Chapter I

INTRODUCTION

1.1  Preamble:

Information technology is one of the major tools to shape the society and the institutions particularly. Libraries as one of the most important influences in education, culture and society.

Information and communication technology (ICT) has become in short period one of the basic building blocks of contemporary society. Many countries are putting their best brains to develop various skills for using ICT as part of the core of education, alongside reading, writing and numeracy. Not only ICT changed the business environment and underpins the success of modern corporations, but it provides governments with an efficient infrastructure also. Beside, ICT adds value to the teaching and learning processes and in the organization and management of learning institutions. The internet is a driving force for much development and innovation in both developed and developing countries (UNESCO 2002).

"Information" in the sense nothing but a communication or representation of knowledge in certain forms, as like facts, data, opinion in any medium for including textual, numerical, graphic cartographic narrative or audiovisual material. The use of ICT cuts across all aspects of economics & social life. Technological developments in ICT picked up a supersonic speed. Technology quickly becomes outmoded so the users need new skills & Knowledge to be mastered frequently. The use of ICT is complimentary to the development as it encourages the sharing of information & the effective involvements by social groups at various levels, offering in particular, the possibility of networking individual & systems. ICT holds the potential to foster hitherto, unknown types of engagement, contacts & interactions.
among individuals, communities, national cultures & civilizations. ICT’s that are bringing about decisive changes in the way of culture are created & communicated also have to meet new social demands. After the potential to expand the scope of teaching & learning, breaking through traditional constraints of space & time as well as boundaries of current educational systems. It is important to access the ICT applications in Library & information centers in the context of changing user needs.

ICT has changed the traditional methods of library activities and services providing new dimensions for teaching, learning and research in higher educational institutions. With the help of ICT tools, it is possible to store, retrieve, disseminate and organize information by creating websites and databases. Information is now published both electronically and by print making it accessible to users according to their demands. It is important to assess the ICT applications in library and information centers (Ghuloum, H. 2011).

This world has become more visually oriented, so our education and information infrastructure must develop techniques to incorporate these changes. Information technology, through the use of computer technology with communications, digital imaging and full motion video and sound can be powerfully to improving education and thus improving skills for gainful employment. But, in order to do this, need to change the libraries and librarians attitude.

It has been evident for over half a century that libraries can no longer comprehensively collect in a wide variety of subject areas. Thus, a long history of cooperative networking and interlibrary lending has been the mainstay of satisfying ever widening and interdisciplinary subject material demands of research, scholarly and student users. New publishing techniques such as online databases, consortia, institutional repositories are increasingly becoming key parts to library resources.
These collections accessed and controlled through specialized retrieval software and through wide area network.

Libraries have to develop many ways to access the materials available in electronic format and effectively share through network. Traditional hierarchical library organizations have to adopt more team-oriented work environment where more varied task responsibility is shared by both library professionals and technicians. Specific mission directed teams, can change as clientele needs change in the sources and services. The team in the library setup should concentrate on all aspects of service and support for specific subject areas. This team can be assisted with the specialists in particular in information technologies such as LAN, automated library system, barcoding, training to retrieve information from the library resources.

1.2 Topic title:

Researcher has prepared a synopsis for Ph.D. degree under the guidance Dr. Vaishali G Choukhande. It presented before research recognition committee of Swami Ramanand Teerth Marathwada University. The committee gave recognition to the proposal entitled Use of Information and Communication Technology in Libraries: An Empirical Study of Academic Libraries Affiliated to Swami Ramanand Teerth Marathwada University, Nanded and Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.

1.3 Definitional analysis of terms arrived within the title:

Generally research is expressed in a particular language. It deals with the respective language of vocabulary and has lots of flexibility. The occurrence of synonyms, homonyms and other such concept may result in confusion. Researcher should define the terms to avoid confusion. That’s why the researcher explained the terms used in the research work as operational definitions for greater and in depth understanding the research topic that he selected to complete his research study.
1.3.1 Use:

The meaning of use is to take, hold, or deploy (something) as a means of accomplishing or achieving something; employ. It has some synonyms words like utilize, work operate, wield, apply, manipulate, put to use, put into service

1.3.2 ICT:

It is an abbreviation of the word/phrase Information and Communication Technology. The Information and Communication Technology terms that stress the role of unified communications and the integration of telecommunications (telephone lines and wireless signals), computers as well as necessary enterprise software, middleware, storage, and audiovisual systems, which enable users to access, store, transmit, and manipulate information.

1.3.3 Study:

The dictionary meaning of the word in noun forms ‘a detailed investigation and analysis of a subject or situation.’ (www.quora.com)

The others words in the title have the dictionary meaning. They are used in the title either as connecting words or as reference context.

1.3.4 Empirical study:

Empirical study suggests that some phenomenon is studied through observation, and perhaps traditional natural and social sciences have been limiting its use to experimental studies. (www.quora.com)

1.3.5 Library:

A place set apart to contain books, periodicals, and other material for reading, viewing, listening, study, or reference, etc. which now uses the ICT applications for offering various services.
1.3.6 **Academic library:**

An academic library is a library that is attached to a higher education institution which serves two complementary purposes to support the school's curriculum, and to support the research of the university faculty and students. (www.definitions.net)

1.3.7 **College:**

An institute or organization of higher education, provide opportunities of learning in various discipline of universe of knowledge to youth having passed higher secondary education and affiliated to university or have autonomous status. In the thesis it used either in singular form as college or plural as colleges. (www.definitions.net)

1.3.8 **University:**

An organization of higher education recognized by apex body of a country that award degree to the students after completing prescribed curriculum. (www.definitions.net)

1.3.9 **Affiliated:**

A person, organization, or establishment associated with another as a subordinate or subsidiary or member. Here it used for colleges which are affiliated to Swami Ramanand Teerth Marathwada university and Dr. Babasaheb Ambedkar Marathwada University.

1.3.10 **Swami Ramanand Teerth Marathwada University:**

It is a university situated in southern part of Aurangabad administrative region, (it is well known as Marathwada) it is named after Swami Ramanand Teerth. Its headquarters is at Nanded. It is established by Swami Ramanand Teerth university.

1.3.11 Dr. Babasaheb Ambedkar Marathwada University:

Marathwada university is established by the Maharashtra government in 1958 and the act was passed in 1974 act no. XXV. In 1994 it renamed as Dr. Babasaheb Ambedkar Marathwada University. (www.bamu.ac.in)

1.4 Meaning of ICT:

Several scholars tried to define the term ICT in many ways. Out of different definitions some are given here which can assist to understand the meaning of ICT.

Mahajan (2002) defined ICT as the modern science of gathering, storing, manipulating, processing and communicating desired types of information in a specific environment. According to UNESCO, ICT is a scientific, technological and engineering discipline and management technique used in handling information, its application and association with social, economical and cultural matters.

According to Shibanda (2006) “ICT is the collective term for various technologies involved in processing and transmitting information, that may include computing, tele-communication and microelectronics.”

According to Garg & Sing (2002) “ICT stands for information and communication technology. It is a method that involves processing, storage and communication of information using computers and other electronics devices.”

1.5 Historical background of ICT:

The phrase information and communication technology has been used since the 1980s generally by the academic researchers. The abbreviation ICT was used first time by Dennis Stevenson in 1997. It is nothing but a synchronised form of
IT and CT. Let us discuss about the historical background of ICT which was originated from the beginning of a communication era.

1.5.1 Beginning of communication era:

History of communication is as long as the human race. In the prehistoric period people developed simple ways and means of communication. They draw pictures in the caves, on the rocks and use some vocal sings to communicate with others. Those were scattered attempts in the communication sector. But it is very important as the base of today’s advanced communication technology. In ancient time with the help of memory, folk literature and other pictorial means people communicate their experiences. it is generally agreed that invention of writing script independently in at least two places, Mesopotamia around 3200 BC and Mesoamerica around 600 BC. Emergence of printing technology was a revolutionary walk in the area of communication technology. The history of printing goes back to the duplication of images by means of stamps in very early times. The use of round seals for rolling an impression into clay tablets goes back to early Mesopotamian civilization before 3000 BC(Wikipedia). Due to advancements in communication technology, the process of printing becomes mechanical. The printing press was invented by the German Johannes Gutenberg during 1440. This attempt brought revolution in printing sector. In 1556 first printing press came in India. It was set up by a Christian Missionary and used for printing religious books. Gradually printing technology formed the shape of information technology in a span of nearly three hundred years. Book printing was considered as one of the most powerful tool of information technology.

The first device that could record actual sounds as they passed through the air was the phonograph, patented in 1857 by Parisian inventor Édouard-Léon Scott de Martinville(Wikipedia). The audio-visual media were the products of the
Twentieth Century. The audio media came in 1920s and grew very fast after the World War-II. They are now used for entertainment, education and information all over the world. The visual media came later in the sequence but expanded very fast. Now more advanced technologies, such as CDs, DVDs, memory cards, pen-drives, video cassettes, cabal T.V., Computers, video text, video disc, video phone, facsimiles etc. are used for communication throughout the world. The communication satellites are geared to bring the world together for welfare of human beings. Gradually, more and more technologies were added to it in the form of micro-filch electronic storage and discrimination, networking, World Wide Web (www).

Similarly, in this fast changing world, people’s hunger for knowledge is increasing more and more. As the major source of knowledge is information, people are inventing more advanced technologies to access, retrieve and store huge amount of information. Through these attempts IT came in existence. After the invention and use of computer and related electronic devices IT mixed up with CT in such a way that it was found difficult to distinguish and separate both. This combination of IT and CT provides huge potential and a platform to access, retrieve, store and process large amount of information and it helps to communicate this processed data to other part of the world. This potential of ICT made it popular among students and teachers. Now every corner of education is trying to incorporate ICT with it.

**ICT and education:**

Today’s society is also known as information society. In this society, knowledge is becoming one of the most important strategic resources not only for inner development policy of the country but as a tool for foreign policy too. On the other hand education became the most important process for the individual, for business & industry and for society large. The rapid technological development means that knowledge is no longer “once in a life time” experience for the individual. It is
rather an asset, which constantly has to be updated. That’s why; recurrent education is getting increasing importance not only for young people but for adults also to maintain and develop their earlier acquired qualifications.

ICT can leverage the creation of poles of educational excellence where ICT provides access to advanced knowledge, helps to develop educational research capacity, helps to develop and empower teachers and thus breaks their isolation, improves school-community relation, helps in introducing new educational methods, techniques and new contents. ICT will provide stimuli to improve educational quality on a system-wide basis. Also great deal of the value of ICT in education lies in their capacity to enhance pedagogy and management. Furthermore, ICT have great potential for revolutionizing accustomed methods of educational planning, management, monitoring and evaluation. Their use is not limited to processing and analyzing educational data or to rationalizing communication between stakeholders. Their real strength is the facilitation of more transparent, democratic, and decentralized educational decisions that involve not just the different levels of government but equally importantly, students, parents and civil society at large.

**1.6 Transition in Higher Education:**

The 21st century world put forth many global challenges and opportunities in the present technological world. In this context of ceaseless transformation in every sphere, education has no luxury to be a glorious exception. Across the world, it is pertinent to note that education is also measured against global benchmarks and international parameters. University/College rankings are the testimony of this globalized benchmarking of higher education. At such a time, when higher education is also undergoing a paradigm shift in terms of its foundational concepts, practices and benchmarks, it would be ideal to revise higher education in India and discourse
on its relevance to the globalized nature of the 21st century Indian scenario (Tank, 2013).

Higher education is witnessing transition from student to learner; from faculty centered to learner centered institutions; from teaching to the design and management of learning experiences; from student to a lifelong member of a learning community and all these suggests changes in teaching and learning process. Interactive, collaborative and independent learning are increasingly replacing the passive lecture and classroom experience and students’ demand from education has been obtaining the skills directed towards more immediate career goals. Also there has been a shift from synchronous classroom based instruction to asynchronous computer network based learning, thus resulting in demand for “Plug and Play” experiences and “Plunge in and learn”. Hence the knowledge driven institutions in the interest of Education and Research have to adopt the rapid advances in information technology-telecommunication networks.

Institutions of higher learning whether it is a College/University have been witnessing a great changes and challenges due to the impact of Information Technology (IT). Under these circumstances, the outlook of teaching community has to be changes to imbibe ICT not only in teaching but accessing e-information to enhance quality of education as the Internet and the World Wide Web have created new opportunities for the Faculty members, scholars and students as seen in the increasing popularity of preprint servers, news groups and mailing lists and the majority of information resources available in online mode. Advances in computer storage and telecommunication methods, online access to databases, electronic journals, electronic knowledge banks, direct document delivery, teletext, teleconferences, bulletin boards, CDROMs, Networks, Blogs etc., have been the revolutionary advances in the last two decades, have brought a great change in
communication, storing and handling of information. This has resulted development of Learning Resource Centre in the virtual environment to support self-learning, developing instructional learning materials, using e-learning packages and accessing multimedia resources with Internet and Video-conferencing/ EDU-SAT facilities.

The speed and innovation rely more and more on knowledge and creativity. Knowledge Management is then seen as a centralized database with as main goal to collect the information and provide access in the academic and research set up. Knowledge management should support the improvement of this innovative capacity to generate new ideas and solutions, should help to transform these ideas into working products or services and should ensure that these capabilities are shared among as much as possible workers in the company. There are no quick wins in knowledge management. The reliance on external consultants does not guarantee long term success. Rather, because commitment especially among information professionals would ensure to knowledge management run the risk of alienating groups of the goals of knowledge management. The National Knowledge Commission (2005) insists all libraries must have the facilities - "motivated, courteous and adequate staff, easy access and user friendly retrieval system, effective signage's and computers with internet access and photocopiers", serving as a major vehicle to facilitate creation of knowledge, facilitating optimal use of knowledge by all sectors, and easy access to knowledge relevant to their needs. In view of the significance of Knowledge Management and National Knowledge Commission, efforts have to be made to establish Learning Resource Centre and in this direction, all the institutions Library are taking initiative to establish the Virtual Learning Resource Centre and Digital Library in strengthening the information base to support academic and research activities.
1.7 **Advantages of the use of ICT in education:**

ICT compasses those entire gadget that deal with the processing of information for better and effective communication. In education, communication process take place between teachers, students, management and administrative personnel which requires plenty of data to be stored for retrieval as and when required to be disseminated or transmitted in the desired format. The hardware and software like OHP, Television, Radio, computers and related software are used in the educational process. However ICT today is mostly focused on the use of computer technology for processing the data. In this context, advantages of ICT in education can be listed down as follows:

1.7.1 **Quick access to information:**

Information can be access in seconds by connecting to the Internet and surfing through web pages.

1.7.2 **Easy availability of updated data:**

Sitting at home or at any comfortable place the desired information can be accessed easily. This helps the students to learn the updated content. Teacher too can keep themselves abreast of the latest teaching learning strategies and related technologies.

1.7.3 **Connecting Geographically dispersed regions:**

With the advancement of ICT, education does not remain restricted within four walls of the educational institutions. Students from different parts of the world can learn together by using online, offline resources. This would result in the enriching leaning experience. Such collaborative learning can result in developing

a.) Divergent thinking ability in students,

b.) Global perspectives

c.) Respect for varied nature of human life and acculturation
d.) Facilitation of learning

ICT has contributed in shifting the focus on learning than teaching. ICT helps students to explore knowledge to learn the content through self-study. The teacher can help the students by ensuring the right direction towards effective learning. Situational learning, Programmed learning, many online learning courses are some the example of self-learning strategies that are being utilized with the help of ICT.

1.7.4 Catering to the individual differences:

ICT can contribute in catering to individuals needs of the students as per their capabilities and interest. Crowded class rooms have always been a challenge for the teacher to consider the needs of every student in the class.

1.7.5 Wider range of communication media:

With the advent of ICT, different means of communication are being introduced in the teaching learning process. Offline learning, online learning, blended learning are some of the resources that can be used in educational institutions. Collaborative learning, individualized learning strategies can enhance the quality of groups as well as individual learning. With the real society this can ensure the applicability of knowledge.

1.7.6 Wider learning opportunities for students:

Application of latest ICT in education has provided many options to the learners to opt for the course of their choices. Many online courses are available for them to select any as per their aptitude and interest. Students can evaluate their own progress through different quizzes, ready to use online tests. This can ensure fulfillment of the employment required in the job market.
1.8 Using ICTs in education:

What does using ICTs in education, especially adult learning, mean? This is a good question to begin our discussion of ICTs with. There are three ways in which ICT in education is considered in current thinking. These are ICT education; ICT supported education, and ICT enabled education.

1.8.1 ICT education:

This is the most common understanding of the field of ICTs in education. Essentially, it refers to the creation of human resource to meet the IT needs of the knowledge economy. In developing countries of Asia, each country is trying to create a pool of manpower to address job opportunities in computers-hardware and software, creating and training people in computer engineering. Very often, an ICT in Education policy of a government describes the steps by which computers will be placed in schools, how teachers and students will be provided the basic computer programming skills to cater to the growing job market in computer based technologies.

1.8.2 ICT supported education:

Numbers of universities which are working in distance education programs use ICT to support the print content that they deliver to students. They also broadcast audio and video such as radio and television programs. Audio and video tapes delivered to students as part of a learning kit, and in more recent times, multimedia content such as lessons which are delivered off line, i.e. on CDs, DVDs as well. This is also sometimes called multimedia education, where multiple media are used to support learning.

1.8.3 ICT enabled education:

Any educational program that is purely delivered through ICTs, or with ICT delivered content as the primary backbone of the teaching-learning process, such
as on line courses through the web, is ICT enabled education. In simple words, this form of education requires ICT access and requires that the learner use ICTs as a primary or basic medium of instruction. When deciding to use ICTs, you must always decide the purpose for which you have made the decision and what you expect to achieve from the content that will be produced. Is it to teach computer skills, to support the learning process, or to instruct through the ICTs itself?

1.9 ICT tools:

There are various ICT tools available which can be utilized for the knowledge creation and dissemination in the modern world. Tools include Radio, TV, Internet, Mobile phone, Computer, laptop, tablets and many other hardware and software applications. Certain ICT tools like laptops, PCs, mobile phones, and PDAs have their own implication in Education. These devices can be used in imparting education and training for teachers and students. It is observed that many of the ICT tools are much overestimated but have not given positive results till now. Use of radio for instructive practices was one of the most popular mode of instruction in past and is still in use in India by Indira Gandhi national open university and some other institutions. But One- to - many broadcast technologies like radio and television are seen as less revolutionary ICTs in education, as their usage is seen as reinforcing of traditional instructor -centric learning models, unlike computers, which many see as important tools in fostering more learner centric instructional models. Successful ICT initiatives meet three intertwined objectives: availability, access, and demand. The basic aim of introduction of ICT in Education sector was not for making educators master in ICT skills but such attempts were focusing on effective learning environment via ICT. ICT tools are useful to break the limitations of traditional classroom teaching. Teachers can create a classroom without walls; virtual classroom concept can lateralize with the help of ICT only. Now a day education departments of
the government are using ICT to publish curriculum textbooks, instructions and rules and so on. Lecture method use of chalk, blackboard are slight older ways in classroom teaching. With the help of satellites, teleconferencing teaching- learning process becomes more effective today. ICTs include fixed line telephony, mobile telephony, newspapers, radio, television, radio trucking, very small aperture terminal (VSAT), computer, and internet must be accessible to rural public as per their demand.

1.10 Impact of ICT on Academic Libraries:

Libraries were considered as only storehouse of knowledge, but now have changed the paradigm in the ICT era. The manual system was really painful but with the help of ICT it has happened to carry the activities smoothly. Library organization, administration work and also the technical processing work has become easier.

1.11 Impact of ICT on Digital Libraries:

The advance of Information and communication technologies (ICT) has permitted and also the creation of digital libraries has made possible. The development of the digital library has created certain challenges in the privacy and personal data protection which is generally regarded as confidential between the library and the individual. The digital form of information resources and services in the library keep growing year by year and permitted the creation of digital libraries. This innovation depends on two important communities i.e. Information professionals and computer science researchers (Arms, 2000). Applications of interactive multimedia in libraries will allow exploring the information needed effortlessly.

However, according to Sturges, and Dearnley (2001), the advent of digital technology has posed some threats in some aspects especially in terms of personal privacy. In relation to privacy, the library should have a privacy policy to show the concern of library management. Thus it is important to have a professional code of ethics and conducts as a guideline.
1.12 Application of ICT in academic libraries:

Now a days there are several information communication technological tools are used for various housekeeping, management and administrative functions of the library, different electronic and digital media, computer aided electronic equipment’s, networks and internet has provided significant role in retrieval and dissemination of information and playing a vital role for modernization of libraries. Main of them are as under

1.12.1 Library automation:

The term automation could be defined in general as ‘the technique; a process or a system that operates automatically’. According to Goulding, & Murray (2003), “automation is the technology concerned with a design and development of the process and systems that minimizes the necessity of human intervention in their operation”.

Library automation may be defined in simple sense as a process of mechanization of library operations which are of a routine and repetitive nature. This covers usually housekeeping operations such as acquisition, serial control, cataloguing, circulation, references and administration work in other words, it can be said that computerization of all library activities is known as Library Automation.

Need for library automation:

Computers brought a revolution in all aspects of knowledge. Since last couple of decades it has been gradually weaving electronic webs in various parts of the globe. Libraries of the developed countries taking optimum use of such revolution in their daily operations. On the other hands libraries of developing countries and third world can’t be aloof from the impact of computers and related technologies.
Today, information technology coupled with computer technology has conquered even space and time with regard to dissemination of information. The word automated library is used to denote a library in which the collections of library materials are primarily on paper but in which the library's procedures have been computerized.

**Why library automation is required:**

Obtain increased operational efficiencies;

- Relieve professional staff from clerical chores so that they are available for user oriented services;
- Improve the quality, speed and effectiveness of services;
- Improve access to remote users and other stakeholders (e.g., the general public);
- Improve access to resources on other networks and systems, including the Web;
- Provide new services not hitherto possible;
- Improve the management of their physical and financial resources;
- Facilitate wider access to information for their clients;
- Facilitate wider dissemination of their information products and services;
- Enable their participation in resource-sharing/library networks; and
- Enable rapid communication with other libraries (including libraries) and professional peers (Davis, 1989).

**Changing Concept of Libraries:**

Due to introduction of ICT in the library and library professional the concept of Library and Library professionals has changed. Table 1.1 shows in which area certain changes can be point out.
Table no. 1.1

Changing Concept of Libraries

<table>
<thead>
<tr>
<th>Concept</th>
<th>Library science</th>
<th>Information science</th>
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<tbody>
<tr>
<td>Unit</td>
<td>Library centre</td>
<td>Information centre</td>
</tr>
<tr>
<td>medium</td>
<td>Book</td>
<td>Database</td>
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<tr>
<td>User</td>
<td>Reader</td>
<td>Recipient</td>
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<tr>
<td>Staff</td>
<td>Librarian</td>
<td>Information officer</td>
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<tr>
<td>services</td>
<td>On demand</td>
<td>As and when needed</td>
</tr>
<tr>
<td>Tools</td>
<td>Catalogue</td>
<td>Controlled vocabulary</td>
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Changing Roles of LIS Professionals:

Lately, librarians’ job is changed and they are playing an integrated role beyond their traditional job. World is experiencing supersonic changes in every strata as a part of modern world libraries all over the world are now shifting their emphasis from traditional to multidimensional work force. As a result to this, LIS professionals are supposed to play multitalented role in different areas of libraries as well as information centres to meet the expectations and needs of the current circumstances. Library professionals should play role as;

Lawyer:

LIS professionals act as law professional when they tackle issues relating to law. This situation can arise regarding the copyright law, intellectual property right and cyber law. Librarian champion the cause of academic libraries through various advocacy programs to promote the library and resources. They can communicate news about the library through newsletters, web sites and memos to parents and staff. Their job is to keep principals and teachers up to date on what is happening in the library and to promote library activities and special projects. Schools are learning communities encompassing students, teachers, administrators and parents. Librarians must communicate the mission, goals and objectives of the resource centre to the entire user community.
Consortia manager:

In present era consortium occupied the most space of library collection. The librarians are responsible for operations, coordinating and overseeing, including strategic planning, systems development and project management regarding the consortium. Related responsibilities include facilitating communication among the participating libraries. In addition to these responsibilities, the Librarian for Consortium Operations acts as the consortium's representative with vendors for contracted products and services.

Library networking:

Library networking means a group of libraries and information centres are interconnected for some common pattern or design for information exchange and communication with a view to improve efficiency.

Library management:

Library management includes the following activities which will certainly be geared up by the use of these fast ICT developments, classification, cataloguing, indexing, database creation, database indexing.

ICT based user services:

Sometimes users are adopting electronic habits, making increasing use of the new ICT including computers, the Internet, the Web, Intranet, Extranet and other technologies. As a result, library users are placing new demands on their libraries. They require access to the latest information, updated information resources and access to ICT facilities that they could use in their work. With the context of this situation and the limitations of traditional library services; libraries are introducing ICT based services.

i. Use of ICT in libraries enhances users’ satisfaction. It provides numerous benefits to library users. Some of the benefits are:
ii. Provide speedy and easy access to information
iii. Provides remote access to users
iv. Provides round the clock access to users
v. Provides access to unlimited information from different sources
vi. Provides information flexibility to be used by any individual according to his/her requirements
vii. Provides increased flexibility
viii. Facilitates the reformatting and combining of data from different sources
ix. Libraries are also providing various ICT-based services to their user, including the following
x. Provision of Web access to OPACs
xi. Electronic document delivery
xii. Networked information resources
xiii. Delivery of information to user desktops
xiv. Online instructions
xv. Online readers advisory services

Impact of ICT on libraries and librarians:

Impact of computers and related technology has brought deep change in the library and information usage. In libraries, information communication technology helps library professionals to provide value added quality information service and give an opportunity for remote access to the globally available information resources. Today’s highly sophisticated information technology to facilitate the storage of huge amounts of data or information in a very compact space. Information technologies promise fast retrieval of stored information and revolutionize our concept of the functions of a traditional library and a modern information center. Lately
technological developments have showed extreme changes in the mode of library operations and services.

Modern ICT has influenced several aspects of libraries as well as the information profession. Advancements in ICT and the wide spread use of ICT is resulting in digital information sources and digital media replacing and becoming the dominant form of information storage and retrieval. ICT also survives and makes true the five laws of Library Science. ICT with its tremendous information sources, rapid transmission speed and easy access ensures the satisfaction of the user with complex demand, break down the distance barrier and shortened the time required and ensure the right information to the right reader at the right time. It also increases and solves the library’s demand of collection development. It is really an excellent tool for the Library information centers.

**Swami Ramanand Teerth Marathwada University: An overview:**

Swami Ramanand Teerth Marathwada University was founded on 17th September 1994. Through state govt. notification; before that it was a sub-center of Marathwada University Aurangabad. The university is named after Swami Ramanand Teerth, the Doyen of the Hyderabad freedom struggle and also a renowned educationalist and social activist. The university is to cater for southern part of Marathwada region of Maharashtra state, especially districts of Nanded, Latur, Parbhani and Hingoli. It has following schools,

1. School of physical sciences;
2. School of chemical sciences;
3. School of earth sciences;
4. School of life sciences;
5. School of mathematical sciences
6. School of interdisciplinary studies
7. School of Pharmacy
8. Fine and Performing arts
9. School of commerce & management sciences;
10. School of social sciences;
11. School of languages and literature;
12. School of media studies.

A sub center of the university is working at Latur. Schools in sub center;
1. School of Management science
2. School of Social science
3. School of Technology
4. School of Language and Literature.

The university is one of the famous educational institute of Maharashtra for providing higher education, it is recognized by UGC under section 2(F), 12(B) of UGC act. It offers various certificate, diploma, degree, post-degree courses through above mentioned in campus schools and off campus institutes, colleges. Number of colleges affiliated to Swami Ramanand Teerth Marathwada University is 389.

**Dr. Babasaheb Ambedkar Marathwada University Aurangabad at a glance:**

The state legislature passed the Marathwada university act in 1958 to establish and incorporate a teaching and affiliating university at Aurangabad. The act received assent of the governor on May 5 and the university was inaugurated on 23 august 1958. From May 1974 the university is governed by act no. XXV of 1974.

The university has been renamed as Dr. Babasaheb Ambedkar Marathwada University on 14 January 1994. (Bhatia, 2007). This university has contributed to the progress of adjoining regions and people in innumerable ways. Since its inception, there are 314 colleges affiliated to Dr. Babasaheb Ambedkar
Marathwada University Aurangabad. Out of these 112 colleges are granted. The jurisdiction of the university Aurangabad is spread in four districts viz. Aurangabad, Jalna, Beed and Osmanabad.

There are about 43 departments within the university campus and they are;

1. Marathi Language and Literature
2. English
3. Hindi
4. Foreign Language
5. Economics
6. Political Science
7. Public Administration
8. History and Ancient Indian Culture
9. Sociology
10. Commerce
11. Management Science
12. Zoology
13. Chemistry
14. Botany
15. Mathematics
16. Statistics
17. Physics
18. Dramatics
19. Cultural Studies
20. Communication & Journalism
21. Library and Information Science
22. Pali and Buddhism
23. Psychology  
24. Physical Education  
25. Environmental Science  
26. M.E.(Digital Communication) 
27. Computer Science and IT 
28. Education  
29. Geography  
30. Sanskrit  
31. Tourism Administration and Management 
32. Urdu  
33. Law  
34. Atomic Physics 
35. Biochemistry  
36. Biomechanics  
37. Genetics 
38. **University Department of Chemical Technology (UDCT)**  
39. Fine Arts  
40. Dance  
41. Marine Science 
42. Nanotechnology 
43. Printing Technology  

On 05 August 2004, a subcenter of Dr. Babasaheb Ambedkar Marathwada University, Aurangabad was established at **Osmanabad**. The subcenter has the following postgraduate departments:  

1. English  
2. Education
3. Chemistry
4. Microbiology
5. Biotechnology
6. Water and Land Management
7. Department of Management Science (MBA & MCA)
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