Chapter-2

Review of Literature

2.1 Introduction:

It is required to study previous research and the related reference materials to the present research topic. The past literature and research reports may be helpful to conduct the selected research study easily and more efficiently. It is required to evaluate the literature available to understand and plan the research subject. A study of past research finding and related published literature may be helpful in designing the Present research work. It is necessary to present the summary of previous research work related to Network, Networking, Network model and library Network.

2.2 Objectives of Review of literature :

A review of related literature is done with a view of following reasons :

(1) To educate regarding the bases of research topic.
(2) To introduce the basic concepts related with research area. It reveals the relationship among them & clarifies the premises.
(3) To design the work and to frame the research process of analysing the work.
(4) To indicate the reference material utilised by other research scholars.
(5) To study the alternative structure of reporting.
(6) To justify that the similar work was not conducted in past.

2.3 Reviewed Literature :

Journals:

V. Venkata Raman, Rajan N. Vertha and D. Burhanuddin Mohmad (1997) discuss how Network and Internet are helpful in research work, network development and concept of network and resource sharing and possibilities of information, transmission and networking.
D.C. Oza, R.K. Dave and K.K. Sharma (2000) discuss background of networking, importance of Networking and emphasis on LAN and MAN Network. It is also discussed about WAN (Wide Area Network), configuration required, topology, types of Network, advantage of networking and disadvantage of networking etc.

A.P. Gakher (1992) discusses Network development between South and South West Asia Countries, concept of network and resource sharing of information and possibilities of information transmission and networking. But problems arising in Network development between South & South West Asia were not discussed.

According to Hicks, Alison and Tedd, Lucy (1995) connecting medical college’s library of U.K. with Networking, plenty of books & journals can be utilized and stored at lower cost. It facilitates easy transfer of data and increases the other services. They also discuss various projects conducted in U.K. This article includes the projects: Health, Libraries & Information Network (HECIN, NIMR, and OMNT) (organizing Medical Networks Information). An objective of these projects is to connect all libraries of medical colleges in U.K. with www Network and develop them. But this article didn't discuss the problems of Networking, Co-ordination of Libraries, Networking configuration and cost aspect.

Stoker, David (1995) discusses how library network is helpful in collecting information relating agriculture and how it is feasible. He also narrates that networking are helpful for information services relating agriculture field and Research work in Australia.

M.A. Gopinath (1998) describes the qualitative information collection through network, basic network elements and model of library & information network. It is the limitation of this article, there is no discussion about types of network, its topology and network configuration.

P.S.G. Kumar (2004) discusses in depth about definition, objectives, types, topology, Networking tools like router, switches, bridge etc. and application of Network, also discusses the problems involved in library network as well as merits and demerits of library network.

Raina, Roshan (2000) discusses studies the possibilities of connecting libraries and information centers to establish network for exchange of information within the libraries and laboratory of education and research institute situated at Lucknow. He also discussed the required Hardware and Software as well as, network architecture and training for manpower development.
Hi, Yeao, Kim (2000) discusses how information services can be enriched by connecting only single Network in Singapore by National Library Board. Singapore is the first nation of the world having nationwide broadband network. He also discusses how the service of Library and Information Centers are widening through in one high bandwidth Network and Cable Modem.

Shipp John (2002) discusses the utility of Australia's Library Network and the services performed by it. Moreover it provides guidelines and inspiration in the development of national Library Network. It has not covered the problems involved in development of national library network and the remedial steps for it.

Lahiri, A (2001) discusses to develop effective network through economic, scientific and technical information system surrounding Ahmedabad. He also discusses with functions of ADINET and services like Interlibrary Loan, Photo copying Service, current awareness service, Information Service, Internet Service etc. He also discusses about Ahmedabad Library Network through LAN and MAN Network.

Kristina, Hormia Poutanen et all (2006) state that consortia model was applied in more than 180 organizations of Europe in more than 40 European Countries. There were three main models: (1) National Centralized Models (2) National decentralized models and (3) Regional models. National centralized model is a Typical model. Nordic consortia are an illustration of it. France is an example of National decentralized model. French and Flemish speaking universities have their own consortium which is known as regional consortia. In Finland, Finelif consortium provides resources through the National Electronic Library programme for higher Education, Research and Learning. 19,500 journals, 230 database & 25000 e-books, Dictionary, Hand Book & Software were acquired & maximum information was collected through Acquisition & Consortium of all Libraries located in Finland.

In Greece Consortium named “Heal Link” is a consortium of Hellonic Academic Libraries. A Journal collection is done through networking and Co-operation of Academic Library 9000 e-journals published by Elsevier, Kulwar, Academic press and Springer are acquired through it. Moreover open WRL Software Application is also collected.

In 2005 in Russia 181 organizations were included in NEICON (National Consortium Supporting Access to Electronic Information) or National Electronic Information Consortium out of 181 organizations, 104 are classical & specialized Universities' Library. 37 are public Library, 34 are Academic Libraries & 06 are non-commercial
organizations. An acquisition of 10,000 e-journals have made through this consortium. The members have downloaded approximately 10 laces documents in it.

In United Kingdom [London] the member libraries perform the functions like procurement of library resources, staff training and development through U.K. Library consortia: Regional Discipline based and National consortia.

Typical of a Traditional regional consortium is North West Academic Libraries (NOWAL). All the Universities of U.K. & College of Higher Education Libraries in Cheshire, Cambria, Greater Manchester, Lancashire and Merseyside North West of England are included in it. Books & Journals for members of consortium are purchased centrally. Moreover members’ libraries are trained for development and provided guidance for the utilization of ICT.

**K Sambasiram (1999)** suggests that the librarians should utilise the IT tools like CD-ROM, Date base Network, Internet base network, Due to these reference services can be provided speedy & qualitatative in CD-Rom format or Electronic format. As an impact of IT search technique qualitative database and data base development will play a vital role in librarian’s role. It will help in world wide use of data base access.

**Jaya Prakash (2000)** discusses that one of the five principals of library is “the books are for use and every user must get his book”. In the light of this thought it is not possible for a library to store all the information and to provide all the information to the user’s. So it has to depend up on other libraries. The users were satisfied in past through inter library loan services. Now a day’s of Information Technology is done through Recourse Sharing by electronic and library network. It helps to provide cost effective Information with the help of digital information, transmission Image and document Transmission are done. Through library network internet is useful to provide information through E-mail, FTP, TELNET, USENET, World Wide Web etc. Reference service can be rendered in short period and low expenses. Encyclopedia, Dictionaries, Directory, Bibliography; Indexes Abstracts maps etc. are wiliest for these propose. He also discusses about resource sharing, computers network in college libraries, to provide electronic information through electronic media, Resource sharing of Reference sources through network in libraries electronic library and communication of information.
**Shagufta khan and Rafat khan (2005)** focus on library networking to provide services to library users at minimum lost in proper time and to make libraries live. The rarely available costly journal works can be provided through interlinking all the libraries. Abstract of journals are easily available through collaboration of various libraries. By Resource sharing in a acquisition of books and journals the objective of maximum information at minimum cost can be achieved. Centralized cataloging may help to fulfill the purpose. This article discussed resource sharing and networking and suggests two types of resources sharing. The telecommunication channel can be utilized for information distribution with the help of satellite connected network. Database optical media with the help of E-Mail, electronic journals and Video text can be useful for interaction of database.

The discussion on WAN server includes INDONET, NICNET, INFLIBNET and INET and DELNET, CALIBNET and MELINET are discussed under LAN Network. Today Library Network is essential for information interaction. It will help in providing qualitative CAS and SDI Services. It also included the discussion of SIRNET, ERNET, OILNET and PUNET.

**Reijo Savolainen (2002)** discusses the conceptual and practical question of network competence in the context of information seeking. Network competence is seen as one of the information related competence and is defined as the mastery of four major areas, knowledge of information resources available on the internet, skilled use of the ICT tools to access information, judgment of the relevance of information and communication. Drawing on the idea of the social cognitive theory developed by Albert Bandara a model of network competence is introduced in order to discuss network competence “in action”. In the model network competence is put in practical context by relating five major factors network competence, self-efficacy, outcome, expectations affective factor such as anxiety and experience received from information seeking on the internet particular attention is devoted to the connect between network competence and self efficacy which denoted person’s judgment of his or her ability to organize and execute action such as finding information on the web.

**I.R. Kumar (2004)** discusses how do Information technology, Bio technology and Nano technology useful in development of Digital Library Network. NICNET had developed Digital Library Network in the following ways:
(A) District Central Digital Library: In this District level Government data and local culture heritage literature are connected with national level Network.

(B) State Central Digital Library: In this state Government information and books published in state etc. are connected with National level Network.

(C) National Central Digital Library: In this National level Government publication is connected with state and district level Government publications. It discusses merits and demerits of exchange of information in short time.

Iqbalahmad, Rajgoli, Christina, Birdie and C R Karisiddappa (2006) discuss the concept of consortia, a mode of approach in sharing and using the information resources available in LIS centers. It also attempts to give different type of consortia initiatives in India and Aboard highlighting the advantages of consortia. Very dynamic and ever improving consortia called FORSA. Consortium has been taken as case study and its developments, Services, salient features and future plans are describes. The review of this consortium from the usage statistics is attempted for continuation.

Biswa, Bidhan ch. and Dasgupta, Swapan K (2003 ) discuss briefly the concept and significance of resource sharing in Indian context with a view to justify on the basis of tremendous growth as well as diversity of explicit knowledge, increased users demand, diminished budgets, galloping prices for subscribing periodicals and purchasing books etc. article suggest that resource sharing and meritable among libraries and mentions the concepts the areas and modalities for cooperation through consortia in the networked information environment. This article also covers growth as well as pints our merit and demerits of library consortia and the future prospect of consortium Indian scenario.

Rowley, Jennifer and Slack, Frames (1999) reflect their experiences in south Africa’s discussed the views obtained from a number of conversations and interviews with staff associated with CALICO ( Cape Libraries Cooperative) and GAELIC (Gauteng and Environ Library Consortium) during than visit in Dec. 1997 Note the six library co-operatives in south Africa: FRELICO (Free State Library Cooperative), SEALS (South Eastern Academic Library System) (ATNIP, EASEL) ( Eastern Seaboard Libraries) CALICO and GAELIC present two case studies of CALICO and GAELIC focusing on missions structure and management and activities concludes that CALICO and GAELIC and the other library co-operatives and consortia in south Africa have been formed at a
time when the challenges facing the new south Africa and in particular, higher education in south Africa are considerable. Their objectives and activities reflect the issues facing the management of library resources in higher education in south Africa including the increasing cost of periodical subscription leading library managers to seek collaborative acquisitions strategies and to consider the potential of electronic periodicals and other forms of electronic documents delivery.

**Antony Jose and Roshan Lal Raina (2005)** discuss regarding Networking and digitalizing of library and development of conceptual Model. They also discuss and faces of network model its implementation and hardware and software requirement and expenditure. He also discusses type of network, topology and requirement hardware and software of networking.

**A.P. Srivastava (1990)** emphasis on the development Departmental Libraries to National Network. According to him

1. Maximum qualitative information can be provided to library users by Resource Sharing to University Departments' library.
2. UGC suggested to emphasis on library co-operation library resource sharing and library Network to create cost effective library Network should be formed according to LAN, MAN and WAN and it should be developed by Modern Technology. For this purpose the author discusses about database, data communication and computer hardware and software and Network configuration.

**Halliday, Leah and Oppenheim, Charles (2001)** discuss Economic aspects of a resource discovery network (RDN) consisting of a centre and eight subject-based hubs were explored using if hink analyst a modeling software package. A model was developed and simulations were used to monitor the effect of variations in the values of key model elements. The model was based on a recent report which suggested that a RDN could survive on a combination of grant funding and sponsorship model elements were manipulated to determine the level of sponsorship required for a RDN to be self sustaining within ten years if grant funding contributed 50% of required income. Additional simulations were used to explore the feasibility of subscription as an income source. The result suggests that with a combination of sponsorship and subscription income a RDN could succeed without
grant funding within ten years of launch.

K.A. Mulla (2004) discusses internet miraculous, developments in telecommunication system and information technology have created marvels for the new generation i.e. Internet using a phone line, internet via phone connections are painfully slow, especially when downloading photographs, graphics or video image and larges files. The cable modem technology for the internet provides an always on feature for individuals to access the internet rapidly, while its digital broadband network technology allows user to move around quickly.

S.G. Mahajan (1992) discusses that 21st Century is Information and Technology age. A library is not able to store all information due to information explosion. Moreover due to devaluation of Indian currency information sources are costly. Library budget is not sufficient to fulfill the requirement. In such circumstances resource sharing is the only remedy to satisfy users’ information needs and for that library Networking is essential. In this article it is discussed that how NICNET, I-NET, ERNET, SIRNET CALIBNET, DELNET, PUNENET, INLIBNET etc. are useful in resource sharing and providing information to users.

M.B. Konnur (1992) explains definition and objectives of Resource Sharing, Requirement of building the resource sharing, merit and demerit of resource sharing. He also discusses resource sharing library networking among the libraries situated in U.K and U.S.A., He also discusses feasibility of library networking among the libraries situate in UK and USA.

Ashwani Kush and Ram Kumar (2005) discuss the time span of just a few years, wireless networking has emerged from a novelty to revolution. The speed with which wireless networking has caught on is not surprising owing to large bandwidth and range of several hindered hundred feet. Moreover multiple wireless access point can be easily installed on same network to cover more areas. Our main challenge in design of these networks is their exposure to security attacks. Routing protocol for wireless networks are still and action research area. There is no single standard routing protocol. Therefore we aim to consider common security threats into account to provide guidelines to secure routing protocols. In this article a study has been
carried out for the threats on wireless networks and security goals to be achieved.

**Singh, N Giridhari, Koijam, Falguna and N Vidhyavati Devi (2004)** describe in brief the development of Regional Institute of Medical Sciences (RIMS) and upgradation of Regional Institute of Medical Sciences library as one of the six regional libraries of India gives the collecting of library and purpose of the study mention the advantage of the networking and database creation in the library. He describes the feature of CAS which is going to be converted into electronic version. He also discusses library networking (LAN) and future plan in phase manner. He also covers manpower planning, supports from management and state authority.

**According to U.S. Cholin, Satybati Thiyam and T.A.V. Murthy (2006)** Indian university constitute one of the largest higher education system in the world comprises of more than 318 universities/Institutions, 16,500 affiliated colleges, 10 million students with 5 lakhs teacher, Universities across the country have been facing acute shortage of funds to subscribe the costly journals and databases hence restricting the users to get access to scholarly resources. The average number of journals subscribed by the Indian universities was mere 250 to 300 journals until 2004 whereas universities in the western world subscribe to few thousands the prompted UGC make optimum utilization of resources through rational use of funds by subscribing to costly scholarly journals under consortia which is popularly known as UGC INFONET E-Journals consortium. Thanks to the electronic publishing industry allows access to resources in electronic form at much affordable cost. The facility enables free access to scholarly journals and databases in all area of learning to the research and academic community across the country covered under UGC. This article deals with status of UGC INFONET, E-Journals consortium and also focus on new initiatives and briefly provide the statistics part.

**According to Manoj kumar Sinha, T.A.V. Murthy and Manoj kumar K. (2006)** Electronic publishing has been revolutionizing the form of the recorded knowledge. Electronic information services are attracting reader’s attention in today’s network environment. This changing scenario in library environment has arisen for the need and use of e-journals along with print version. Electronic journals (e-journals) bring new challenges before the library and information professionals to give full text
access to scholarly publications both in print and electronic version to its end users. The Indicator of this article is to identify various issues relating to access and bibliography control of e-journals, access management problems, policy issues and development of e-journals consortium approach to subscribe scholarly peer reviewed journals for their library users in network environment. It also describe a brief account of UGC-INFONET E-journals consortium, INDEST, FORSA and other consortium for providing access to scholarly journals to the end users of universities and institution of higher learning for their R and development activities.

M Bavakutty, Abdul Azeez, T.A. (2006) propose a consortium of engineering college libraries of Kerala. Also discussed major consortia initiatives of India, development history of engineering colleges in Kerala, proposed model of consortium and aspects to be considered while designing such a consortium.

T.S. Kumbar (2005) discusses the working of library consortia, guideline for library consortia as well as history and development of Indian library consortia. He also discusses type of consortia, requirement for establishment of consortia.

Gonsai Atul and Soni Nilesh (2004) discuss the important of networking technologies for library users. The Library network and its security are major issues for the library professionals. Libraries and information centers are changing rapidly towards digitization. Now a day’s stand-alone computer is of no use. It must be connect with network to utilize the resources. Computer networking involves connecting desktop computers, laptop, hubs, switches and other connectivity devices. Library professional require inside planning in establishing library network in respect of data transmission speed and library application. He gives model for library networks from low bandwidth application to the multimedia rich high bandwidth intensive library applications. The article is also concentrating on library network security.

Ramanand Malviya and Anil kumar (2007) discuss the limitations of maintaining books/documents/journals and other materials demanded by its client or users. To overcome these types of problems cooperation among the libraries was initiated and a new concept “Library consortium” came into existence with a wide coverage. They describe the concept of library consortia, networking and consortia management
techniques and future of consortia efforts.

Nihar Kanta Patra and Jayanta kumar Tripathy (2008) discuss about the use of network based library and information service by management institute libraries in Orissa. It highlights the various aspects such as staffing, collection, electronic resources and library automation. He also describes the utilities of information and communication technology (ICT) to access, analyze, create, exchange and use of information. He concludes with suggestion for effective utilization of LAN providing different types of library and information services.

Peterson, Lary L. and Davie, Bruce S. (1996) give details about computer network system with a networking concept, protocol implementation in the context of the X-kernel system (Fragments of code from which are used throughout to illustrate implementation issues.) They very broadly follow the standard network layers up works and link issues (Ethernets and token-ring, encoding, farming and error detection) on packet switching and routing, on bridges internet working. IP and IPV6, DNS and multicast, an end to end protocol (UDP, TCP, RPC and performer issues) and an end to end data (presentation, eneryption and compression) also discuss congestion control (especially in TCP implementation) and high-speed networking.

According to B D Kumbhar and Shiddayya S Shirur (2005) the computerization of library resources has introduced a new concept of resource sharing among the libraries. Besides improving the library services and operations for a better performance, libraries are also able to evolve effective computer networks towards optimum utilization of resources and facilities. Such efforts are there in many countries, including India. He also discusses brief description of various networks in India and its impact on library services.

Muhammad, Hanif (2005) discusses the explosion in the amount of literature, increases the number of users and their different needs. Due to lack of adequate funds, information sources, technological facilities and skilled manpower, it is almost impossible for a library to provide right information to the right user at the right time. The only solution is to resolve these problems is resource sharing through networks. The advent of information communication technology (ICTs) facilities networking of information in a mechanical way and make library networking a practical and reliable
solution. He also examines the current status and potential of libraries in Punjab University for networking, Finally a plan of action PULNET is proposed.

P V Konnur and Ragavan S Srinivasan (2007) include the Bangalore University and its affiliated colleges around Bangalore under the network. They are hopeful that the university library adopts the proposed BALNET (Bangalore University Library Network) resource sharing model and its services like inter library loan, union catalogue and document delivery service.

According to S Sivaraj, Esmail S. Mohammed and M Kankaraj (2008) the pattern of engineering education and research is changing in response to new method, techniques and application of technology. Engineering colleges are in constant need of information about developments in science and technology. In today’s environment, it is impossible for any library to stand alone. No library can single handedly obtain all the material that is needed or requested. Engineering libraries must share resource and organize cooperative services. Advances in information technology offer methods of networking and resource sharing among the geographically dispersed and remotely located library and information centres. He also discusses the ways that engineering colleges can share resources in the networked information environment, as well as proposing a network design called Tamilnadu Engineering College Libraries Network.

Report:

Marshall Breeding (2005) discusses about Network configuration, Ethernet Network segmentation, Eavesdropping, Network connectivity Infrastructure, Digital stop lights, TCP / IP, DHCG etc. He also discusses on wireless architectures, wireless hardware, wireless equipment type etc., He also cover the topic like wireless Network configuration and security strategies. “The library wireless Hotspot" discusses in chapter IV, chapter V covers the topic of "Products and Services for the library WCAN". How specific product can be developed in library and then how it can be provided through wireless Networks is discusses in the chapter, chapter VI consisting of “Selected Resources on wireless Networks “discusses online resources library wireless discussion group. Thus this article discusses in detail regarding Network
fundamentals, its development, merits and limitations remedial steps to eliminate limitations and Network security. It also discusses maintenance of security and services to users

**Ph.D Thesis**

**C N Rawal (2001)** discusses about Modernization of University Libraries in India. The researcher was undertaken for award of Ph.D. degree in library and information science, Sardar Patel University under the guidance of Prof. M. K. R. Naidu. He discusses the impact of Information Technology and its application on university libraries with particular reference to UGC, INFLIBNET programme. He also discusses on information from ancient and medieval period up to the 20th Century from stone age to information age.

He covers the CD-ROM, virtual computer disks, bar-coding, multimedia and networking of libraries, development of academic libraries and the role of UGC in this direction. The policy of UGC for the development of University libraries. He also discussed impact of information technology specially computers, computer generation, infrastructure of computer, software development, communication, resource sharing, networking, information policy in India, also discussed with evolution of INFLIBNET programme, its services, objectives and efforts in modernization of university libraries.

**U A Thaker (2002)** most important study regarding computerization of university libraries in Gujarat state. The study was undertaken for award of Ph.D degree in Library and information science, S.P.University under the guidance of prof. M.K.R.Naidu. She explains role of university library in higher education and establishes needs for computerization in university library. She also discusses history and development of university libraries from ancient period up to 21st century also included the impact of computer and communication technology on libraries. She has examined possibilities of computerization and networking in university libraries in Gujarat. She has provided an action plan for computerization and networking.
V S Cholin (2002) discusses about study of design and development of an integrated university library and information system in India with reference to recent advances in information technology. It was undertaken for award of Ph.D degree in department of Library and Information Science, Karnataka, University under the guidance of Prof. C.R. Karisiddappa. He describes the overview of library and information network with particular reference to UGC and INFLIBNET programme. He discusses higher education and university libraries in India from ancient, medieval and British rules, He also covers development of education in free India, growth of higher education of India, objectives of higher education, structure and system of governance, governance and management, problems in higher education. He also discusses development of university libraries in India specially university libraries in India in pre-independence era and university libraries in India in post-independence era. He also includes the impact of information technology, application of information technology in academic libraries. He also finding of study IT infrastructure hardware and software, Network tools, Database Development, Standards, Software for database creation and in-house operations, Factors that have influenced the computerization, Implication financial, Human Resources Development, Service implications, Preparedness and future plans factors for integrated university library and information system. He also examines possibilities to integrated university library and information system. He also provided an action plan for resources sharing and networking model, Model system for information services including consortia actives.

Books

Y.L. Chopra and Mamta Chopra (2001). Discuss that co-operation means working together with same effort to achieve the objectives. He also discusses the definition of network, importance of areas characteristics, objectives of resource sharing network, networking and its development in India which includes INFLIBNET, DELNET CALIBNET, MALIBNET SIRNET ERNET OILNET, This book keeps silence about configuration and topology for library Network and merit demerits of it.

G. Sujatha, (2000) discusses that how resource sharing is possible through library Networking. She also discusses International Network and Indian Library Network. While discussing University Network, some Network model is also mentioned. She
also discusses that through Library Network various documents, staff and books can be shared. She not discusses regarding architecture required for networking and problems of Library Networking.

**M. Bavakutty, MCK Veelan and T.K. Muhammed Salih (2002)** discuss National Information Policy for Library Network Environment, the staff as well as technology required for it, the role of INFLIBNET, to serve information to users at low cost through Resource Sharing with the help of Library Networking, digitization and automation of library, importance of library Networking for information resource of E-books and E-journals. They deals with library Networking model but they does not includes Information Technology, Network configuration, types of library network and topology.

**Shyma Balakrishnan (2000)** discusses how time saving, accuracy speed and simplicity is possible in library services through computer. She also discusses Importance of computer Technology in library automation. She also discusses require for library Networking. She covers the kind of configuration. She also discusses local area network and its architectures, Z 39-50 standard, library network hardware, Installing library network cards and its problems and also covers automation systems in library network. She also covers on network security, network accessibility and code. She also consists of technical language and code symbols. So it is difficult for those users who are illiterate regarding library networking. She does not touch the aspects of MAN, WAN and networking software.

**R L Sehgal (2004)** discusses about library network in various his work. He also discusses how to develop small library network easily. He also covers merits and demerits of it. He deals with library network's components, library network planning, requirement of hardware Installation of library software and maintenance of it etc. in details. He also discusses in detail from the basic concept of library network to advance library network.

**Amjad Ali (2005)** discusses International Information Network. He also discusses in detail regarding OCLC, CURL, RLG, INIS, IFIP, PAOIS, INSPEC, IFAP, IFLANET, MEDLINE etc.He also covers Indian Information Networks in detail, like INFLIBNET,
INFONET, DELNET, CALIBNET, AGRIS etc. He emphasis on information network system for resource sharing in library network.

Manvendra Singh (2006) discusses how information resource sharing is done within network linked libraries and their advantages. He also discusses on networking in libraries, electronic data interchange, transmission channels/links and technological advancement in libraries. He does not cover the library networking configuration, types of library network, topology etc. and its problems.

Arunima Baruah (2002) discusses concept of library network, types of library network such as LAN, MAN, WAN private network, telecommunication network, public data network, OCLC, ILLINET online, open networking system, wide area information server, LAN based software in library system etc. Network models does not discusses and Library network components and topology also does not discusses.

Urmila Thaker (2004) discusses origin and development of Library Network, also includes the details on topics like INFLIBNET, DELNET, CALIBNET, MALIBNET, BONET, ADINET etc. library network. She does not discuss regarding types of library network, topology, library network models, hardware and software of library network and library network configuration.

N N Jani and A K Kumbharana (2001) discuss A to Z about networking in technical terminology also includes the model of computer network, networking security, communication model, network topologies and network architectures, protocol, fiber channel etc. He does not discuss library resource sharing, merit and demerits of library networking, use of Information technology and information communication technology in library and library networking.

H K Kaul (1999) discusses universal knowledge resource sharing and its historical overview of library networking, various types of library network and network of resource sharing, tools of resource sharing technology available in India, manpower essential for library networking, Barriers of resource sharing and management of resourcesharing. He does not discusses regarding network configuration, Library network models, hardware required and software required for library network.
**V K Iyer (1999)** discusses resource sharing through library networking and situation of library automation and library networking in India. He also covers use of Information technology in library networking and its advantages, process of Internetwork and its standards, new technology utilized in library, hardware required for library network, duplication delimitated by union catalogue etc. He does not discuss the problems of library networking, cost of library network, library network model and manpower required for library networking.

**R C Ganguly (2007)** covers that brief introduction of resource sharing and its policy, public relation, role of media, rural libraries resource sharing. He also discusses resource sharing is possible through library networking. He does not include regarding Networking Configuration, topology and problems of Library Networking.

**R C Ganguly (2007)** discusses network infrastructure like computers, internet infrastructure, internet connectivity, hardware, website services, maintenance, upgrading, staff and training, switches, router, hub etc. He also discusses about OCLC (Online Computer Library Centre). He does not discuss regarding type of library network and topology and problems of library networking.

**V Sashikala Subbarao (1999)** discusses about network services and uses, network layers and protocols, library networking, information services through network, internet network in India, high speed network. She does not cover network configuration, type of library network and topology.

**Ram Shobhit Singh (2008)** indicates that why networking, participating libraries in India, what share through library networking, networking model, cost of library networking infrastructure etc. He does not discusses regarding architecture for networking, problems of library networking, types of networks and topology.

**Aravind Tiwari (2002)** discusses that how can increase our library services through library automation and network, He also prepare project report of library automation and network. He does not discuss about networking configuration, type of network and topology and problems of library networking.
Punit Rulhan (2009) discusses that type of network, basic hardware building block, networking in libraries, role of networking, national digital library network. He does not discuss regarding problems of library network and topology.

2.4 Conclusion:

The literature reviewed indicate that considerable work has been done in studying the application of information technology in libraries, library networking, networking configuration, various topology, type of network and impact of IT in college library. However there is a death of literature deals specifically with the study of level of cost effective network model for optimum utilization of resources in science and engineering college libraries in Gujarat State. The trend is gradually changing with the advent of personal computer, library networking as many as areas possible, increasing importance of library resource sharing through library networking and activities of INFLIBNET centre are providing the much needed impetus for the college libraries. The researcher has tried his level best to study relevant literature by studying the journals, reports and books.
References:


Peterson, Lary L. and Davie, Bruce S. (1996)


