication. International recognized newspapers are also available in the internet with original layout.

j. **Compact Disc / DVD / Blue Ray databases**

CD is a high density, compact, portable, easy to use computer storage device. DVDs are having the capacity of 4.75 giga byte data. More number of publishers has already shifted from print form to CD-ROM. Many information sources are now available on CD-ROM i.e dictionaries and encyclopedias to subject specific sources containing bibliographic, full-text and multimedia information. The merit of the sources depends both upon their content and on the retrieval system that come with them. To make effective use of information source on CD-ROM, users should learn about the search and retrieval techniques of each source. A single layer blue ray disc can store 25 giga byte.

1A.4. **INFORMATION SERVICES**

The distribution of information is the basic objective of any information centre. This category of service is known as reference service. Reference service is the personalized assistance provided by the library staff to the users in finding information related to their study and research. In modern libraries, this service is known as 'Information service'. This service ranges from serving
users in finding simple facts to tracing books, keeping users informed of
current literature in specialized subject fields and finding specialized
information. The main aim of the information service is 'putting the knowledge
to work'. The ancient civilized men preserved information in clay tablets,
stones and inscriptions in caves. But the modern man preserves information
in books and electronic forms. According to 'Terminology of Documentation' of
UNESCO, information service is defined 'a service mean aiming at the actual
information of its users.' Information service was started first in scientific and
technical libraries because scientists and technologists were the first to feel
the acute problem of increasing amount of literature. But today, other kinds of
libraries are also beginning to provide this kind of service (Kumar, 1996).
The important information services are as follows.

a. Current Awareness Service

CAS knowledge is concerned with modern developments in the
matters of special interest to an individual. CAS is concerned with
dissemination of information that keeps its users conversant and up-to-date in
their fields of basic interests as well as in the associated subjects. The most
important aim of the service is to inform the users about the new publications.
Any service which intends to meet the current approach of the users is known
as current awareness service. Current awareness service is basically a
process of providing current information. The service has also been used for
electronic means. This usually takes the form of an electronic bulletin which is
computer based and available to users through their terminals.
b. Selective Dissemination of Information

SDI is mainly a method of providing a large scale advanced type of current awareness service to individuals. It is a highly tailored service. Its basic concepts consist of matching the information with the interests of the users. Librarians have been provided with this kind of service on manual basis and computer based SDI. It gives notifications of new primary documents.

c. Reprographic service

It is also called as copying service. It is a term used to refer to photocopying as well as duplicating documents into one or more copies of the same size or in reduced or enlarged forms.

d. Translation service

Translation service is a part of documentation, which plays a major role in distribution and application of Information and knowledge. Mostly, researchers and scientists are interested to study the basic and primary documents for their research projects. Sometimes, the basic documents are in unfamiliar language to the researcher. To make use of such information, translation services are needed. Translation service provides the information to the users in their known languages.

e. Indexing and abstracting service

For keeping scientists and researchers conversant of the current publications, many libraries bring out indexes and abstracts. An index provides a hint to the information in general or on a specialized subject. It gives the details of the author, title and bibliographical details. An abstract provides the summary of the thought content of the article,
apart from the index information. The process of preparing the indexes and abstracts are referred as indexing and abstracting services.

f. **User orientation programmes**

Majority of the users are not aware of the service of the library. They do not know how to use the library effectively. Library orientation for such students is very necessary so that they can learn how to use the library effectively.

g. **Readers advisory service**

Sometimes, users face difficulty in referring the library catalogue, locating the exact document required or finding out the relevant reference tools available in the library. Such students need the help and guidance of the library staff for this need.

h. **Inter Library Loan service**

Some of the readers, especially the research scholars may need some documents which may be available in some other library. In inter library loan service, one library can make use of certain sources of another library on some terms and conditions.

i. **Circulation service**

Most of the users visit the library to select and get the books issued or to return the borrowed materials. The library should ensure that the reader's time should be minimised on the issue and return work.

j. **Bibliographic service**

The new arrivals in the library should immediately be brought to the notice of readers by providing them up-to-date "list of new additions in the library". Occasionally, bibliographies should be brought out by the library on the subjects and topic of special interest to the users.
k. Reference service

Reference service helps the user to define and identify his query. The reference personal inform the user regarding the catalogues, directories, files, secondary publications or databases to consult to seek out the relevant information.

I. Referral service

Referral services do not provide the user with the documents or information actually needed for the query. But it gives the information regarding the sources such as secondary publications, professional organizations and research institutes and give direction regarding where to find them.

m. Literature search service

Prior to the commencement of a new research project, a researcher needs to know everything that has been published on a subject. This type of information need could be fulfilled by undertaking a broad search in bibliographies and indexing and abstracting publications. This search is known as literature search. Now databases in various subjects are mostly available in CD-ROMs which are much used for literature search. Literature search is a method of information retrieval. In literature search, the variety and complexity of reference sources are wider so that and generally more than one source have to be consulted. Apart from the reference sources, secondary sources like abstracting and indexing periodicals, review periodicals, bibliographies are the main sources of information for literature searching.
1A.4.1 Electronic Information Services

Institutions use computers and internet for their activities and for providing information services. The following are the important electronic information services.

a. **Online renewal service**

The process of renewing the borrowed documents from the library through intranet or internet is called online renewal service. Separate login and password can be provided to the library users for the security reason so that authenticated user only can access the service and thus avoid mishandling by the intruders.

b. **E-mail alert service**

Through e-mail, library users can be informed about the current awareness services of the library and renewal details of the items, which they have borrowed.

c. **Inter library loan services**

It is known as inter loan, document delivery and document supply. It is one of the useful services in library system. Users of one library could share the resource from other library. It is possible to share the audio, video and electronic documents through inter library loan service.

d. **Open access journal information services**

Usually open access journals are available in the web. In the web advertising, the open access information through online is useful for users.
e. Chat services

Chat is the most convenient communication media which creates real
time interactions which varies from plain text to content supported by audio
video clippings. Chat services are usually used in the synchronous based
situations. It is a quick information sharing way by the users.

f. Bulletin board services

It can be used for pedagogic purposes and specific discussion forums.
This is a synchrony communication system which has access to a particular
bulletin board that can log on and read the messages.

g. Web search engine services

Utility web promotes academic and scholarly information exchange
across the world.

h. Current Awareness Service

The following services are provided electronically apart from the
manual service.

- Daily updating of Journals list and latest issues of journals on the home
  page of library.
- List of thesis, CD-ROMs and Audio/Video files are updated daily on
  library home page for user information.

i. E-database service

E-database services is an organized collection of information in the
particular topic or multidisciplinary subject areas.

j. Web OPAC

Web OPAC is a powerful search engine. The various categories under
web OPAC are search, new arrivals and journals.
**k. Web based service**

Web based service is the information provided through ICT mode by internet and World Wide Web (www). The availability and growth of web resources offer an opportunity to find information and data all over the world. It is recognized as the second generation of web based information communication technology. It facilitates creative information sharing, collaboration and sharing among users.

**l. News and Bulletin**

Earlier, notice boards were used for displaying latest news and current trend in the subject area. With advancement of technology, this can be implemented in the web page of the library itself which requires minimum space with maximum usage. Even workshop/conference and seminar poster can be scanned and uploaded.

**1A.5. INFORMATION SERVICE CENTRES**

Information explosion has highlighted the role of documentation services. The researchers cannot succeed unless they collect currently known facts from various sources, analyses, digests and organizes them systematically for quick retrieval and dissemination. The aim of these activities is to develop effective information flow between the source of information and the users of information.

The social science research libraries/information service centres operates in the institutions of higher learning and research, government ministries/departments, universities and industrial houses. There are information and documentation centres like Social Science Documentation Centre, New Delhi and National Documentation Centre on Mass
Communication in New Delhi. Information centre on Science has already started working at Bangalore. Except National Documentation Centres, others are essentially directed towards meeting the requirements of the work in progress in their parent organisations. They are expected to provide personalised service in anticipation and on specific request.

1A.6 INFORMATION SERVICE CENTRES IN ACADEMIC INSTITUTIONS

Any centre which acquires, organizes and distributes information to the user community is termed as 'information centre'. Information centres are playing an important role in the development of a nation by generating, processing, disseminating and distributing the information for optimum use. Thus, an information center is an 'organization of people, materials and machines that serve to facilitate the transfer of information from one person to another'. The modern library is an information centre, since it involves preserving, organizing and disseminating the information for the benefit of the users in general and the society in particular. In other words, the modern library does the work of an information centre by providing the right information at the right moment to the right person in the right way. In the present day, library science is called information science and the modern library is re-designated as information centre.

1A.6.1 Importance of library in higher education

A well-equipped and well-managed library is the foundation of modern educational structure. The importance of library in education can be appreciated properly and precisely only if we try to understand the changing concepts of education today. A library's role in education is not confined to elementary and secondary education only. Rather it is much more important in higher education. It would not be an exaggeration if it is said that a library is
an essential pre-requisite for successful implementation of higher educational programmes. Books are sure media for knowing the latest trends in knowledge. Without the help and ready co-operation of a library no formal educational programme can fructify. The Kothari Education Commission (1964-66) was very much pertinent about the importance of a library in an educational institution when it pointed out that, "Nothing could be more damaging to a growing department than to neglects its library or give it a low priority. On the contrary, the library should be an important centre of attraction on the college and university campus" (Mittal, 2007). In view of the importance of the library in higher education, a modern college in India must have a well-planned and functional library so that it becomes an intellectual hub of the institution both for students and teachers (Trehan, 1969).

1A.6.2. Type of Academic libraries

An academic library is a library attached to an academic institution such school, colleges and universities. Academic library is an integral part of the institution and help conserve and disseminate knowledge. Although these academic libraries share certain common features and characteristics, they differ enormously in the value and content from one another (Sahai, 2009).

Academic library is divided into three types namely School library, College library and University library.

i. School library

School library is primarily meant to collect and arrange syllabi based books and some books for general reading and entertainment that may include classics, biographies, adventure and travel books and fiction. Cultivating life long reading habits and opening of windows of knowledge to the students are the main objectives of school library.
ii. College library

Colleges form an integral part of higher education, and libraries in colleges are the primary source for learning process. It plays a vital role in the knowledge dissemination process among the academic community consisting of students and faculty.

iii. University library

A university is rightly described as a community where scholars and teachers are the head, students are the body and library as its heart. In India, the importance of library in university education has been often emphasized by educationists, librarians, scholars and committees.

1A.6.3. Objectives of college library

The objectives of the college library are:

i) To promote the records of human knowledge and keep them up-to-date in accordance with the growing needs and requirements of today and tomorrow.

ii) To remind faculty members of the various opportunities for using library resources in teaching.

iii) To facilitate an individual and a group of the readers in the use of library resources with practical demonstration on how to seek the information.

iv) To provide necessary resources for staffs and students

v) To assist teaching staff in organizing the synthetic methods of teaching.

vi) To bring the documents to the notice of students and the academics together under environments which stimulate reading for pleasure,
self-realization, personal growth and development, and the cultivation of intellectual excellence for entertainment (Dhiman and Sinha, 2002).

1A.6.4. Functions of college library

Functions of the college libraries are:

i) to acquire and provide text and standard reference books to the students, necessary for preparation of their examinations.

ii) To train the college students in the use of the library material and to encourage them to enrich their knowledge and outlook in a wider perspective through general and wider readings;

iii) To help and assist the faculty members of the college in preparation of their instructional courses and in keeping them abreast of the current knowledge and concepts in different areas of study; and

iv) To assist the teaching staff in the pursuit of higher studies and research and support them relevant literature and information on the subject (Sahai, 2009).