CHAPTER -I

INTRODUCTION

Information management denotes the process of identifying, procuring, organizing, preserving and retrieving of information. This process is common to information environment though the format of the information products may vary. This is the basic philosophy of library whether traditional, hybrid or digital. Information management is essential for an effective reference service known today as information services. Ranganathan’s concept of reference service as defined by him is that, “Reference service is a process of establishing a contact between a right reader and a right document at the right time in a right personal way”. It should be rendered in a pinpointed, exhaustive and expeditious manner holds good forever though the means and measures may take different forms.

1.1 Information Management

The enormous growth of this essential item “information” has created the problem of its control and proper use. Information management is needed to combat this information explosion. To
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maintain the value of information, quality of information; use, security and ownership of information - management of information is needed. Information in information management refers to all types of information of value, whether having the origin inside or outside the organizations; including data resources, records and related file etc. Information management embraces the strategies and techniques of acquiring, organizing, retrieving, and exploiting information in any context. Information management systems must be based on certain specific characteristics which include storing tremendous amount of information, finding things in that information, responding as quickly as possible and also to support exploration among alternatives for deciding about the information to be gathered, how to structure, or share it.

The three problems of clientele requirement in information management are that; firstly, information requirement of clientele changes with the user’s environmental change – both within and outside the organization; secondly, when information is received, either new information is added to the prior information, or the new information is obsolete; and thirdly, whether the information will be
relevant to the user, because it will depend on that person’s subjective, interpretative response to the information, i.e. whether the user can make sense of the information he or she receives.

Search, development and innovation in information management have not been confined to the presentation of data in new formats, but have extended throughout industry by making possible the coordination and management of all productive activities, by allowing faster and more effective ex-change of data by electronic means.

1.2 Academic Library

Library is a symbol of knowledge society. Information has become knowledge in the context of today’s environment. Needham in his book entitled, ‘Organising knowledge in libraries’ says that “All societies depend for their very existence on the communication of knowledge.” Both knowledge and communication are dependent on a well articulated education system in a society. In turn, an educational system depends largely on the academic library system. The high esteem affiliated to Education is a universal truth. Library forms an
indispensable tool for promoting the educational system in a society. “A sound education system always needs a very sound information system in the form of libraries, documentation centres etc”.

India is a land of rich heritage. The vast Indian subcontinent had housed a number of universities even during the ancient times with a good collection of documents in their libraries. “…. the university as an institution, can be traced back to the ancient times. India can claim to be the home of the prototypes for, in the first millennium AD, centres of learning, having the attributes of a university described above, existed at Takshashila in the north, Nalanda and Vikramashila in the east, Vallabhi in the west and Kanchipuram in the South”. Tradition proves that education is a timeless fellowship. Modern Indian universities in general have placed themselves in the academic map of the world.

“Today knowledge is a key enterprise resource. Managing knowledge has therefore, become a crucial everyday activity in (libraries) modern organizations”. Libraries have become indispensable components of modern organizations. Library is a system of collection and retrieval of knowledge contained in macro
and/or micro documents, their acquisition, classification, organization and service. Libraries, particularly those in academic institutions, have to adhere to certain procedures and regulations in order to satisfy the academic and research information needs of its users. In order to have a smooth functioning, it is necessary that the staff should be aware of the normal routines, rules and procedures and the changes that have been evolving from time to time as well.

Academic institutions and libraries have become hand in gloves. The growth of academic library system is akin to the growth of Higher Education system, which in the post independent India owes to the various commissions appointed by the Government of India since independence.

Maintaining the collections may reasonably be regarded, like buildings and equipment, as part of the essential capital investment base of the library service. During a few decades in the past since independence, the higher education system in India has undergone a remarkable transformation from an elite system, nurtured by colonial roots, to a mass system attempting to meet the demands of a vibrant democracy. To note down a mid-term growth since independence, the
transformation marked by a thirteen fold increase in the number of students has resulted in the emergence of the world’s second largest higher education system (in 1966) comprising of 229 university level institutions, about 8000 colleges and five million students. The growth of higher education in India has gone a long way and has been on a continuous developmental track.

1.3 Academic History of India

India has one of the largest higher education systems in the world. The colleges in India function as the principal centers of higher education as they account for 87.8 per cent of the total undergraduate enrolment and 56.5 per cent of the post graduate level enrolment. College libraries are not independent bodies but form components of colleges. They reflect the aims and objectives of their parent body in their organization, collection and services. As such history of colleges form the background of the college libraries too. The history and development of colleges fall into three periods namely,

- Ancient period
- The British period and
• The post independence period.

1.4 Library during Ancient period

Ample evidences, are there for the existence of academic institutions and universities in different forms in ancient India and all of them had rich collections in their libraries. Unfortunately, they got destroyed by time and many foreign invasions. The advent of the British brought the modern education system into India.

1.5 Library during British Period

Academic libraries continued to be established in academic institutions during the British period. Lord Wellesley, the then Governor General of Fort Williams in Bengal opened the first college under the British rule in 1800 A.D. at Kolkata. The college library had 20,000 volumes consisting Oriental and European publications including appreciable number of manuscripts. It is pathetic to see the end of the college, which was closed due to fall in the number of students enrolled. The entire collection of the library of that college was transferred to The Asiatic Society of Bengal Library, Kolkata and
the college was closed in 1854. This is an evidence of a tragic history of the college but a happy transformation of the library.

During the early years of 19th century many colleges were functioning on without libraries. In order to compensate the absence of libraries in colleges, Lord Minto, the Governor General of Fort Williams ordered to open public libraries to serve the colleges of the area. The charter act of 1813 passed by the British Parliament sanctioned Rs.1,00,000/- to the East India company for the enhancement of education in India and the Hindu college was established in 1835 followed by the establishment of St. John College at Agra, Madras Christian College at Madras, and Wilson College at Bombay. All those colleges had their own libraries. It was a good beginning with abundant thoughts for a good collection-based academic library. Providing reading materials, that too books, was the projecting thought right from the beginning.

Wood’s Dispatch of 1854 is said to be a landmark in the education system of India. On the recommendation of Wood Education Commission, three universities were established in Calcutta, Bombay and Madras (now known as Kolkatta, Mumbai and
Chennai) in 1857. Based on this initial step, a lot of universities were established paving the way to the development of higher education in India.

1.6 Transition from the British to the Indians

Thomson College founded in 1847 at Roorkee later became the University of Roorkee in 1949. Another important college established was Mohammadan Anglo Oriental College founded in 1877 at Aligarh. The library of that college originated from the personal collection of one Mr. Syed Ahmed Khan. The college library was named after Maulana Azad. Gradually, it rose to the university status in 1921, as Aligarh Muslim University on the pattern of Oxford and Cambridge Universities.

Many colleges were established all over India. Although libraries got established and developed, they were through individual efforts only. “The first official recommendation for developing academic libraries was made by the Hunter Commission in 1882. It advocated for a special grant for academic libraries and the
recommendation could not be implemented as reported in the historical records.

In 1902 another commission was constituted under the chairmanship of Sir. Thomas Raleigh, who evaluated the Indian Education System including the libraries. Raleigh’s Commission recommended for provision of good reference service to the users of libraries. Library facilities to students was made a necessary clause for the affiliation of any college with the university, as many colleges did not have libraries. The Calcutta University also was in a bad shape at that time. Closed access system was imposed and the librarian was fined Rs.1000/- for the loss of books. Later Calcutta University Commission was appointed under the chairmanship of Salder who analysed the state of affairs including the library and his recommendations had far reaching effects on academic institutions and their libraries”. In 1924, Ranganathan joined the University of Madras library as the librarian and his entry into the library field brought in a revolution in academic libraries for decades to come.
1.7 Post Independence Period

Immediately after independence, the Indian Government appointed a committee under the chairmanship of Dr. S. Radhakrishnan in 1948. The committee consulted Dr. S. R. Ranganathan. The committee, in view of the poor status of academic libraries included in its report a statement, that Library is the heart of all academic work and first class library is essential in a University.

The Committee’s recommendations for libraries included open access system, longer opening hours, reference, orientation, bibliographic service and provision of trained staff. All recommendations of the committee could not be implemented. But on the basis of the recommendations, University Grants Commission (UGC) was established in 1953.

1.8 Educational System Under UGC

Dr. C. D. Deshmukh, a great lover of books was appointed the first chairman of the UGC. India has a large higher education system. The growth rate of educational institutions in India was very slow before independence and until 1947. After more than half a century of
independence, today [in 1997] there is a total of 237 universities, 7 open universities, 33 agricultural universities, 5 women’s universities, 1 language university and 11 medical universities along with 12,600 college that provide education in all disciplines. The number of teachers is 3.1 million, and 7.8 million students are enrolled in higher education.

Dr. C.D.Deshmukh constituted a Library Committee under the chairman of Ranganathan in 1957. The committee, for the first time made a survey of academic libraries and made elaborate recommendations on each and every aspect of librarianship including pay and status of librarians. Its report was accepted in total by U.G.C. and it became a guiding force for development of university and college libraries in India.

Higher education in India was again reviewed by Kothari Commission (1964-66) under the chairmanship of Dr. D.S.Kothari, the then chairman of U.G.C. along with other expert educationists from various advanced countries. The commission looked into the condition of academic libraries also. Dr. S.R.Ranganathan was also
consulted for his views on libraries. Some of the recommendations of the Kothari Commission Report included:

1. Teaching method should be library centered
2. Reference Service should be provided
3. Library should be headed by full time professional.
4. More expenditure should be on library books and journals, i.e a grant of Rs.25 per student per annum and Rs.300 per faculty member.

It also suggested for ad hoc financial assistance to new and old colleges for improving their standard. It also recommended for 6.25 and 10 percent of the institutional grant for the libraries. While stressing the importance of libraries in academic setup, the commission stated that “no university or college or department be set up without taking into account its library need in terms of staff, books and journals and space, etc, and Library should be an important centre of attraction in the college or university campus”.

The recommendations of the Kothari Commission also could not be implemented fully. However, due to the recommendations of
both Education Commissions and Library Committees (U.G.C), libraries gained due recognition and importance in educational institutions. Libraries progressed substantially during the sixties. Dr Ranganathan gave a new direction to the development of academic libraries in India. It was due to his sincere efforts, hard work and scholarship. U.G.C. was instrumental in paving the way for the development of university and college library finance, staff, collection, building, furniture, etc. These norms are still a basis and guiding force for academic libraries.

Realizing the importance of education and the role of libraries in promoting the cause of education, the University Education Commission was appointed by the Government of India, Ministry of Education under the chairmanship of Dr.S.Radhakrishnan. The Committee submitted its report which contained the library related recommendations in pages from 110 to 113. The report included aspects such as importance of libraries, the then unsatisfactory position of libraries, Annual Grants for libraries, Open Access System, Hours of work, Organization of a library, Staff, Reference service, Motivation of students and Grants to Teachers for books.
1.9 Education Policy

New Education Policy, announced by the Government of India in 1985 stressed the need for promotion of self learning by introducing change in teaching methods. It advocated for teaching by organizing seminars, workshops and tutorials instead of classroom based lecture method alone. This would have required self learning and more dependence on libraries. Implementation of this aspect would have been promoted library development, but not much change in existing pattern could be visualized.

The working group, Planning Commission (7th Plan) Report (1984), along with other recommendations stressed the need for modernization of libraries through automation and net-working of all libraries by 2000 A.D. Its recommendations paved the way for the foundation of INFLIBNET.

The working Group, 8th Five Year Plan, Planning Commission, Government of India, recommended to set up an apex body to review the existing library services, in order to co-ordinate the library activities for modernization of library services, creation of data banks,
providing guidelines for manpower development. It also recommended for an “All India Library and Information Service” cadre to ensure systematic staffing pattern. Implementation of these recommendations are likely to have considerable impact on the development of libraries. As envisaged, the recommendations could bring far reaching effects to a considerable extent.

Academic libraries are not independent of academic institutions. They are inseparable from the academia. As such, growth of academic libraries are dependent on the Education System, academic policies and the institutional development.

1.10 Higher Educational Institutions

Since Independence, Indian Higher Education System has undergone considerable expansion and transformation. The growth, in terms of number of institutions, teachers, and students and in terms of financial inputs, has been enormous. Dasgupta, reflecting government’s concern, has identified the ‘major challenges of higher education’ as those posed by inequity, disregard for values and financial constraints. Desai defining the approach of the University
Grants Commission, had stressed the role of education in development and in promoting social change. She emphasized the need for making academic programmes relevant to the basic requirements of society and assuring its quality. Tilak has drawn attention to the fact that in India, higher education is undergoing transformation from a public financed welfare system to a system financed by both the government and private sectors often with a market based commercial approach. Tilak underlines that education has become commercialized partially.

1.11 Library in MHRD’s Policy on Education

The Ministry of Human Resources Development, Government of India which issued a document with resolutions in May 1986, proclaimed “together with the development of books, a nation-wide movement for the improvement of existing libraries and the establishment of new ones will be taken up. Provision will be made in all educational institutions for library facilities and the status of librarians improved”. The policy stressed the need for “the availability of books at low prices is indispensable for people’s education. Effort will be made to secure easy accessibility to books for all segments of the population. Measures will be taken to improve the quality of
books, promote the reading habit and encourage creative writing.” A Policy of net book agreement was entered in the case of foreign books distributed in Indian book markets thereby reducing the tax or the handling charges as one of the senior most retired college librarians remarked. All the efforts were being made to promote the library interest of the users of academic libraries.

1.12 User

Academic institutions include schools, colleges and universities. The fundamental importance to academic institutions is their libraries. Colleges form the middle berth of academic programme. In a college library, “…the development of need based information resources required to serve the academic community and making the collection widely available to them and fostering intensive use of collection is one of the most important primary functions”. The management of their collections and the administration of their services are vital to achieve the objectives of teaching and learning.
1.13 Management of Library and its Services

Administration consists of the performance or management of transactions and other matters, and the making and implementing of major decisions. Administration can be defined as the universal process of efficiently organizing people and resources, so as to direct activities toward common goals and objectives. Administration is both an art and a science. Librarians, as administrators are judged ultimately by their performance. Administration must incorporate both leadership and vision. Management is viewed as a subset of administration, specifically associated with the technical and mundane elements within an organization’s operation. It stands distinct from executive or strategic work.

Sachin Chauhan, in his book, “Administration of Libraries”, to explain the nature of administration of a library, Floyd W.Reeves, of the University of Chicago, defines, the nature of administrative organization as “the arrangement of the personnel for the accomplishment of the objective for which the institution exists” and further adds that “it includes the division into groups of all those activities necessary to achieve the desired objectives and the allocation
of such activities to individuals”. Library administration does not only involve the various routines and in house operations, but also various kinds of services. But earlier libraries were concerned with charging and discharging work mostly and much was not there for the librarian as administration.

1.14 Effective Service to the Users

In a changing scenario, libraries are not only issuing and returning reading materials available in a library but are also doing the great task of fulfilling information requirements of the users. Satisfying user needs two aspects namely, service quality and satisfaction. “Service quality involves the long term, general examination of customer expectations whereas satisfaction a more short term measure, focuses on a personal, emotional reaction to service. Administering at house-keeping level involves employment of administrative procedure by which at least a minimum of service is provided to the various groups in a college, and the ordinary technical services of ordering, processing and circulating books are maintained”. All these routine works are undertaken in order to render
effective services to the users, thereby enlivening the functions of an academic library.

1.15 Employing Students Assistants

Administering the college library at teaching function level involves educational guidance, reading instruction in library use for first year students who are new entrants, as well as stimulating students interest in reading and acquainting graduate students in various subject fields with the bibliographic aids and special source materials in their fields, by employing graduate assistance and subject specialists. In this way a librarian is supposed to contribute substantially to the learning process.

1.16 Collection Management

The majority of the collection in college libraries in India is still in a poor status and that too in printed form fundamentally. Maheswarappa and Tadasad in their study of 571 college libraries in the state of Karnataka reveals that “more than sixty per cent of the college libraries have less than ten thousand books in their collection”.
The study reveals particularly the poor collection of Non-Book Materials (NBM).

The collection management function with a sequence of related routines, crosses the traditional technical services / reader services. “Because the library user is the reason deter of any library, library collections and services must be designed to fulfill the users needs”.

The five laws of library science by Ranganathan as long ago as 1931 have not been bettered so far. Ranganathan’s

First law “Books are for use”

The second law, Every reader his/her book”, and

The third law, “Every Book its reader” have been revised in the light of modern developments substituting certain terminologies by Ganesh Battacharya, the former director of DRTC, Bangalore as

Every piece of Information is for use

Every user his/her piece of information and

Every piece of information, its user.

respectively. Bhattacharya has revised only the terms and not the concept promulgated by Ranganathan. Never has there been a dispute
over the fact that reader-guest is supreme to a library and the imminence of service concept too. Service in a library are termed as reference service. In the words of Ranganathan, ….. “to give away the whole world, cannot equal that (Reference Service) service rendered in a library”

Ranganathan is not without any criticism. One of the criticisms is from none other than a very popular library scientist Maurice B. Line. Long after Ranganathan first formulated his five laws, Maurice B. Line presented an alternative view of the way things really are. Line’s five laws are

1. Books are for collecting
2. Some readers their books
3. Some books their readers
4. Waste the time of the reader
5. A library is a growing mausoleum

Line’s sarcastical remarks about Ranganathan’s idealism is not palatable at least from the point of view of the Librarians from the developing countries, though Ranganathan holds good for the whole
world. Line’s tone was not acceptable in this regard, even to the western library science experts.

“There is a dark side to Line’s humour that lies (though) very close to home,” say Wallet and Fleet. An advocacy in favour of line may say that librarian can think of many examples of situations and policies that are more closely aligned with Line’s cynicism than with Ranganathan idealism. But Ranganathan has surveyed the existing situation of his time and the misconceptions about a library and then only came out with the five laws. His contention was to sow the seeds of his aims in the minds of librarians, who have to understand the real objectives. Many honest librarians would have to admit that they have to achieve the goals set by Ranganathan’s five laws rather than lament over Line’s laws.

1.17 Training of Academic Librarians

Every human being is a potence for a nation’s progress. Everyone in a society is a potential user of a library. In this sense, every student, teacher and administrative staff in a college is a potential user of the college library. The aim of library service, to
quote again Ranganathan, “should convert the potential energy in every human being into a kinetic energy by providing information which shall promote a user’s interest whether it is for profit, pleasure, information or knowledge”.

Among Ranganathan’s five laws, the first set of three laws are of value in the context that the social pressure of the library user lies on the whole edifice of the library and its services. If academic libraries are to retain a central role in supporting the teaching and research function of their institutions, it is essential that the library user has a substantial influence on many stages of the collection and service administration processes.

Education transforms individuals into socially, economically, and politically contributing, peace loving citizens who become members of well informed societies. To the academic library the catchment is the Education system.

After Independence, higher education in India has been largely financed by the government with the social institutions progressively withdrawing.
The government’s share was 49 per cent in 1950-51 and increased to above 90 per cent in 2000. Amongst the different sectors of education the share of higher education was the highest at 25 per cent during the 4th five year plan (1969-74), remained stable at 22 per cent during the fifth and 6th Five Year Plans, but declined to only 8 per cent in the 8th Five year plan (1992-97). 9th Five year plan did not show any increase. A discussion paper entitled Government Subsidy in India identifies the spending on higher education as a non-merit subsidy. The categorization of higher education funding as “non-merit” subsidy. The categorization of higher education funding as “non-merit” is unfortunate for it “fails to recognize the very positive role of higher education is socio-economic development”.

The imbalance between the demand for, and supply of higher education facilities has encouraged many private trusts and bodies to establish colleges. In the increasing complexity of educational processes and institutions, it is apparent that the really important factors involved in college programmes are the quality of the instructional staff and their ability to work together towards the common goal of education. The selection and the training of college
librarians of all ranks are of great importance, if the right relationships are to be established.

1.18 Books

Wood in one of his remarks expressed the absence of sufficient bookshops to supply books to those libraries in the three principal university areas started during 1857. Carl M. White in his report in 1957 on the Delhi University Library emphasizing the need for a well articulated library in academic institutions stated that “a university is a collection of books”.

There was a time that the university libraries were receiving gratis books from the United States through Public Loan (PL480) Programme. This stands an evidence to the fact that dearth of books and their insufficient availability were problems of academic libraries in India till late sixties.

It was a good beginning with abundant thoughts for a good collection based academic library. Providing reading materials, that too books, was the projecting thought during those days both before
as well as immediately after independence. A relevant collection is essential to meet the users information needs.

1.19 Information Needs

The Librarian’s thesaurus defines ‘information needs’ as “that need which library services or materials are intended to satisfy”. According to Brenda Devin, “an information need is an impediment preventing an individual from moving forward in cognitive time and space. The person is faced with a gap that must be bridged by ‘asking questions, creating ideas and/or obtaining resources’. Such gaps do not occur in the abstract but arise out of particular critical events and situations. This is a presentation provided with a negative sounding. The positive meaning of it, is that the process of the user getting satisfied depends on the library services which brings the information match befitting the need. Maurice B. Line defines information need as “what an individual ought to have for his work, his research, his edification, his recreation etc”. Such information need is viewed in a personal or individual context when one may go into a library for his or her use. Information need is inseparable from service.
To people with a critical view, the absence of the idea of service in a library of yesteryears is a glaring truth. A lame excuse taught for that situation may be that service in a library was not known during those days or otherwise not so popular than library reading materials, which were so dear a commodity.

1.20 Library Management by Qualified Librarians

As library and service are inseparable, service and librarian are. It took years after independence to institute the post of a qualified librarian in colleges. Legal and budget provisions, making that post mandatory, were implemented very last into the academic arena though talked of much earlier. Professor in charge of the library was a familiar custom adopted till late sixties. Colleges of high repute, other than the Government ones, started during the British regime were functioning with suitable libraries and a retired professor belonging to any discipline as a librarian. Yet, they did not take the students into their service account. They functioned as custodians of the books rather than librarians.
1.21 Scholar Librarians

For a good thing to happen, someone has to advocate. Unless, it happens, even without a villain to stop, good things may not start. The society became aware of the service based library concept. At last it happened. A qualified librarian made an official entry into the college library after the first school of library science was started at Madras and Delhi. Of course, it was Ranganathan’s presence and effort in those two places. Such professionals coming out of the universities were known as scholar librarians.

1.22 Growth of Library & Information Services

Initially, the level of course offered was a Post Graduate Diploma in library science. Scholar librarians were produced for the profession only after 1973 when the Diploma level was enhanced to the Bachelor’s Degree level. It took years for universities to introduce the Master’s degree in Library science. The university of Madras which was the precursor to introduce a course of study in Library science started the M.Lib. Sc., in 1976 when Delhi university and Karnataka University had started earlier. Madurai Kamaraj University
followed suit in 1980 only. Later many Universities had followed with an added rejuvenation namely ‘Information Science’.

Exclusive manually operated document oriented system of the libraries got supplemented by computers during 1990s. This provided a momentum to the growth of library and information services.

1.23 Usefulness of Library Services

Until 1980s, the administrative authorities in most of the college in India generally believed that although a college spends a considerable part of its budget on library staff, books and periodicals, the contribution from the library for supplementing the educational programmes of the institution was less than what it could. Why did the situation arise and why did the academic library fail to achieve its objective?

Ranganathan, who was very much alive to the library situation in India, answers that “the library has not yet been made the heart of the college from which everything in the college radiates and by which everything is irradiated. Insufficient stock of books, Lack of due scale of pay and status of the librarian, insufficient staff and
condemned staff to the library, diverting the library staff for non-library work, penalizing the library staff for the loss of books are some of the problems revealed by the librarians which attribute to the failure of the academic library to rise upto the occasion.

It is not such attributes that is to blame totally. The academic librarians during and after the independence eve, with a few exceptions, did not seem to have delivered the goods properly. Due to this fact, the first impression of the society was not encouraging in favour of the librarian who was sitting idle for most of the day and time as felt by a portion of the teaching community. But the librarians alone are not to blame.

Reacting to this criticism, G.L. Trehan contradicts that “Although the librarians working in academic institutions are aware of their role and most of them are keen to bring about changes, yet most of the administrators and principals are unaware of the true purpose of the libraries. This evidencing statement in rescue of the academic librarians is corroborated by A.P. Srivatsava. In his observation, “Practically, in all universities and colleges in India, if we survey the minds of Vice-chancellors and principals, we will find that most of
them consciously as well as unconsciously conceive mostly about the circulating services of an academic library. But these are not qualitative services that an academic library is supposed to render in raising the standards of teaching and learning (which) could largely be improved by rendering reference services and by still a finer role of developing support and guidance to research workers in academic institutions. They mistake circulation service could only be service rendered in a library and for this “why a full time librarian?”

The attitudinal changes of authorities with sincere care for a well articulated library system brought in libraries their true concept.

P.B.Mangla rightly pointed out that ‘We are in a profession which is struggling hard to enable its entity in the context of higher education, as well as in the society as a whole and all of us have to make concerted efforts in this direction and also on individual basis whenever we get a chance to exhibit the usefulness of library services.

1.24 Academic Library

Anga Lakshanam is native Tamil language expression in Tamil Nadu, which denotes the normal physical features for a human being.
In its Anga Lakshanam, ‘A Library is a trinity of staff, books, and readers. Each of these three concepts are defined by Ranganathan perfectly in his book Five Laws of library science. A library that is attached with an academic institution is known as an academic library. It is mandatory that any academic institution of higher learning should have a library with a relevant collection blended with information service and supported by adequate staff. Categories under academic libraries include School, college and university libraries. Irrespective of the level of academic institutions, it is the librarian with his fine sense of appreciation and judgement, build a relevant collection and render effective service. Collection building depends more on a fine sense of judgement of the user needs and judicious procurement.

1.25 Reference Service in Libraries

As the purchasing power of academic budgets decreases, demands for library accountability increases. Academic librarians today are under great pressure to ensure that the financial resources available to them are spend effectively, and to be able to demonstrate
effectiveness, efficiency and value for money to the user communities and funding bodies. Hitchcook has reversed the conventional way of expression in the title of his book. Instead of theory and practice, he has titled his document as Practice and Theory. According to him, it is indeed (as Librarians) not an unreasonable requirement that we justify our needs, know what we are hoping to accomplish, understand our use patterns and know what percentage of use we are capable of fulfilling with a given amount of funding.

All these accountability mean the same objective that the ultimate goal of any library is the user and his/her satisfaction as Ranganathan points out in his book ‘Reference service’ of all the routines in a library. Reference service is the hub and foundation of a library and a college library administration is no exception to this.

1.26 College Library Management

College Library is an administrative organization, Floyed W. Reeves defines the nature of administrative organization as “… the arrangement of the personnel for the accomplishment of the objects for which the institution exists”, and further adds that “it includes the
division of groups of all those activities necessary to achieve the desired objectives and the allocation of such activities to individuals. The various components of College library administration includes the following:

1.27 Administrative Organisation

- Formulating and administering policies, rules and regulations
- Planning the development of the book collection
- Maintaining good relationships with administrators, faculty, students, committees, and others.
- Preparing reports, surveys, studies, and analysis of library services.
- Preparing and administering the budget when approved
- Recommending for appointment, instructing and supervising the library staff.
- Guiding plans for a remodelled, enlarged, or new library building.
- Seeing that library quarters and equipment are kept in good condition.
• Purchasing supplies and equipment

• Handling general library correspondence

• Making library resources and services well known to its users.

• Cooperation with other libraries in the area

• Participation in local, state, and national library activities

1.28 Acquisition of Library Materials

➢ Collaboration with the faculty in the selection of library materials.

➢ Bibliographic verification of all orders and searching before ordering to avoid duplication.

➢ Ordering books, periodicals and other library materials.

➢ Systematically checking bibliographies to evaluate the collection and preparing lists of needed items

➢ Administering the book funds and maintaining proper accounting

➢ Establishing and maintaining efficient acquisition records.
1.29 Preparation of Materials

Cataloguing and classifying books and other library materials
Searching for catalogue information, preparing master cards, and
adapting standards for bibliographic description assigning subject
headings and updating the catalogue/OPAC.

Supervise the mechanical preparation of books and other library
materials

- Maintaining essential records and statistics
- Assistance to Readers
- Providing for the efficient lending and return of books and
  other library materials.
- Explaining the arrangement and facilities of the library to
  users
- Answering reference queries.
- Compiling Bibliographies and indexes
- Borrowing and lending material on inter-library loan
- Giving bibliographic instruction in the use of the library
All such activities listed above, are applicable to almost any good college library because the essential functions are similar.

1.30 Libraries in Collegiate Education

In general, the name college is given to an institution that offers a three year curriculum in Tamil Nadu Higher Education System, leading to a bachelor’s degree in arts and science which requires for admission, a secondary school certification or its equivalent. This definition does not indicate the wide variation among colleges in other states of India as to control purposes, programs and size.

There are liberal arts colleges many of which emphasis specializations in given fields rather than liberal education. There are colleges for the preparation for teachers, technical colleges and agricultural colleges. Some colleges after the degree programme, offer a two years course leading to the Master’s degree and some call themselves, as deemed universities.

Colleges are under the various states in India in general and they may be privately endowed or controlled. Enrolments range from fewer than five hundred students to more than 10,000.
1.31 The College Library

It is the basic function of the college library to serve, to the fullest extend possible the program of the portent institution. It needs to implement the purposes of the college’s general program and supporting its specific educational objectives with the needed resources, facilities and services. Each college library is different in some way or the other. The basic common efforts of all college libraries however should be to meet the legitimate needs and demands of all their patrons from the senior professor engaged in advanced research to the freshman just entering.

1.32 College Library with a Librarian

The College Library should provide a live and growing collection of books, periodicals, pamphlets, newspapers, audio visual materials and microforms in both English and local languages, planned and selected for depth as well as breadth of coverage. The collection should give full support to the general education programme and to the subject majors and provide for the needs of the graduate programmes, and for the professional and scholarly research needs of the faculty. Collection building with relevant materials form
basis of service. In this context, Deshpande and Hungund write that, “India is a vast country, nay; it is a sub-continent with more than one billion people, belonging to various religions, speaking diverse languages hailing from different social, cultural and economic levels of sophistication. With 29 states, 6 union territories, about 570 districts and 1,600 spoken languages, the tasks of providing education for all and consequently “books for all” is really daunting. Though about 20,000 books per year are being published in the 18 major languages of the country, India has to import lakhs of books and periodicals annually, mostly in the English Language, from the international market. Apart from this, the country has been importing digitized databases also worth crores of rupees.

College libraries have been a part of higher education in India ever since the beginning of education in the country. Earlier, they had little to offer either to faculty members or students being open only a few hours a week with restrictive conditions and policies limiting physical access to book and periodicals. After independence such libraries are playing a more prominent and useful role in the educational system. But, the librarian in the discharge of his
responsibilities encounters various difficulties in his interaction with different types of management authorities who change periodically.

1.33 Management

When one looks into the scenario that existed during the eve of independence, here is a view expressed as early as 1990. Ashish Chatterjee and Satyabrata Roy in an article, write that “many managements do not appreciate the value of a library and have a poor image of librarian as a class. Though the library is a separate and distinct unit of the college, it is not recognized as such. The management often assigns certain duties to the library staff which are not the function of the library.

The staff may be assigned to other departments even without the prior consultation with the librarian hampering the service provided by the library. The librarian himself may be asked to take up certain other jobs in addition to his normal work. In some colleges, major decisions concerning the library are taken without the knowledge of the librarian. Even if there is a library committee none pays heed to the views of the librarian. Thus he has to submit to the
management and implement its decisions with regards to library policies. In the eyes of the management the job of the librarian is merely to store books and their issue and return.

What they have described in their article portrays a clear picture of the library scenario that existed even decades after independence. One may not be surprised to see an exact situation even today in some colleges which continue to function in an institution that remains an affiliated type.

1.34 Needs of Library Users

Where do we get an answer regarding the change of situation in college libraries in India. Anuradha Gupta answers in her article entitled, college libraries in current perspective’, that, “These libraries have gained due recognition now in their setup. The life style of the people has also changed. There is shortage of time everywhere. Now the change has brought in the necessary social pressure on the library. The library has also begun to realize the importance of the users as their customers.
Users expect relevant and timely information. They are not satisfied with lending service alone rather they require pinpointed, exhaustive information. Apart from these changes, in requirement of users, libraries are facing other fundamental problems in general, such as

1. Inability to maintain the acquisition as per the requirement or demand due to resource crunch.

2. Ever increasing cost of literature prohibits library to maintain itself even if its financial support is regular

3. Enormous literature coming in various formats do not allow any library to be self sufficient, however resourceful it may be.

4. Accommodation in many libraries is running short.

Apart from the above, besides his/her routine works, a librarian has to manage to maintain a good public relations which is fundamental to his service which gets garnished properly

Service in a library can be based on the precise enunciation of the user needs.
1.35 Public Relations

A college library whether yesterday or today or even tomorrow basically remain a localized institution and very much public relations based. The question is not whether a librarian would like to be a personality of planned public relations officer or not, but whether the workload he has on his shoulders would permit him to perform the duties with a touch of public relations?

Public relations is a twentieth century phenomena that was introduced by the Americans during the post world war period. “Public Relations is the planned effort of a business organization or other institutions to integrate itself into the society in which it exists. One of the college librarian, during a data collection chat, revealed that good public relations reduce damages to books and other materials in a library. A true statement out of real life experience. Public relations alone won’t do. What is in store too counts a lot for a meaningful service.
1.36 Library Collection : Preamble

College Libraries in India remain to be document oriented. They have been carrying over all the printed materials in their collection even while entering into the new millennium though some have added e-resources along with an internet connectivity. College library is no exception to this general conditions. This condition shall persist for a decade or more and there is no exact speculation to the end of the printed material though a lot has been written on the possibility of a paperless society. The terms Administration and management are used synonymously and both shall exist as individual capacities till the paper based reading material exist. When digital environment pervades into libraries, those concepts shall become public concepts.

Management is concerned with the materials and manpower while administration looks at the delivering end. Aspects seen to contribute to successful collection management are a senior member of staff having library wide collection management responsibilities.
Priority being given to liaison with academic staff and other library users over the stock selection and revision; the involvement of professional librarians in these processes is an ongoing programme to collection maintenance, preservation, weeding, relegation and discard – based on agreed written guidelines; library co-ordination of the materials budget and planning for cooperation and resources sharing.

In accordance with this view the premises of this investigation is that the administration of college library collections properly consists not of series of discrete tasks, but of a coordinated programme pervading all areas of the library which necessarily concerns all academic librarians.

1.37 Domain of Library Administration

The domain of library administration is concerned with three concepts namely

- Library collection management, concerned with the organization and staffing;
- Financial management and budgeting and performance measurement.
Continuing economic constraints, together with such factors as lack of space, curriculum changes, research selectively, the expansion of higher education, the information explosion and the growth of new information media, lead to higher priority being accorded to planned and coordinated collection management and an effective service based on such carefully built collection. Library management is taken as a synonym to collection management. Collection is fundamental to any library.

1.38 Library Collection

“Any college library with less than 10,000 volumes of books cannot have much impact on the academic and intellectual life of the college committee. College authorities and others who render financial support to the college must realize that there is a minimum number of volumes which a library must have in order to give satisfactory services to its user community.
1.39 Allocation of Adequate Funds

It was a good beginning that the first Education Commission to be ever set up immediately after the Independence of India stated that, “As per norms and standards for University/college libraries approved by the standing committee of the University and college libraries of the University Grants Commission, the library budget should be determined in ratio of the total budget of the college”.

The collection, service users’ attitudes, their needs and preferences in a library should be periodically undertaken through studies by the librarian in order to evaluate and introduce improvements.

Aspects encompassing various facets of a college library have been discussed. It is not enough that a library is prepared with good collection, staff and services with user motivation and all. It needs to get evaluated periodically in order to assess the quality and modify wherever required.

According to Dr. S.R.Ranganathan, Father of library science, “library is a public institution or establishment with a collection of
books. The duty of making them accessible to those who require them and the task of converting every person in its neighbourhood into a habitual reader of books”.

Library includes a group of people working for a common objective within a framework devised to ensure co-ordination. The structure of a library evolves adapting to changes in the environment and in the objectives of the library. In library information system, there are subsystems like acquisition, catalogue, circulation and serial control. This project is concerned with the design of computerized serial control for journals.

1.40 Definition of Information management

Information management (IM) is the collection and management of information from one or more sources and the distribution of that information to one or more audiences. This sometimes involves those who have a stake in, or a right to that information. Management means the organization of and control over the structure, processing and delivery of information
1.41 Definition of Engineering College

Engineering colleges generally refer to institutes of higher education which offer an engineering course at degree (undergraduate) level. The duration of the course is four to five years depending upon the university to which the college is affiliated. The students learn little of basic science (pure science) concentrating instead on its applications to real life problems. Some colleges provide postgraduate courses such as PhDs. Students can specialize in different branches such as electrical engineering, civil engineering and mechanical engineering. The popularity of engineering colleges is surging, especially in developing countries like India, possibly because the information Technology (IT) sector has a high demand for engineers.

The periodicals play a vital role in giving the latest information for which no book is written yet. In this system, the periodicals are procured from publishers or agents and the details are entered in different registers manually. The required information is retrieved after an exhaustive search on various registers and it is time consuming, erroneous and taxing.
1.42 Need for computerization

The existing manual system has many drawbacks on various fields. This system may not provide an accurate information and the objective needed by the users, since the manual reference is done for searching also due to entry errors. In order to overcome all these drawbacks, the system is automated. The automated system may work with large workloads effectively and provide information with full accuracy. It will remove drudgery from the staff and also provides added benefits.

On the advance development of library literature, the automated system can withstand and will provide facilities for future expansion. Access of individual requirements, sending reminders for non-received issues, preparation of various reports are all done by system effectively with great speed.

1.43 Computerized System

With the advancement of the information technology, the traditional Library information System must also go for automation
into order to handle the tasks with speed and accuracy to provide an effective service to the users.

The computerized system facilitates the users to retrieve the information by batch or on-line process at great speed and accuracy. Expansion can also be done with libraries and information centers.

1.44 An overview of the development of engineering education in India

India is the 2\textsuperscript{nd} largest country in terms of population. It has 22 official languages, 29 states and 6 union territories. Since the early 1980’s due to rapid industrialization and economic growth, there was a great demand for the Engineers and Scientists. As a result, engineering and technical education in this country have been developing faster than any where else in the world and India now has the 2\textsuperscript{nd} largest number of engineering students in the world.

Since technical education determines the developments and socio economic conditions of the nation, there is a greater need for high quality technical education to produce technically skilled manpower in India. The AICTE is a apex organization charged with
the responsibility for planning and coordinated development of technical education in India, approved to establish many number of Self-financing and governmental technical institutions in the country. The AICTE is responsible for the accreditation of both Government and private engineering colleges. It monitors the qualitative growth of technical education in relation to planned quantitative growth and proper maintenance of norms and standards. Thus, AICTE approved so many Government, technical institution and self finance engineering colleges all over the country. As a result the technical institutions 571 in 1997 in the country have been drastically increased into 1265 in the year 2004-2005

Technical education is important at three different levels in India. The levels are described below:

- ITIs (Industrial Training Institutes)

- Polytechnic colleges which offer diploma courses in technical education and they provide middle level technicians.
• Engineering colleges which offers UG and PG courses in engineering technology.

The three levels of technical education systems of the country are offered by both Government and private institutions/colleges.

The Government expenditure in technical education is increased many times from the first five year plan to the present five year plan. The leading industrial states like Maharastra, Tamil Nadu, Karnataka and Andra Pradesh have experienced financial growth of engineering institutions after the independence of the country.

The AICTE was established in the year 1945 and quickly and apex body of technical education became the custodian of technical education in the country. It has the responsibility of accrediting both state and private engineering colleges.

The National Board of Accreditation of AICTE aims to bring standards in the academic programs offered in technical institutions in India on par with programs offered in institutions in the USA and Europe by introducing a quality auditing system and establishing a datum for measuring the quality and excellence in engineering
education. The accreditation exercise is very rigorous and has several inputs, such as quality of teaching, level of research, faculty expertise, evaluation of teachers, and standard of infrastructure and resources available at the institution. There are seven statutory Regional Committees across the country for assisting the Council in planning and development of technical education, monitoring and periodic evaluation of the approved institutions in the region. The main approved tasks for the improvement of technical education in the ninth five year plan are as follows:

- Planning growth and regulation of technical education.
- Human resource development
- Quality assurance and excellence
- Promotion of R&D, linkage with industries, national labs, centers and institutions.
- Institutional thrust and upgrading
- Rural development programmes
- Mission-oriented programmes
• Strengthening management and governance structure

• Resource mobilization

The libraries of these institutions are important supplemental to the curriculum and research. It is evident that unfortunately many of the self finance institutions are unable to recognize the importance of their libraries. Due to lack of efficient library services, most of the self finance institutions are unable to produce talented man power. So it is an urgent need to revamp the existing library services in many institutions. But it is not so easy. So, it needs a systematic planning and implementation. Based on the curricula and as well as research projects of every technical institution, the libraries that are serving are expected to collect the relevant print and non print media of information for their better performance.

1.45 Planning and development

The two terms planning and development are important aspects for any organization to systematic use of available resources as to achieve the objectives. The planning in an organization reduces the crisis and wastage.
The library is a non profit social organization. It has a set of objectives to serve human beings. With available minimum resources and manpower, it has been expected to perform well. For this purpose, it is necessary to devise and execute systematic planning.

1.46 Library and information services

Library and information services are essential to cater to the information needs of the society. The library offers variety of services ranging from circulation, current awareness, reprography, reference, referral and translation services.

1.47 Self-financing Engineering colleges

The self-financing engineering colleges are established and run by individuals / trusts / organizations. They are established fully with financial resources of above said agencies. The government may not financially support these institutions. The main aim of these institutions is imparting technical higher education in the country.
1.48 Tamil Nadu and Chennai

Tamil Nadu is located in southern part of the Indian subcontinent. It is in subtropical climate and one of the major industrial states of the country as far as literacy rate is concerned, it is one of the top most states in the country. It has more number of technical institutions, and most of them are located in and around the capital city “Chennai”.

1.49 User – The Guest Supreme

Academic institutions include schools, colleges and universities. The fundamental importance of academic institutions is their libraries. Colleges form the middle berth of academic programme. In a college library, “…. the development of need based information resources required to serve the academic community and making the collection widely available to them and fostering intensive use of collection is one of the most important primary functions.” The management of their collections and the administration of their services are vital to achieve the objectives to teaching and learning.
1.50 Administration of Library and its services

“Administration consists of the performance or management of transactions and other matters, and the making and implementing of major decisions. Administration can be defined as the universal process of efficiently organizing people and resources so as to direct activities towards common goals and objectives. Administration is both an art and a science. Librarians, as administrators are judged ultimately by their performance. Administration must incorporate both leadership and vision. Management is viewed as a subset of administration, specifically associated with the technical and mundane elements within an organization’s operation. It stands distinct from executive or strategic work”.

Sachin Chauhan, in his book, ‘Administration of Libraries’, explains the nature of administration of a library. Floyd W. Reeves, of the University of Chicago defines, the nature of administrative organization as “the arrangement of the personnel for the accomplishment of the objectives for which the institution exists” and further adds that it includes the division into groups of all those activities necessary to achieve the desired objectives and the allocation
of such activities to individuals. Library administration does not only involve in the various routines and in house operations, but also various kinds of services. But, earlier libraries were concerned with charging and discharging work mostly and much was not there for the librarian as administration.

1.51 Beyond ‘Issue and Return of Books’

“In a changing scenario, libraries are not only issuing and returning reading materials available in a library but are also doing the great task of fulfilling information requirement of the users. Satisfying user needs involves two aspects namely, service quality and satisfaction. “Service quality involves the long term, general examination of customer expectations, whereas satisfaction a more short term measure, focuses on a personal, emotional reaction to service. Administering at ‘house-keeping level’ involves employment of administrative procedure by which at least a minimum of service is provided by the various groups in a college, and the ordinary technical services of ordering, processing and circulating books are maintained. All these routine works are undertaken in order to render effective
service to the users, thereby enlightening the functions of an academic library.

1.52 Functional Level

Administering the college library at teaching function level involves educational guidance, reading instruction in library use for first year students/ new entrants as well as stimulating students’ interest in reading and acquainting graduate students in various subject fields with the bibliographic aids and special source materials in their fields by employing graduate assistance and subject specialists. In this way a librarian is supposed to contribute substantially to the learning process.

1.53 College Library Administration

“College Library is an administrative organization”, Floyed W. Reeves defines the nature of administrative organization as “…..the arrangement of the personnel for the accomplishment of the objects for which the institution exists, and further adds that “it includes the division into groups of all those activities necessary to achieve the desired objectives and the allocation of such activities to individuals.
The various components of College library administration includes the following.

1.54 Administrative Organisation

- Formulating and administering policies rules and regulations
- Planning the development of the book collection.
- Maintaining good relationships with administrators, faculty, students, committees, and others.
- Preparing reports, surveys, studies, and analyses of library services.
- Preparing and administering the budget when approved.
- Recommending for appointment, instructing and supervising the library staff.
- Guiding plans for a remodeled, enlarged, or new library building.
- Seeing that library quarters and equipment are kept in good condition.
- Purchasing supplies and equipment.
• Handling general library correspondence

• Making library resources and services well known to its users.

• Cooperation with other libraries in the area.

• Participation in local, state, and national library activities.

1.55 Selection and Acquisition of Library materials

• Collaboration with the faculty in the selection of library material

• Bibliographic verification of all orders and searching before ordering to avoid duplication.

• Ordering books, periodicals and other library materials

• Systematically checking bibliographies to evaluate the collection, and preparing lists of needed items.

• Administering the book funds and maintaining proper accounting.

• Establishing and maintaining efficient acquisition records.
1.56 Preparation of Materials

Cataloguing and classifying books and other library materials. Searching for catalogue information, preparing master cards, and adapting standards for bibliographic description, assigning subject headings, updating the catalogue / OPAC.

Supervising the mechanical preparation of books and other library materials.

- Maintaining essential records and statistics
- Assistance to Readers
- Providing efficient lending and return of books and other library materials.
- Explaining the arrangement and facilities of the library to users.
- Answering reference queries.
- Compiling Bibliographies and indexes
- Borrowing and lending material on inter-library loan.
- Giving bibliographic instruction in the use of the library.
All such activities listed above, are applicable to almost any good college library because the essential functions are similar.

In the 21st Century Information management is increasingly becoming a crucial tool. It has already been successfully implemented in academic libraries in India and elsewhere. INFLIBNET, NICNET, INDONET, ERNET, CALIBNET, DELNET, ADINET, MALIBNET, etc. have emerged as the prominent academic libraries in India. Academic libraries are the treasure house of knowledge which cater to the needs of scholars, scientists, technocrats, researchers, students and others who are in the mainstream of higher education. The vision and mission of academic libraries are changing in India. The vast literature gleaned from IFLA, ACRL and allied publications on academic libraries aptly reveal the changing roles and responsibilities of information professionals in the modern society. Academic libraries are positioning themselves to be the torch bearers and path makers of educational advancement by way of integrating knowledge systems and resources. The academic libraries have to be managed on the basis of constant introspection at the individual level and scientific
evaluation at the institutional level in this age of knowledge management.

Due to the information explosion, knowledge got published not only in books and serials, but also in technical and scientific reports, standards and patents. In this way printing technology helped the mass production of books and other printed materials and brought them to the library and became the primary storage media of information in the library.

The resources were acquired and organized by means of cataloguing, classification, indexing and other procedures. Up to 1960s all information sources and the bibliographic tools to access them were available only in printed media. It was followed by the film and magnetic media and now there is an “optical media age”, where CD-ROMs and e-journals have entered in the library as a source of information.

1.57 Collection Development

Libraries have been in the collection business for centuries and are defined largely by the functions of collection development and
management, that is, by a continuum of processes to select content appropriate for a particular community, make it accessible manage it, and preserve it. These discrete functions have been viewed as necessary components of good collection stewardship, and they books (which they then owned), organized them, made available through library facilities, and took steps to ensure the longevity of the volumes for future use.

To some extent, this full stewardship model is being followed in the digital arena. Libraries acquire and secure ownership of digital content (typically through license), store the content on local servers, and make it permit, to ensure long-term access to the digital collection through license conditions and through practices to create backup and redundancy, and to migrate the content over time. In a variation of the model, some libraries host commercial content or centrally manage content of other campus units. In both of these cases, the classic collection stewardship model is sustained largely intact. A defining characteristic of this traditional model is the library’s ability to exercise primary responsibility for and control over the content and future access to that content.
1.58 Federation

Increasingly, the capabilities of the distributed environment prompt an unbundling of the discrete component functions of traditional collection development and management responsibilities. Models in which the library retains central control over content, its access, and its longevity may no longer be appropriate or sustainable. Consequently, we see instances of libraries providing access to electronic.

1.59 Information Access

Organizing and providing access to information is another classic role of libraries. The twin functions of cataloging and classification have allowed published works to be fixed in a framework of knowledge and to be given multiple access points for retrieval—a combination that has supported general inquiry over time. These functions have brought predictability and a cumulative order to vast amounts of material. As protocols for structuring and sharing bibliographic data were developed for automated systems and
networks, libraries have been able to share these data and build more flexible access systems.

The challenge for libraries is to sustain the significant capabilities developed through standards-based bibliographic processes while taking advantage of new access strategies that have been created as a result of new media standards and communication protocols.

Libraries have responded to the challenges of content description for new digital media, extrapolating from existing cataloging practices to develop various metadata schemas. These schemas have recognized the new types of attributes necessary to represent digital objects and services fully, that is, to describe more than just their content and topic. Administrative and structural metadata, for example, add significant value and capture information about provenance, property rights, and methods of creation or capture, as well as information about the object’s structure that can be used by retrieval systems.
1.60 User Services

Library user services have traditionally focused on collections support (i.e., helping users identify, retrieve, and use resources) or educational activities to help patrons use libraries more effectively. These activities have largely been distinct; for example, reference services respond to individuals with specific questions, and instructional programs target classes with general educational needs. The analysis that follows provides examples of more distributed approaches to user services that reflect the development of complex and integrating systems of support.

Evidence of changing user behavior has been documented but is not fully understood. Academic libraries have reported declining in library attendance and declining use of in-library services such as reference and circulation, although some are experiencing increases in instructional activity (Kyrillidou and Young 2001). Other data indicate a rise in the use of and preference for electronic content (Self and Hiller 2001). Institutional instructional management systems are offering alternative venues for course reserve methods have declined. While the profession has yet to analyze fully the relationship among
these trends, they suggest increased location-independent use of library and non-library content and heightened interest in acquiring the skills needed to make better use of the myriad systems and services now available on the network. Course-management systems also reflect the increasing desire for services that integrate resources (e.g., syllabi, readings, lecture notes, chat capabilities).

These shifts in user behavior and interests prompt the library both to extend traditional services in the networked environment and to consider the broader set of user needs to be addressed in user support.

1.61 Virtual Reference Systems

The past decade has seen a rise in reference services to support more virtual inquiry. Whereas, initially, the library mainly served remote users who were affiliated with the institution, it eventually came to serve a more global market. Virtual reference methods began with simple communication exchanges, such as reference via e-mail. They now incorporate tools that allow reference librarians to more fully understand the nuance of the reference
interview context (e.g., using video technology to capture nonverbal behaviors) or to provide real time assistance with electronic resources (e.g., through “chat” functions and through technologies to “capture” the user’s workstation and guide or “co-browse networked resources).

The evolution of electronic reference from single to multi-institutional services creates a more complex framework for virtual assistance. In these models, reference services are collaboratively staffed and mechanisms are developed to profile staff and institutional specializations in systematic and structured ways. In addition, the services often incorporate capabilities for real-time discussion and knowledge databases to store the results of reference transactions for future use. The Collaborative Digital Reference services coordinated by the library of Congress, for example, developing an international infrastructure that is designed to manage inquiries submitted by users worldwide and is staffed by librarians worldwide (Kresh 2000). While the model highlights seamless access to global resources, it also harnesses the human capital of library professionals. Expertise is as important as the network of library collections.
As more functional and intelligent systems are being developed for collection access, the development of reference systems has also involved the specification of standards to enable interoperability among sites and to allow more complex functionality. Evolving protocols and metadata will specify the representation, communication, and archiving of user transactions (Lankes 2001, Butler 2001)

1.62 Supporting Library Patrons

Library staff is generally the primary clientele for systems offices. Librarians who have a background in working at the reference desk are frequently dedicated to filling the information needs of their public. Systems staff might work with public services colleagues to seek informal opportunities to work with students or faculty at computer stations.

1.63 Professional Reading

Libraries focus more directly on information. Policies may also originate there and flow up to the college or university information technology units. This opportunity to shape and influence
organizational policy must be clearly communicated and endorsed at each level.

Instruction librarians should be encouraged to explain policy implications in classroom sessions. Consider articles in campus publications or a Web site posting. Many universities have mechanisms to send mass e-mail to all students, faculty, and staff. The use of portals for this function is also gaining popularity because of the ability to target a specific audience segment.

1.64 Increasing Prices And Library Budget

Traditionally, library directors hold primary responsibility for the budget-planning process. Systems librarians spend a significant portion of it on creating and maintaining networked systems. Each library operates within a different framework of centralized, decentralized, or hybrid budget practices. Budget administration also affects the ability of the systems librarian to negotiate employment offers to systems staff.

The prices of information products are increasing day by day, and it is required to make available optimum number of information
resources to the users within the available funds. This is forcing the Librarians to initiate the consortia and share the on-line resources by using the Networking concept.

The above mentioned factors are responsible for the changes in library environment. These changes have brought many new challenges and new threats, as well as open new opportunities which have to be capitalized by the libraries to remain successful. Changes, open up new vistas, offer new opportunities and throw new challenges. Therefore any library cannot remain immune to changes and has to respond in time. Therefore changes cannot be neglected and new ways of management have to be adopted by the libraries for the continuous improvement. The libraries of Management Institutes are not exceptional for that.

1.65 Planning Tools

CPM, TQM, GANTTCHARTS, SYSTEMS, ANALYSIS, REENGINEERING, SURVEYS, METO were to resolve specific problems of workflow and inefficient information services. METO planning tools can be useful for a variety of tasks including personnel
effectiveness, resource analysis and evaluation, user perceptions, and cost estimates.

1.66 Planning

Change is a central element in the growth of any organization. Today, the accelerating rate of change in the technology arena is frequently the driving force for change at every level of the organization. “The forces promoting stability without introducing change in an organization are both pervasive and powerful”. Careful and thorough planning is essential to successful implementation in any project and helps to overcome resistance to change. Change represents a strategy to achieve goals, not an end in itself. Targeted goals should represent the shared values if the organization and be clearly stated as such. Some shared values within libraries are easily identifiable; some require a process of identification.

1.67 Use of Technology In Libraries: Present Scenario

After the advancement in science and technology, the information could be produced in the form of microfilms, audio-visual aids, magnetic tapes and CD-ROMs. Today the information
technology has tremendous impact on libraries. The use of computers in libraries introduced the newer ways of acquisition, storage and retrieval of information. The application of library software started which caters to a full suite of modules for every aspect of library operations and enables to handle extremely large collection. So in libraries, the computers belonging to different sections(possessing different library software modules) were linked for coordinating their activities.

The LAN(Local Area Network) for OPAC(On-line public access catalogue) are used for accessing information. The use of bar code system also started in many libraries which is helpful in an automated circulation setup, thereby reducing the long queues in the circulation desk. Similarly, efforts have also been done for the application of RFID Technology in the library for automatic identification and also to keep a track of the material. The library automation is not the end of the technology application, on the other hand is the basic step towards developing the other technological advancements in library such as services based on Internet and Intranet.
Information and Communications technology has revolutionized the way of collection, storage, processing, dissemination and access to information. Recent technological developments such as explosive growth of Internet and WWW, sophisticated search engines, fast processing power and reducing cost of the computers, high bandwidth networks and increasing number of electronic publications assist the libraries in providing extensive access to the variety of information sources and provide a way to enrich the teaching and learning environment. As a result the worldwide libraries are facing the changes in the concept, organization, functioning and management of library and information systems throughout the world. The libraries are incorporating new technologies, upgrading information resources for adding value to their services and ultimately for satisfying the increasing information needs of the users.

1.68 Need for Computerization

The existing manual system has many drawbacks on various fields. This system may not provide an accurate information and the objective needed by the users, since the manual reference is done for
searching also due to entry errors. In order to overcome all these draw
backs, the system is automated. The automated system may work with
large workloads effectively and provide information with full
accuracy. It will remove drudgery from the staff and also provides
added benefits.

On the advance development of library literature, the
automated system can withstand and will provide facilities for future
expansion. Access of individual requirements, sending reminders for
non-received issues, preparation of various reports are all done by
system effectively with great speed.

1.69 Virtual Library

A digital library if networked with the other library networks
(LAN or MAN or WAN). World Wide Web or Internet can be
accessed world over by anybody at any point. Walk around
technology provides interaction with an animated virtual librarian for
such information as direction around the library and location of books.
It is a user-friendly interface and provides as intuitive means of
presenting information, scanning the volumes inside the library itself
and data gathered from sources on the World Wide Web can be downloaded for taking it home. This breakthrough opens up information to professionals and private users worldwide from all sectors like business, education, research, etc.

1.70 Manpower Development

The existing manpower might not be aware of the working conditions/requirements in the new systems. They have to be persuaded to undergo technical training to accept the challenging situation in the profession and do their jobs.

1.71 Notice Boards

Maximum and best use of these should be made in any worthwhile and convenient sites. As far as possible notices should be specially designed for the purpose, preferably by some one with experience in this field. Although there are exceptions, notice boards should not carry material designed for another purpose, for example notice circulated to individuals. Statements on notice boards are tend to be ignored unless they catch the eye very quickly. The attention has to be drawn by someone who is actually moving past the board
without intending to stop and at it may also be necessary to attract to a particular notice as opposed to many others on the same notice board. Sometimes good use can be made of flow charts and diagrammatically presented case histories. What has to be avoided is lengthy prose.

1.72 **Exhibitions**

Here if is certainly very important to obtain professional help. Exhibitions are a very specialized means of publicity but when well carried out can be invaluable. The most important decision of all to be made is, whether the exhibition is to be one that is self explanatory that is one with no attendant staff, or whether it will need constant attendance, so that extra explanations may be given and questions answered.

1.73 **Continuing Education Programmes in Library & Information Science**

CEPs are being offered in LIS to its professional like in various other professions. At present, CEPs are offered through various methods like, workshops, refresher courses/orientation
programmer (by UGC Academic Staff Colleges), seminars, symposia, summer/winter schools, etc.

The Government institutions/agencies/departments such as NISSAT of Dept. of Science & Technology, UGC, INFLIBNET, SAARC Documentation Center (INSDOC), DRTC, IISc etc, have been offering continuing education programmer in LIS. Further, many national library associations, such as ILA, IASLIC, IATLIS, SIS, etc. either independently or in collaboration with governmental or other institutions have been offering CEP in India.

It is obvious that the number of professionals who could participate in such continuing education programmer like workshops and refresher courses is minimal, when compared to the actual number of professional, who need to be offered the CEPs. Further, it is also an established fact that CEPs are quite inadequate in India. In this context, it is feasible and ideal to make use of the distance mode in offering such programmers, which by virtue of its variant media and packages can reach out to distantly located LIS professionals in large number and effectively, and who for some reason or the other could not participate in the formal CEPs. The distance mode of offering
CEPs goes a long way in a country like India, where the LIS schools and LICs are scattered in rural, urban and metropolitan areas.

The objectives of CEPs as stated by Sardana and Krishnan Kumar (1984) are to:

1. Help broaden and deepen professional knowledge.
2. Keep them up-to-date and well informed.
3. Prepare them to meet the challenges of changing needs.
4. Learn about and implement new ideas, methods, techniques, etc.
5. Assist in personal and professional growth and development, and
6. Achieve increased job satisfaction

Responsive Reorganization in a Changing Environment

As we move towards the next millennium, the library and information professional face the following paradigm shifts:

✓ Transition from print to electronic media.
✓ Passive user to active user.
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✓ Demand for accountability on the part of the librarian.
✓ Concept of networked environment.
✓ Individual to team work.

Keeping in view these rapid changes, the librarians have to analyses the phenomena of change in the library and to adapt to it, as and when warranted, to provide effective and efficient information services.

Thus the goals of information technology-based libraries are to:

❖ Develop information /knowledge resources focused on patrons needs.
❖ Continue to develop a cooperative and user-cantered culture.
❖ Organize information resources on modern lines.
❖ Provide human technologically moderate access to information.
❖ Continuing education and training.
1.74 Globalization

As national barriers disappear, managing knowledge is becoming the key to accessing timely information about international competitive environments, regional growth rates, etc, required to build a global business portfolio. Telecommuting and the Internet are drivers that are speeding up the process of knowledge sharing unlike anything witnessed before. The trend in the business world is to reorient from being organized along geographic lines to being organized by markets, products and processes. This trend has resulted in increased virtual collaboration among distributed effectively is even greater in this scenario.

1.75 The Disciplinary Bases of Knowledge Management

Cognitive science

- Expert systems, artificial intelligence (AI) and knowledge-based management systems (KBMS).
- Computer-supported collaborative work
- Library and information science
- Technical writing
• Document management
• Decision support systems
• Semantic networks
• Relational and object databases
• Simulation
• Organizational science

1.76 Libraries in Operation

In India, the Calcutta University Commission Report defined, for the first time, the academic status of a librarian and the functions of a library committee in a university, resulting in creating awareness about libraries in higher education.

Ranganathan transformed the library into a service-oriented agency. He waged relentless war against traditional dogmas; and broke the rigidity of the age-old outlook and techniques used in libraries. It is the normative base, which has helped in the development of a total process of a modern transformed library and its services.
1.77 Revolutionary Impact of Technologies

Over the past two decades, libraries have become increasingly aware of the revolutionary impact of developments in information and communication technology on their key functions. The new developments challenge the library’s traditional role as electronic information products and services open up a precisely unimaginable array of options. Those of us who have witnessed the change revolution, are forced to contemplate a vision of the future in which the unpredictability of the human mind interacts with an expanding array of new technologies, and libraries strive to develop an information infrastructure to serve teaching and research in universities and render information services to business and industrial organizations pin pointedly, exhaustively, and efficient at a speed unheard of in the past.

Libraries have so far been unable to satisfactorily solve fundamental problems associated with the provision of materials. Kent observes the poor performance of libraries in identifying the materials and sources which users need. It is already mentioned that kent had analyzed that some 40% of material bought several years before, had
not been circulated outside the library. It is against this background, that libraries have failed to achieve their goals within the constraints laid down for them, we must attempt to examine their future.

The situation in Indian libraries is much worse. In spite of the best efforts at Banaras Hindu University where I worked as its Librarian (960-71), only about 30% of students and 5% of teachers actually used the library. The situation in other libraries may be different; but it is admitted that the academic community in universities and colleges make little use of the materials available in the library. We need to look at how the new technology can be harnessed by librarians for the benefit of users in the provision of information, as support to improve the existing scenario.

### 1.78 Future of the Book

Whatever the changes and the development that have taken place, or will take place in the future, the books will continue to be the physically dominant for many years to come. The death of the printed words and the book has been falsely predicted too many times. However, changes in form of presentation will vary according to the
state of technology and the needs of the users. Books have not yet been totally replaced by electronic media, such as television and radio but have achieved a relationship, which is often complementary and at best symbiotic.

In the west, books and magazines are accessible on computer screens. Electronic books are popping up everywhere. Some electronic books are popular than print counterparts say some young readers. Michael mellin, Random House’s publisher in-charge of electronic books, estimates that the one-volume print encyclopedia introduced in 1990, have sold about 1,00,000 copies. During this same period, consumers have snapped up nearly 4,00,000 copies of electronic encyclopedia. We are not talking about the future. This is already happening.

Magazines on the screen have come to stay. It was at the Annual Magazine Conference October 1993 that a third of the session was devoted to multimedia publishing of magazines. Editorials from magazines started appearing on television.
The electronic book or ‘electronic book’ is enabling patrons to carry a large amount of text in small area and in a form, which can be read electronically.

1.79 The Librarian of the Future

No machine can compete with creative, knowledgeable, and flexible, professional librarian, one who provides interpersonal interaction, information evaluation, communication, synthesis of views and judgment. The role of a librarian is to distinguish between data and information, and between facts and knowledge. The challenge faced by librarians is not just to provide more information, which can be done by machines, or even the right answers. The challenge is to help people to formulate right questions and manipulate the data to provide the answer they seek from us.

Librarians must not be professional dinosaurs; they must adapt themselves to the changing circumstances. The pressure to change has come to stay. Libraries have to change and the librarians, if they do
not accept the change, will inevitably be the victims of this evolution. For the dinosaurs, it will indeed be the extinction.

1.80 Organization

Organization is the design of the structure, the grouping of positions, which will best carry out the library’s planned objectives.

It involves the designing of the structure of authority, defining and classifying the posts, their relationship with each other ad ensuring proper correspondence for achieving the objectives of a library.

1.81 Administration

An administrator for smooth functioning of his organization uses the following devices;

- Provides unity for management.
- Divides the whole organization into various units.
- Delegates’ authority to various units.
- Funds ways and means for proper coordination of work.
- Plans for limited span of control.
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- Works as leader of the organization, and
- Arranges periodical, staff meetings conducts inspection and issues administrative orders for smooth working.

1.82 The 21st –Century Librarian

The librarian of today must keep more and more on the cutting edge of many areas of technology. Online database, not to mention Internet do make one’s ability to do research more encompassing, they also create a learning curve that must be continuously reevaluated. If librarians are to assist patrons in making the most of these innovations, then the librarians themselves must keep one step or more ahead in their uses and knowledge of the data available. This knowledge should encompass not only the use of databases but also the knowledge necessary to expertly evaluate the findings. With the ability to gather vast quantities of information it is an added responsibility for the librarian to examine, evaluate, and produce a more manageable and collection of information for the patron.
1.83 Developing Management Skills

Successful management tools and strategies need to be used not only by library directors, but also by front-line librarians who can find and use many successful business practices to enhance their daily work. One example is the human resource technique of behaviour-based candidate selection that can be adapted by 21st-century librarians serving on search committees.

Many academic librarians would be hard pressed to think of a professional activity more time consuming, more challenging, laden with responsibility than serving on a search committee. A successful 21st–century librarian can take a leadership role on these committees by urging his or her colleagues to use candidate selection techniques proven to more closely match the needs of the position with the professional behaviors of the candidate.

1.84 Technology Skills in Libraries of the 21st Century

A prospective librarian has a good background in web design/HTML skills in other areas as well, an institution already has in place, this candidate will more than likely make a favourable
impression. This person is or could develop into a technology generalist; a person who can develop “skill by building on knowledge from a similar task” This generalist will be able to develop new skills, as they are needed by a library in its quest to provide information in the ever-changing technological expansion driven by the Internet.

**1.85 The Education of Librarians**

From all this emerges a simple conclusion about what man, the architect of twentieth century librarianship, has been striving to do. He has been learning how to use letters more nearly to achieve his full potential in the reaims of mind and heart; learning how to build a civilization in which he and these things he so highly prizes will be at home; and in so doing, learning how to apply to the practical problems that beset him the best fruits of the mind regardless of time or place of origin.

University sponsorship of the education of librarians has yielded two principal benefits. It has raised the level of scholarship, introduced research and research programs in the field where nothing of the sort had existed before. Second, it has broadened the education
of the operating personnel, balancing instruction in the technology of the subject with supporting instruction in other fields. Libraries are concerned with the entire spectrum of knowledge: balanced instruction thus becomes a necessity, an interdepartmental task. In this respect, educating libraries is something like educating writers.

1.86 Bibliographical Access to Library Holdings

Removing all barriers and permitting readers to go directly to the shelves may provide access to books and related materials. This is called physical access, or more often “open access”. The litter phrase was coined when the idea was new librarians were experimenting with methods by which they could successfully break away from the practice of keeping books behind closed doors or behind other barriers to ready access. Although open access is spreading with the growth of influence of the public library, the practice is being no means universal.

Bibliographical access refers to any method of gaining access to books through bibliographies, published or unpublished. Thus when the reader goes to a library and finds a printed catalogue or a card
catalog where all of its holdings are listed, we say he has bibliographical access to the holdings of the library.

1.87 Websites

Web sites and home pages on the Net has gained importance. Today, most of the educational institutes are have their web sites with links to their libraries. The libraries are using new technological concepts such as institutional repositories, on-line database search, consortia for providing the networking related services to the users through their web pages. In today’s era the Websites can be considered as the mirror image of the institute.

1.88 OTHER FACTORS INFLUENCING LIBRARIES

1.88.1 Information Explosion

The rapid growth of published information is expressed by the term “information explosion”. The information available is growing day by day due to growth in publications. It is now also available in various types of documents such as books, periodicals, CDs and DVDs, on-line journals, on-line databases. Therefore managing the
information due to its explosion has become a challenge for the librarians.

1.88.2 Changing expectations of users

The users today are not completely dependent on libraries, now they are getting the required information from the internet as well as from intranet. Users have become more technology because of the increased online environment. Users are expecting more things from the library along with the books. Accessibility to the required information at a fast rate as well as quick response to the query is the expectations of users. Librarians role is extending because of the growing expectations of the users.

1.88.3 Importance of Management science

Among the various branches of higher education, management education is responsible for enlargement and development of trade and business which lead to economic and industrial development of the country. The role of management education is to provide managers, technologists for a progressive country at a regular rates and in adequate number.
Management education is a social education and essential for any nation which wants proper standard of living. Wealth, earnings and the general well being of people also depends upon development of management education. Management education is responsible for enlargement and development of trade and business which lead to economic and industrial development of the country. It has perennial significance to impart progressive outlook to its citizen. Today the management degree is viewed as a key to success in the corporate world. It is one of the most preferred choice of higher education among the youths in the world.

1.89 Management of Academic Libraries

The academic libraries cater to the needs of the academic community for supplementing the study and the research program of the parent institutions and help to conserve and disseminate knowledge. Although these academic libraries share certain common features and characteristics, they differ enormously in the value and context from one another.
Likewise the libraries of Management Institutes make unique contributions to management education. This contribution ranges from developing collections to provide bibliographic access to all library materials and interpreting these materials for all users. Specific services include access to on-line resources and creation of new tools to enhance access to information available locally, regionally, nationally, or internationally.

1.90 Library Services

Harrod’s Librarians’ Glossary 25 defines library service as “the facilities provided by a library for the use of books and dissemination of information.”

The scope of this term expanded as follows:

Various activities of the library extended to the users of the library for:-

1. Fulfilling the routine needs of the users, such as giving membership to the library, home lending service, reading hall service, inter library loan services which are minimum library services.
2. Services or activities leading to give information to the users of the library either on demand or in anticipation of the demand, such as reference service given with the help of ready reference sources and other reference books either on telephone or in person.

3. Documentation service such as Current Awareness service, selective Dissemination of Information service, alerting service, bibliography service, translation service.

4. Services for Dissemination of Information through the list of additions, current awareness bulletin, abstract or annotation or digests or by exhibitions - display, of books and other materials, lectures, talks organized by the libraries.

5. Document copying and document delivery service - document copying with the help of machines, such as xerox machine, popularly called as xeroxing service.

6. Activities promoting the use of libraries and library collections - such as orientation course in library use and
guidance to Ph.D. candidates and publication of guides to library collection or using audio-visual material.

7. Automation and Networking services given to the users such as web OPAC, Institutional repository (IR), informing about or accessing information sources not available in the library. Activities include online retrieval of information, connectivity to international and national databases and accessing the information through search of the databases to the users, Digital Library services. This also include inter library co-operation activities, resource sharing activities such as consortia efforts and providing the on-line resources through the network membership.

1.92 Challenges and Opportunities

The vision and mission of academic libraries are changing in India. These academic libraries now take on the key role of providing the competitive advantage to various universities, research and development organizations which play a pivotal role in the process of
nation building. Academic libraries are positioning themselves to be the torchbearers and path makers of educational advancement by way of integrating knowledge systems and resources. These academic libraries are required to do serious introspection on their roles, responsibilities and contributions. Comments and observations are noted very frequently on their strengths and limitations in various national and international forums. The vast literature gleaned from IFLA, ACRL and allied publications on academic libraries aptly reveal the changing roles and responsibilities of information professionals in the modern society. The academic libraries are also called upon to exploit all forms of digital and telecommunication technologies and explore new avenues and possibilities for the enhancement of knowledge resources which are available in different forms and places. The builders and managers of academic libraries are also required to enrich computer security and authentication techniques which promote information diffusion. The information personnel are also required to enrich their professional competence and leadership qualities which would facilitate meaningful identification, location and evaluation of information resources in
order to promote professional excellence among the user community. The “user-centred” paradigm has been adopted in the developed countries to create customizable interfaces and enrich the process of collection development in the academic libraries. The academic libraries really demand a well conceived, designed and maintained systems, practices and operations which would effectively meet the needs of different constituent groups and individual users. The administrators are mainly responsible for creating and sustaining software, hardware, human resources and data bases which would go a long way in promoting research and development in India. “The proficiency of library information science (LIS) and information skills must be complemented by hardware and software skills for working in an information technology (IT) intensive environment” as rightly suggested by Foo, S. and other scholars.

1.92 Digital Library

The digital library concept is defined by various people by considering the various aspects of it, such as kind of resources it deals with, types of users it caters to and goal and objectives of its very existence. According to Digital Library Federation7 (DLF), “Digital
Libraries are organizations that provide the resources including the specialized staff, to select, structure, offer intellectual access to, interpret, distribute, preserve the integrity of, and ensure the persistence over time of collections so that they are readily and economically available for use by a defined community or set of communities.” In short, digital library is basically a library with digitized material and services in which information/knowledge is stored, processed and transferred in the electronic form, so that it can be transmitted and displayed to the right person at the right time.

Therefore a digital library is considered as an important component of global information structure. Digital libraries contain information collections in digital form and offer access to the broader audiences of users through electronic media.

The Digital Library contents are useful for the students and researcher for the reference purpose.

Electronic libraries or information access points now prefer to keep the information recorded in digital form on electronic gadgets like tapes, CDs and DVDs. These libraries so to say are only access
points or information centers. They provide the information about the existence of the pertinent piece of information and if it is found worth keeping for reference or record.

Internet holds enormous volumes of information in each and every field of human knowledge. It holds primary, secondary and tertiary sources of information in a wide range of subject fields and in varying formats. The primary sources available include e-journals, monographs, reports, patents standards, individual articles and preprints, data files, etc. Other primary sources of information on Internet include home pages of various institutions, organizations projects undertakes, subject expertise, infrastructure and resources available. Library catalogues including OPACs, bibliographies, indexes, database of abstracts and reviews are the secondary sources available on Internet and also other electronic resources including reference sources, electronic magazines, e-journals, dictionaries, encyclopedias, directories, etc.
1.93 Role of Libraries in Digital Age

As is often the case in times of changes, organizational structures and the language for describing an organization’s activities do not adequately reflect the transformations under way. Consequently, while the descriptions that follow derive from traditional functions of libraries (collection development, cataloging and access, user services, and place) these descriptions fall short in the contemporary context.

The sections that follow use selected examples to explore functions and expertise being sustained? How have external forces left their mark? The cases include instances where traditional functions have been stretched and build on core activity, as well as instances where innovation reflects a significant break from past activity. The cases also reveal an evolution from models that capitalize on the distributed environment to models that are more open and diffuse

1.94 Accessibility to E-Journals

After the use of Internet and IT, the editions of the journal also become available online. There has been shift from traditional print
journals to electronic journals. The major advantages of the e-journals are, they can be used simultaneously by more than one user, quick access, saves physical storage space, etc. Therefore the Libraries started subscribing the on-line copy of the journals and management libraries are not exception for that.

The electronic journals include full text of scholarly articles in digital format. The e-journals are produced, published and distributed all over the globe through the electronic network. It provides quick access to articles due to linkages among documents, publications, web sites as well as the users.

1.95 Impact of Internet on Libraries

Internet service started in India with the initiative of Videsh Sanchar Nigam Ltd in August Today, internet has become one of the crucial ways of communicating and sharing of information. It has become possible to transmit the information (digitized data) to long distances over telecommunication lines regardless of space and time. The rapid advancement of IT and network technology made it possible for people to produce, access, and disseminate information and
knowledge through the computer networks. The library networks such as DELNET, INFLIBNET (Information and Library Network Centre), CALIBNET, etc to promote sharing of resources among the member libraries by providing technical assistance to its member libraries for creating and maintaining bibliographic databases, serials control, union catalogue preparations etc.

After the invention of computer networks and internet, e-books, the traditional libraries are shifting towards digital Library by acquiring various e-products such as e-journals, e-books and on-line databases. The internet service is a big ocean of database, in which anybody can deposit their information and make it available for their users either freely or for sale. Many specialized information services due to on-line information sources, the previous emphasis on ownership has been shifted to access. The accessibility to information anywhere and everywhere is made possible because of the tremendous development in computer and communications technology. The highlights the use of technology in the library in the present era.
1.96 Academic Libraries In India

India is well known as the largest democracy in the world. Today there are a total of 237 universities, including 116 general universities, 12 science and technology universities, 7 open universities, 33 agricultural universities, five women’s universities, one language universities and 11 medical universities along with 12,600 colleges that provide education in all disciplines. The number of teachers is 3.1 million, and 7.8 million students are enrolled in higher education. Schools of library and information sciences are also established all over the country with a view to create trained information workforce in the country. Indian academic libraries are managed on the basis of tested, tried and trusted principles of management.

1.97 Information And Library Network (Inflibnet)

The University Grants Commission has set up an autonomous Inter-University Centre in 1991 called INFLIBNET which is involved in modernizing university libraries in India. It connects the Indian libraries through a nation-wide high-speed data network. It promotes
automation of libraries, develops standards, creates union catalogues of serials, theses, books, monographs and non-book materials; provides access to bibliographic information sources; creates database of projects, institutions, specialists; provides training, etc. Almost all academic libraries, especially university libraries, are members of INFLIBNET. It has also developed library automation software called SOUL (Software for University Libraries) which is distributed free of cost to its member libraries.

1.98 Other Networks

Besides INFLIBNET, a number of other national networks and various library networks have also been developed including NICNET (National Informatic Center’s network), INDONET, ERNET (Education and Research Network), CALIBNET (Calcutta Library Network), DELNET (Developing Library Network), etc. ADINET is associated with INFLIBNET, DELNET with NIC and MALIBNET with CFTRI. A good number of higher educational institutions are members of these networks. In particular, DELNET has 752 member
libraries including 742 from India and 10 from outside which are engaged in compiling union catalogues, creating various databases of experts, providing training to library staff, ILL, online facilities, reference service, assistance in retrospective conversion, etc.

1.99 Library Consortia

Many Indian university and college libraries are not in a position to subscribe to all the required journals and databases mainly due to lack of management support and financial constraints. The libraries are forming consortia in order to facilitate knowledge sharing at a much cheaper rate. Some special libraries and organizations like the Indian Institute of Astrophysics (IIA) Library, Inter-university Centre for Astronomy and Astrophysics (IUCAA) Library, National Centre for Radio Astrophysics (NCRA) Library, Physical Research Laboratory (PRL) Library, Raman Research Institute (RRI) Library, Tata Institute of Fundamental Research (TIFR) Library, Council of Scientific and Industrial Research, Department of Atomic Energy, etc., have established consortia to share electronic access to journal literature. NISCAIR is developing a consortium for CSIR labs for accessing e-journals. Consortia in India are still a new concept that
requires proper guidelines and methodologies. The UGC conducted a survey and found that about 142 university libraries had computer and Internet facilities which were interlinked to INFLIBNET. UGC has also launched a major initiative called UGCINFONET which provides high speed Internet connections in order to facilitate electronic access to professional literature including research journals, abstracts, review publications, and databases from all areas in science, technology, social sciences and humanities, and so on. Today, a number of professional journals are available over UGC-INFONET to all universities. The subscription initiative under UGCInfonet is an important portal for sharing print as well as electronic resources amongst university libraries. INFLIBNET functions as a resource center with an aim to cater to the needs of its members for resources not accessible to them in electronic media or are available in print media.

a) Application of Technology for accessing the Information Resources in Libraries

- Web OPAC, online search
- Library Networks
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- Bar code system, RFID
- Library software
- Resource sharing: Consortia

b) E-journals & e-books

- Institutional Repository (IR)
- Digital Library
- Use of Technology in Library

c) Resource sharing: use of networks and consortia

Sharing of resources is an age-old concept. It consists not only to share the document resources but also facilitates services, equipments and even manpower among the participating libraries. The traditional libraries are facing barriers for inter library loan such as conservative attitude, distance, language, cost time etc. The recent developments in Information science, Computer and Telecommunication technologies have changed these perceptions on account of multidimensional growth of published documents.
As mentioned in the Encyclopedia of Library and Information Science, Resource sharing denotes a mode of operation whereby library functions are shared in common by number of libraries. The goals are to provide a positive net effect:

(a) on the library user in terms of access to more material or services, and / or (b) on the Library budget in terms of providing level service at less cost than if taken individually. These goals should be realized without harm to the missions of participating libraries, although their methods of operation invariably must be adjusted. Similarly, the goals are realizable only with some changes in the habits of users.

In the present era, the concept of sharing the resources has been fully assisted by IT by creating the library networks. The library networks are useful for exchanging the information. The Indian library networks like INFLIBNET, NICNET, DELNET, INDEST are the active examples of it.

The Libraries are providing information by using varied forms of informative documents. Presently the libraries are sharing the
resources through the consortia form of partnership. According to American heritage dictionary 6 “A Library consortia is a cooperative arrangement among the Library groups or institutes, associations or societies.” It facilitates remote access as the consortia services are independent of geographical barriers. A consortia deal proves to be far more cost effective when the libraries as a group negotiate for subscription to journals, and other published material.

1.100 Institutional Repository

Institutional repositories help in collecting, preserving, indexing and distributing the research material and scholarly publications, such as intellectual output of faculty and staff of an institution. Institutional Repositories are valuable tools that enable sharing and reuse of resources. In academic institutions, the main purpose of institutional repository is to centralize, preserve and make accessible the intellectual output generated by them. In India, IISC, DTRC, INFLIBNET and few other have explored the benefits of open
source software for archiving the contents produced by their faculty members.

1.101 Use of Technology in Libraries: Present Scenario

After the advancement in science and technology, the information could be produced in the form of microfilms, audio-visual aids, magnetic tapes and CD-ROMs. Today the information technology has tremendous impact on libraries. The use of computers in libraries introduced the newer ways of acquisition, storage and retrieval of information. The application of library software started which caters to a full suite of modules for every aspect of library operations and enables to handle extremely large collection. So in libraries, the computers belonging to different sections (possessing different library software modules) were linked for coordinating their activities.

The LAN (Local Area Network) for OPAC (On-line public access catalogue) are used for accessing information. The use of bar code system also started in many libraries which is helpful in an automated circulation setup, thereby reducing the long queues in the circulation desk. Similarly, efforts have also been done for the
application of RFID Technology in the library for automatic identification and also to keep a track of the material. The library automation is not the end of the technology application, on the other hand is the basic step towards developing the other technological advancements in library such as services based on Internet and Intranet.

Information and Communications technology has revolutionized the way of collection, storage, processing, dissemination and access to information. Recent technological developments such as explosive growth of Internet and WWW, sophisticated search engines, fast processing power and reducing cost of the computers, high bandwidth networks and increasing number of electronic publications assist the libraries in providing extensive access to the variety of information sources and provide a way to enrich the teaching and learning environment. As a result the worldwide libraries are facing the changes in the concept, organization, functioning and management of library and information systems throughout the world. The libraries are incorporating new technologies, upgrading information resources
for adding value to their services and ultimately for satisfying the increasing information needs of the users.

1.102 Challenges and Opportunities

The vision and mission of academic libraries are changing in India. These academic libraries now take on the key role of providing the competitive advantage to various universities, research and development organizations which play a pivotal role in the process of nation building. Academic libraries are positioning themselves to be the torchbearers and path makers of educational advancement by way of integrating knowledge systems and resources. These academic libraries are required to do serious introspection on their roles, responsibilities and contributions. Comments and observations are noted very frequently on their strengths and limitations in various national and international forums. The vast literature gleaned from IFLA, ACRL and allied publications on academic libraries aptly reveal the changing roles and responsibilities of information professionals in the modern society. The academic libraries are also called upon to exploit all forms of digital and telecommunication technologies and explore new avenues and possibilities for the
enhancement of knowledge resources which are available in different forms and places. The builders and managers of academic libraries are also required to enrich computer security and authentication techniques which promote information diffusion. The information personnel are also required to enrich their professional competence and leadership qualities which would facilitate meaningful identification, location and evaluation of information resources in order to promote professional excellence among the user community. The “user-centred” paradigm has been adopted in the developed countries to create customizable interfaces and enrich the process of collection development in the academic libraries. The academic libraries really demand a well conceived, designed and maintained systems, practices and operations which would effectively meet the needs of different constituent groups and individual users. The administrators are mainly responsible for creating and sustaining software, hardware, human resources and data bases which would go a long way in promoting research and development in India. “The proficiency of library information science (LIS) and information skills must be complemented by hardware and software skills for working in
an information technology (IT) intensive environment” as rightly suggested by Foo, S. and other scholars.

1.103 Other factors influencing Libraries Information Explosion:

The rapid growth of published information is expressed by the term “information explosion”. The information available is growing day by day due to growth in publications. It is now also available in various types of documents such as books, periodicals, CDs and DVDs, on-line journals, on-line databases. Therefore managing the information due to its explosion has become a challenge for the librarians.

1.104 Changing expectations of users:

The users today are not completely dependent on libraries, now they are getting the required information from the internet as well as from intranet. Users have become more technology because of the increased online environment. Users are expecting more things from
library along with the books. Accessibility to the required information at a fast rate as well as quick response to the query is the expectations of users. Librarians role is extending because of the growing expectations of the users.

1.105 Importance of Management science

Among the various branches of higher education, management education is responsible for enlargement and development of trade and business which lead to economic and industrial development of the country. The role of management education is to provide managers, technologists for a progressive country at a regular rates and in adequate number.

Management education is a social education and essential for any nation which wants proper standard of living. Wealth, earnings and the general well being of people also depends upon development of management education. Management education is responsible for enlargement and development of trade and business which lead to economic and industrial development of the country. It has perennial significance to impart progressive outlook to its citizen. Today the
management degree is viewed as a key to success in the corporate world. It is one of the most preferred choice of higher education among the youths in the world.