STUDY MATERIAL

Library and Information Science (836)

Class - XII

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Unit 1A: Collection Development and its Management

1.1.0 Introduction

Collection development is the process of systematically building library collection to serve the varied needs of users such as studying, teaching, research, recreational, and so on. The process includes selection, acquisition, maintenance, assessment, and weeding or discarding of current and retrospective materials. It also includes planning of strategies to continue acquisition, and evaluation of collections to determine its relevance based on the needs of the library users. In the process, the library staff in the Collection Development Team has to ensure that material is not duplicated and that acquisitions are coordinated and managed in the most cost-effective manner across the entire library system.

The concept of collection development came into existence in 1980's with the realization that the collection of any library should be directed towards service instead of collection alone. The main guiding factors of collection development are users' information needs and available resources within the library. When one says available resources of a library, then one considers the existing collection, collection of associate libraries, and financial resources. For planning effective collection development of a library, it is essential to frame an exhaustive collection development policy.

Library Collection

Books	Serials	Government and Institutional Publication	e-resources	Audio-visual Materials	Microform Materials	Miscellaneous materials
Textbooks	Newspapers	Reports	e-journal	Phone discs	Microfiches	Charts
Reference Books	Journals	Committee Reports	e-book	Phonograph	Micro-opaque	Pictures
Rare Books	Annuals	Commission Reports	e-database	Magnetic tapes/discs	Slides	Globes
Thesis	Periodicals	Conference Proceedings	e-thesis	Audio / Video cassettes	Transparencies	Model
			Online e-resources	Film Strips		
				Video discs		

Fig1.1.1: Brief categories of Library collection

1.1.1 Collection Development Policy

The terms Collection Development and Collection Building, are usually used interchangeably, but Collection Management is different from the above concepts. Collection Building is selection and acquisition of library materials based on user's actual needs and future requirements.

Building suitable collections for scientific and technical libraries is a process of prime importance. Many users, when asked to evaluate scientific and technical libraries, will list the strength of the collection as the major criteria. Science and technology collections are not the easiest ones to develop successfully in view of the complexity of the subjects involved, a large numbers of decision making is to be done because of the sizeable quantity of books and journals available. It is a task to select authentic resources from the'n' number of resources, which could run a risk of being inauthentic.

1.1.1.1 Functions of the Collection development:

The library environment is currently undergoing a rapid transformation, leading to novel ways of library collection with an emphasis on modern resources. On one side, there is an increasing demand for good library collections in terms of large amount of data/ information and on the other hand, the publishing media is striving hard to support this demand at a lightning speed by way of modern publications as well as its accessibility. As a result, a large number of e-resources are published on all subject areas. Therefore, a library needs to frame logical approach for collection development. The categories listed below can be suitable for functioning the collection building in a given library:

a) User's Analysis

b) Selection Policies

c) Acquisition policies

d) Resource Sharing

e) Weeding

a) User's Analysis:

Users' analysis is the prime job in collection development, which can be received by floating a questionnaire, or holding a personal interaction sessions or interview. Once the need of the clientele is gauged, the library can then focus on its selection policies.

b) Selection Policies:

The selection policy should be framed according to the basic need of the users and institutional philosophy. Participation of the users in the selection process is extremely

important. At the time of selection, the financial constraints need to be taken into account, else the budget may not be spent in all the subject areas of the library holding.

c) Acquisition policies:

Acquisition policies are normally framed for vendors for a stipulated period of supply and payment. Each library has its norms of discount sought from the vendor. At the same time, library needs to check the duplicate copies or low price editions and sometimes old editions of the books (i.e. remainder title).

d) Resource Sharing:

Before the collection development process begins, libraries need to take care for the resources sharing of its holding. Sometimes, libraries are a part of the Inter Library Loan or another resource sharing unit among other campus libraries.

e) Weeding:

Weeding is a scientific process to know the usability of the library, the books which are not useful in the library may need to be weeded out. Besides this, the books which get damaged may be weeded out from the library stock. After weeding out the stock from the library, the library can be certain of the kind of material required for the library.

Acquisition Policies

The acquisition policy is a guide book to a library for acquiring the information sources. The policy is a set of rules regarding selection, method or mode and standard procedure for acquisition.

The policy is designed by the experts or a designated committee or the authority depending upon the nature of the library. Whatever the nature of the library, the librarian plays an important role in designing the policy. Once, the policy is framed, the acquisition of materials starts on the basis of that, till the date, it becomes irrelevant for the library. When, the policy becomes irrelevant, it is again revised and new set of policy is designed and accordingly, the acquisition continues.

Presently, information materials are of different types but, initially the library used to deal with books only. The thinkers and scholars of library and information science mentioned book selection policy in their writings, instead of acquisition policy. Hence, in the literature of library and information science, you will find ‘book selection policy’. Only thing to be remembered is that the acquisition policy is wider than the book selection policy.

The selection policy of a library is totally dependent upon the collection development programmes of the library. There should be clear cut guidelines for types and forms of materials to be selected. The types here stands for types of documents like, manuscripts,

books, journals, newspapers, standards, patents, cartographical materials, etc. Further, depending upon the objectives of the library, it should address the issues like subject areas, language, textbook, reference book, single volume, multi volumes and so on so forth. The policy should have guidelines regarding the form of the materials like, in print form, audio, video, multimedia. It is recommended that the policy should have statements for physical form of the materials also as in print on paper, microfiche, microfilm, digitals depending upon the nature and the infrastructure of the library.

The policy should have statements regarding mode of acquisition. The library acquires materials through purchase, gift and exchange. If a library is in the position to acquire a material through gifts or exchange then it should avoid purchasing same material and save the money.

In the case of developing digital material for the library, the policy should be framed regarding consortia bases acquisition, its terms and conditions for making the consortia should be mentioned in the acquisition policy of the library.

The policy should have guidelines regarding the procedure acquisition. In this section of the policy, the role of librarian, library committee and authority or others if needed in acquisition programme should be mentioned. It should contain the statements about the process of acquisition like, materials on approval, direct order, tender, online order, etc, and accordingly the payment methods.

Hence, we can say the acquisition policy is a set of statements and policies regarding collection development programmes of the library, selection of information resources, methods, process and procedures of acquisition. It works as a guidebook for the library in acquisition work. Acquisition policy is based on sound theory given by the scholars and thinkers of library and information science.

1.1.2 Selection Criteria and types of Materials

On the basis of book selection theory and principles, a set of criteria is developed and accordingly materials are evaluated and selected. Though, there may be different sets of criteria for different categories of materials but, here we are going to discuss criteria which can be applicable on all kinds of materials.

The selection criteria for documentary sources are as follows:

(i) Authority (Authenticity): The expertise and affiliation of the author regarding the subject of writing should be assessed.

(ii) Accuracy: The content of the document should be accurate and authentic. Wrong or misleading information can be disastrous in any documents.

(iii) Scope: The treatment to the subject, topic or theme of the document should be evaluated and correlated to the users of the library. The content should be balance in covering the extension and intension of the subject, topic or the theme of the book. In case of some shortage or limitation in the content, it should be mentioned in the preface of the document.

(iv) Organization: Information in the document should have been organised on the basis of some established characteristics or logic. Name of the chapters should reveal the purpose of the document. The consistency in writing and developing from general to specific topic make the reading interesting and easy in understanding. In the case of non-fiction book, an exhaustive index is expected.

(v) Format(Graphics): The graphics illustrations are common in the documents dealing with technical data. In this case, appropriate graph, colour pattern, size should be evaluated.

(vi) Bibliographies: Document should be supported by references in case of non-fiction book. The format of bibliography should be standard and information should be complete in it.

(vii) Users: While selecting a document, prospective users should be identified and ascertained that the material would be read by a large number of readers. The documents should be categorized as scholarly, popular, fiction, non-fiction, entertaining, introductory, advanced, etc.

(viii) Vocabulary: The vocabulary of the document should be to the level of the users for which it has been written.

(ix) Textbook: The textbook are mostly referred by the students for knowledge in the subject area. Hence, the textbook should be complete in terms of the syllabus of the subject. The content should be accurate and authentic. The organization of the content should be such that the students can understand easily.

(x) Fiction: In the case of a book of fiction, the author, title, style, theme, plot, setting, characters, and reviews should be evaluated.

(xi) Multimedia: The documents in audio, video or multimedia should be evaluated on the basis of format. There a number of formats for audio video materials. For example, an audio file has mp3, mid, wav, aif, etc, a video file could be mpg, mov, wmv, etc. The file format should be assessed on the basis of equipment the library has. The sound quality, frame rate in video, etc are main criteria to evaluate.

(xii) Digital Material: Any kind of information of any characteristics, in any format- audio, video, multimedia or text, graphics or normal documents can come in digital form. While selecting information materials in this format, the criteria of that category of material should be applied. For example, e-book should be evaluated on the basis of criteria of books. File format, arrangement, hyper-linking and search engines in case of databases, display format, etc, are a few aspects to be evaluated.

1.1.2.1 Selection Aids

There is a number of selection aids available in the market to help and support the selection of information materials for a library. Depending upon the nature of materials, the selection aids could referred and get help in deciding to acquire a particular material for the library. A few aids are listed here as:

(i) National bibliographies: National bibliography is a list of publications, published in a country or relevant to a country published outside of the country. For example, Indian National Bibliography, published by National Library of India, Kolkata, British National Bibliography, published by British Library, London, etc.

(ii) Subject bibliography: Subject bibliography is a list of materials published in a particular discipline or subject. Chemica is a subject bibliography, published by Elsevier which covers chemistry, PubMed deals in life science and published by National Library of Medicine, USA, like wise a number of subject bibliographies can be listed for reference.

(iii) Trade bibliographies: Book in prints, publisher's catalogues, and other catalogues published by publishers and distributers or their associations, or independent organization to promote the sales of publications. For example, Indian book in print, Whitaker's Books in Print, etc.

(iv) Book reviews: There are a number of periodicals which published the book reviews. It is also published in newspapers. These reviews are critical analyses made by scholars of the subject. For example, Times Literary Supplement, Book Review Digest, etc.

(v) Bibliographic databases: Bibliographic database is a list of publications in database format, searchable online or distributed on CD-ROM, DVD, etc for offline search. For example, Ulrich's Periodical Directory, PubMed, etc. Some of the data bases provide links to the information sources also if it is downloadable.

1.1.3 Stack Maintenance

Stack maintenance in any library is one of the most important functions as it helps the users of the library to locate the required books from their place on the shelves. Books are arranged on the shelf according to their Call Number. Hence, for better shelving, it is mandatory that the Call Numbers written on the spine of books should be visible. If the spine is not thick enough to write the call number then it should be written on the left bottom corner of the cover of the book.

Usually, the shelving work of libraries is assigned to lower grade staff, student workers, sometimes even to the volunteers. Hence, it is highly recommended that these personnel should be properly trained regarding sequencing of the Call Number and the preservation aspects of books. Understanding of call number make the personnel capable of putting books at their right place while knowledge about preservation aspect make them capable of handling books carefully which extends the life of books. (Fig. 1.1.2)

Sound practices and precautions should be taken while shelving of library books:

(i) Books should be put at their respective places as per the Call Number of the book.

(ii) Books on the shelf should not extend beyond the edge of the shelf. These should be kept vertically straight instead of leaning.

(iii) Shelve books spine down, shelving spine up causes the text block to come loose from the covers.

(iv) Book support or bookends which are made of wood, steel or any other hard materials keep books vertically straight and keep them from bending. These should be put at the end of row of a book wherever required.

(v) Books should not be packed tightly on the shelves as taking out or putting them back may damage the books.

(vi) Books from the overcrowded shelf should be shifted to another shelf; if not possible, then report to the supervisors should be given in order to make suitable arrangements.

(vii) In any case, the books should not be shelved in two rows in one shelf.

Fig 1.1.2: Library book shelves

Apart from these, the shelving staff should remain vigilant to find any damaged books on the shelves. Regular repair of books with minor damages saves the life of books; otherwise it may be damaged beyond repair.

1.1.4 Stock Verification:

Stock verification is the systematic checking of the library's holdings to find out missing items. Each library should conduct periodic inventories, that is, stock verification in order to have an up-to-date record of library holdings, concrete data on the rate of loss and to assess strengths and weaknesses in the collection.

The term 'stock verification' is referred to as 'stock taking', 'physical verification or checking', stock inspections', etc. Stock verification is the process of systematic checking the holdings of the library to find out the missing items. It helps in restoration of misplaced or missing items, finding out torn or worn out items for repair or binding and provides opportunity for cleaning and changing arrangement of documents. However, the main objective of stock verification process in a library is to find 'what has been lost in a given period of time from the acquired library collection'. Knowledge of lost or missing books and other library materials provide the library authorities an opportunity to take measures to stop such loss and if essential, replace the lost materials with new acquisitions. The various reasons for stock taking are discussed in the section below.

The stock verification activity is undertaken by a Library according to guidelines provided in the General Financial Rules, Government of India. **Rules194 of GFR** provides the guidelines regarding the stock verification of library books. The Rule says that “complete physical verification of books should be done every year in case of libraries having not more than 20000 volumes of books. For libraries having more than 20000 volumes and up to 50000

volumes of books, such verification should be done at least once in three years. Sample physical verification at intervals of not more than three years should be done in case of libraries having more than 50000 volumes books. In case such verification reveals unusual or unreasonable shortages, complete verification shall be done."

As the modern libraries have provided open access facility to their users, chances of losing books are more. If we provide closed access to the library collection, then there would be hardly any loss, but it would be against all the Five Laws of Library Science. Hence, a certain level of loss of books or any other library materials has to be acceptable and considered as the cost paid towards providing materials via open access to the readers.

The same GFR in its Rule 194 says that loss of five volumes per one thousand volumes of books issued/consulted in a year may be taken as reasonable provided such losses are not attributable to dishonesty or negligence. However, loss of a book of a value exceeding **Rs.**1,000/-(Rupees one thousand only) and rare books irrespective of value shall invariably be investigated and appropriate action taken.

1.1.4.1 Advantages of Stock Verification

R. L. Mittal (1984) in his book entitled 'Library Administration: Theory and Practice' has listed several advantages of stock verification. Those are:

(i) It reveals the lost books.

(ii) It enables the Librarian to replace the lost books which are essential for the library.

(iii) It helps in the stock rectification because the misplaced books are restored to their proper places.

(iv) It helps the library authorities in ascertaining the percentage of loss entailed by a certain service provided in a specific manner. If the loss of books in open access is less, it would be a proper guide for the library authorities to introduce open access for encouraging better use of the reading material.

(v) It provides adequate statistics which enables the library authorities to realize the inevitability of loss of some percentage of books when these are put to use. If the books change hands quickly, there is likelihood of bigger loss.

(vi) It also enables the library authorities to ascertain as to whether the library staff is dishonest, negligent and careless or otherwise and it further enables authorities to provide necessary remedies to check future losses which may be serious in some cases.

(vii) It further enables the Library authorities to judge the popularity of a particular subject because generally books which are used more are stolen very often.

(viii) It enables the periodical shuffling and dusting of the books and ensures that no dust and insects accumulate, which would otherwise be injurious to the books.

(ix) It provides opportunity to survey the book stock and worn out, torn books and books of older editions which are no longer in use can be withdrawn from the main sequence.

(x) It further provides an opportunity to the staff members to acquaint themselves with the stock of the library so that they can provide better reference service.

(xi) It helps updating the library catalogue and other records thereby helping in providing better reservation and inter-library loan services.

(xii) It helps in knowing about the lost books thereby reducing irritation to library users and staff members because answers to many unsolved queries are easily available which are otherwise faced by Librarians of some best managed libraries.

1.1.4.2 Methods of Stock Verification

On the basis of various approaches, stock verification process can be put into three categories. This includes:

(i) Accession Number Approach: In this approach, the staff checks the books on shelves on the basis of accession number. Here, stock verification is conducted by (a) accession register, (b) using separate register with accession numbers, and (c) preparing separate sheets which contain accession numbers consecutively. In the first two methods, the library staff searches for the books on shelves, in sequence of accession number, in a consecutive order. It is very difficult for the library staff to find the books on shelves as books are shelved according to call number. For finding books in this approach, the staff moves from shelf to shelf and browses many books to find a particular book. It also damages the Accession Register of the library. The third method is considered better than the previous two methods. In this method, separate sheets are prepared with Accession Numbers and two staff members are engaged. One staff member reads out the accession number and other simply strikes off that particular accession number. At the end of the process, untraced accession

numbers are checked with circulation record, binding and other places where books may be available.

(ii) **Call number approach:** In this approach, books are checked on the basis of shelf list. Libraries maintain shelf list according to Call Number, based on which the books are also shelved. This method is easier and less time consuming.

(iii) **Information and Communication technology approach:** In this approach, extensive help of technology is taken depending upon automation level and the technology a particular library uses. If a library is using barcode technology for operational purposes, then with the help of data collection unit (e.g., bar code reader) data is collected and put into the library automation software. In the same way, if a library is using RFID technology for operational purpose, then data collection unit meant for collecting data from RFID tag is used for collecting data. In this way the accession number is collected and directly compared with the original data downloaded from the library automation software.

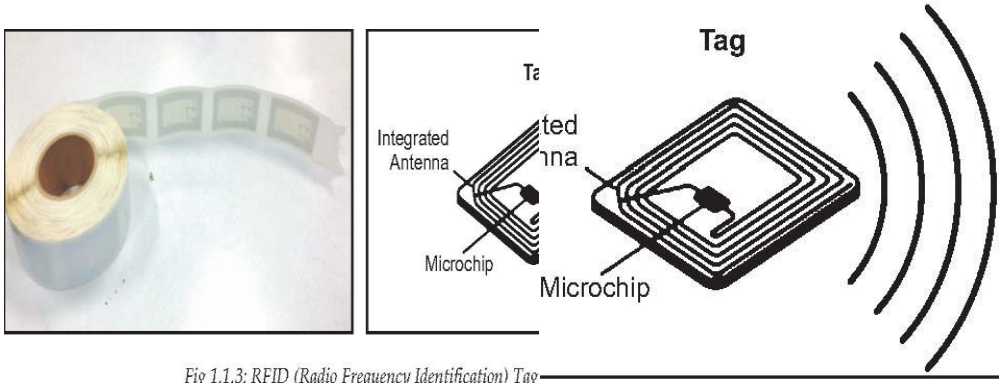


Fig1.1.3: RFID (Radio Frequency Identification) Tag

Fig1.1.4. RFID Reader

Once the data related to accession number is collected (whether using barcode technology or RFID), it is downloaded into the library automation software. The software itself compares the library stock with losses and prepares a final record. If a library has such infrastructure, then the stock verification process become very easy and is less time consuming. But, all the management, housekeeping activities, collection development can go in vain if the users are not well oriented. Therefore, user's education and orientation is an important to promote library service.

1.1.5 Shelf List

The library has shelf list, which is a file of cards or slips containing a record for each book or documents in the collection. It has the following information which helps in its identification:

- Call no
- Title
- First author
- Brief description of the item
- Copy number
- Edition number

The shelf list is arranged in the exact sequence of Call number as books are arranged on the shelves. It is used during stock verification or in Inventory Control after matching the books on the shelves with the shelf list.

Two staff are required to match the shelf list with the books in the shelves. If an item which is checked is in proper physical state, it is ticked with a pencil. If any item is not found on the shelf, the shelf list is marked with pencil- a slip or card may be inserted or clipped for further review at a later stage .During the matching activity, if any item is found to be damaged or needs to be repaired, the same is noted and recorded for further decision making (whether the item needs to be repaired or mended or weeded out)

1.1.6. Summary

Acquisition is an important function to develop collection for the library. The function is being concluded in four steps namely, selection, ordering, receiving and accessioning. The selection process depends upon the objectives of the library, long term and short term collection development programmes and users' needs. Collection development has developed as a subject in library and information science discipline. For developing an appropriate

collection for a library, it should have a sound acquisition policy and accordingly it should acquire the information sources till the policy becomes irrelevant for the library. It follows a standard process and maintains the records of the process followed.

1.1.7 Exercise

1. Define Collection Development?
2. Discuss the functions of Collection Development?
3. What are the selection criteria for documentary sources?
4. List four selection aids which help and support in the selection of information material for a Library?
5. What is Stock verification? Write its advantages?

Unit 1 B: Human resource management (HRM)

1.2.1 Definition, Need and Purpose

Human resources are the vital resource for any library, because the library is utilised only by human beings. A major portion of the budget is usually spent on the staff of the library in order to provide best services. It is essential to have a well -trained and highly motivated staff to make an effective use of the sources of the library and to meet the demands of the community. The quality of human resources is the most important factor which affects the operational effectiveness of an organization. The way any organization manages these resources results in success or failure in achieving the goals. As mentioned above, a staff is the most important component out of the three components of a library. For fulfilling the goals of a library, it is necessary to manage its human resources effectively and efficiently.

The human resource management (HRM) is defined as a strategic and coherent approach to the management of an organization's most valued asset, that is, the personnel working there who individually and collectively contribute to the achievement of its objectives.

According to the Society for Human Resource Management (SHRM), the HRM is "the design of formal systems in an organization to ensure the effective and efficient use of human talent to accomplish the organizational goals". Just like any other organization, libraries too have all types of traditional HRM activities such as recruitment and selection; compensation and benefits; training and development; health and safety; employee and labour relations; and some libraries even have trainees/intern employment or volunteer management, etc.

1.2.1.1 Functions of HRM

There are five fundamental functions of HRM in any organization, which are also applicable to libraries. These functions are:

- Human resource planning
- Staffing
- Communication
- Employee development, and
- Employee maintenance

(i) Human Resource Planning

Human resource planning is the process of assessing the type of staff needed to accomplish organisational goals. The basic human resource planning strategy is staffing and employee development. For this, analysis of the job is done. Job analysis is the process of describing

the nature of a job and specifying the human requirements, such as quality and qualifications, skills and experience, etc. needed to perform it. The end product of job analysis process is the job description. A job description is a vital source of information for employees, managers, and HR professionals.

(ii) Staffing

Staffing is the process of recruitment and selection of human resources for an organization. HR planning and recruiting precedes the actual selection of staff for any position in an organisation. Recruiting is the personnel function that attracts qualified applicants to fill job vacancies. In the selection process, the most suitable candidates are selected for hiring from amongst those persons who are attracted to the organisation. HRM functionaries are involved in developing and administering methods which enable authorities to decide which applicants should be selected and which one is to be rejected for the given jobs. After selection, certain functions are performed to manage the staff and get the job done for the organization. Those functions include: orientation, training and development, performance appraisal, career planning, compensation, benefits, labour relations and record keeping.

- **Orientation**: Orientation is a process that enables a new employee to accommodate in the new job environment. It is a method to acquaint new employees with particular aspects of their new job, including pay and benefit programmes, working hours, and organization's rules and expectations.
- **Training and Development:** Training and development is a process that provides employees the skills and knowledge to perform their job efficiently and effectively. Apart from this, it also provides training for new or inexperienced employees.
- **Performance Appraisal**: Performance appraisal process monitors the performance of an employee to ensure whether it is at an acceptable level. Besides providing a basis for pay, promotion, and disciplinary action, performance appraisal details are essential for the development of an employee as it is necessary to motivate and provide guidance for performance improvement.
- **Career Planning**: Career planning is the process of assessing the potential of an individual employee for growth and advancement in the organisation.
- **Compensation**: The HR personnel derive a rational method to determine how employees should be paid for performing the various jobs. Their pay package is related to the maintenance of human resources hence, it is a major consideration in HR planning.
- **Benefits**: Benefits are another form of compensation to employees other than direct pay for the work performed.

- **Labour Relations**: The term “labour relations” refers to interaction with employees who are represented by employee unions, which are also referred to as trade unions. Trade unions are associations or groups of employees who come together to obtain a voice in decisions affecting them like wages, benefits, working conditions, and other aspects of employment.
- **Record-keeping:** The oldest and most basic function of HRM is employee record-keeping. This function involves recording, maintaining, and retrieving employee related information for a number of reasons. Records which must be maintained include application forms, health and medical records, employment history (jobs held, promotions, transfers, lay-offs, etc.), seniority lists, earnings and hours of work, details of leave of absence, turnover, tardiness, and other employee data. Complete and up-to-date records are essential for most of the HRM functions.

(iii) Staff Communication

Communication is an exchange of information between various levels of management. Effective staff communication is critical for the proper functioning of the organization. Regular and effective Communication invites people to engage in discussion and provides a two way feedback between management and employees, departments, and colleagues. This, in turn, promotes not only a culture of sharing ideas and knowledge, but also making things happen. Communication is carried out by using both the informal and the formal channels.

(iv) Employee development

The employee development is a process of encouraging employees to acquire new or advanced skills, knowledge, and viewpoints, by providing learning and training facilities, and avenues where new ideas can be applied. This programme is basically to keep employees motivated towards the organization as well as to further their development and growth. For this purpose, the HRM plans effective training and development programmes for the employees.

(v) Employee Maintenance

Employee Maintenance refers to the personnel information about each employee of an organization. All data related to personnel of each organization is maintained in the employees’ master database and it is usually online. It allows the management of employee data such as contact information, costs involved and share of compound costs. The sum of monthly costs for an internal resource is broken down to an hourly rate that is used to calculate costs on activities (project task, incidents, etc.).

1.2.2 Job Analysis

One of the important functions of Human Resource Management is Job Analysis. It is a process for determining the job requirement. It involves the analysis of the contents of each job to be performed is on institution.

The job analysis provides the answers of the following questions:

- What are the takes performed by the job?
- How they are performed?
- What qualifications required in a worker, to perform the job effectively and satisfactorily.

It determines the working conditions, tasks, responsibilities, duties, authorities, skills and abilities objectives of the concerned job.

1.2.2.1 Advantages:

1. It specifies the duties and responsibilities implies in each job.
2. It helps in determining job opportunities available in each types of workers required for each job.
3. It provides a scientific base for fixing wages and salaries of various types of jobs and employees because it takes into account the mental and physical skills, effects and risks involved in each types of job.
4. It helps experimenting modern devices like time and motion studies which are instrumental in increasing overall efficiency and productivity.

1.2.2.2 Job Description:

Job description is the output of job analysis which helps in the preparation of job specification. The purpose of job description is to identify a job. It is served by providing on identifiable descriptive title to each job or part of it.

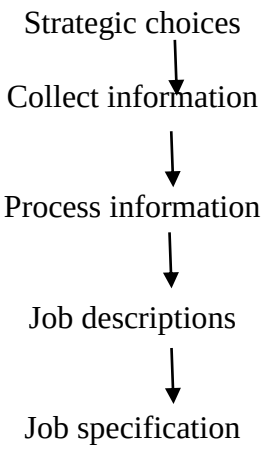


Fig1.2.1: - Process of Job Analysis.

1.2.2.3 **Job Evaluation:**

Job evaluation determines the Job Specification of each and every job of an Institution. Job evaluation means job rating. By it the value of each job is specified vis-à-vis another job or a group of jobs. The basic purpose of job evaluation is to find out an appropriate base for salary, to remove the disparities in the wage system.

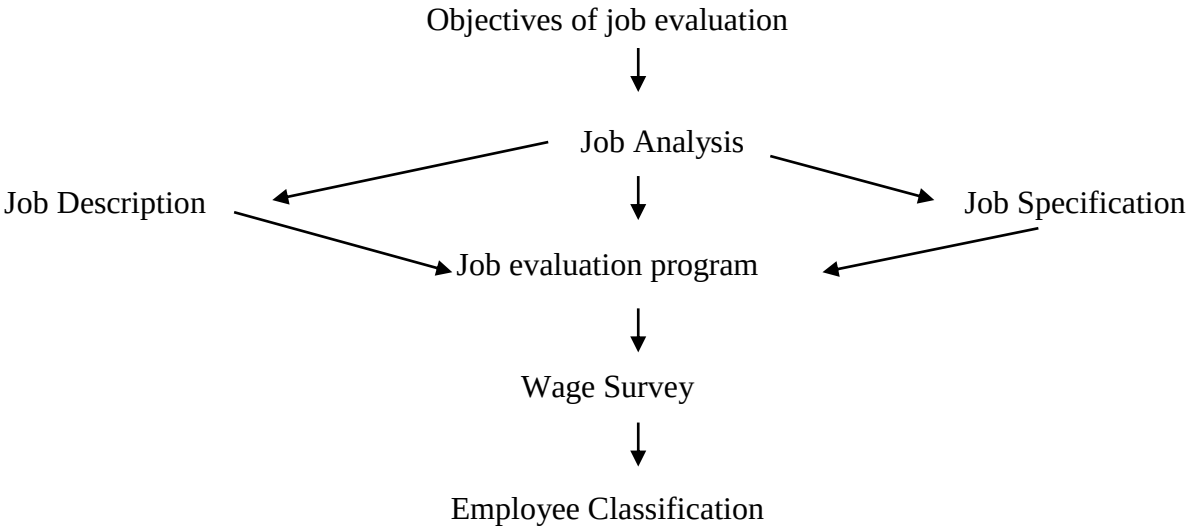


Fig1.2.2: Process of job Evaluation

Its Advantages

1. For determining the relative value of jobs and their remuneration rates, job evaluation equips an employer in an objective way.
2. In view of (1) above, the employee-employer disputes over wages or salaries etc. are reduced to the minimum.
3. Job evaluation is a useful tool for taking decisions about transfer, promotion, hiring or placement of employees in an organisation.
4. It also provides an administration with a workable organisation and structure of authority along with corresponding rights and obligations and responsibilities.

Its Limitations

1. Job evaluation cannot be fool proof. Rating or judgment is bond to differ at the hands of different rates. Even the same person may not have the same judgment at all times.
2. Competent valuators are not easily available.
3. Job evaluation is a complicated affair.
4. There is no absolute correlation between a job and its performer.
5. No one evaluation plan is applicable to all institutions.

6. Job evaluation does not take into account the labour problems in monopolistic or capitalistic societies.

1.2.2.4 Difference between Job Analysis and Job Evaluation:

Basic for Comparison	Job Analysis	Job Evaluation
Meaning	Job analysis is a careful study of each and every aspect of a particular job.	Job Evaluation is an attempt of assessing the relative utility of a particular job in an organisation.
Nature of Process	Comprehensive	Comparative
Objective	To develop the present methods and techniques of doing a job.	To determine a fair wage of a job.
Techniques	Questionnaire, Checklist, Interview, Surveys etc.	Non-analytical system and analytical system.
Advantage	Recruitment & Selection, Performance Appraisal, Compensation etc.	Helps in removing inequalities in the wage system, making a comparative analysis of each job etc.

1.2.3 Staffing Pattern in different types of Libraries

Different libraries devise their mechanism on the basis of standard theory and practices of HRM and accordingly manage their human resources. For some libraries, staffing and its structure are well defined. Though, these practices were previously understood as Personnel Administration, however as its scope expanded the term HRM got established in practice.

Staff structures vary from library to library. Every public library has its own way of providing information to the users. The State Central Library, District Library, Town Library, and Rural Library are normally governed by the State Government, like the Delhi Public Library comes under the Ministry of Culture. The staffing pattern is almost the same across various libraries. The Chief librarian or Director holds the authority of the library along with different professionals appointed in the different sections, which are namely: the classifier, cataloguer, reference librarian, and the library attendant.

An academic library is divided into three major categories: School, College, and University library. The school library is normally headed by the school librarian along with the trained library staff, who helps the librarian in day to day activities. In the college library, besides College Librarian, there is professional staff like professional Assistant, Semi Professional Assistant, and Junior Library Assistant. The multitasking staff takes care of the different housekeeping jobs of the library.

The University library is headed by the University librarian. Besides these, there is a chief librarian, Deputy Librarian and many assistant librarians at the managerial post. The cataloguer, classifiers, reference librarian, circulation staff take care of the different housekeeping job. In a special library, besides the librarian, there are staffs like translator, subject specialist, bibliometrician appointed for the specialised library job.

The staff structure depends on the library activities. A library is like a growing organism, as it grows old the staffing structure is reviewed and new staff is recruited for the smooth running of the library.

1.2.4 **Summary**

Human resources and their management is a complex and the most important process for running any organization including a library. There are five functions of human resource management, namely, (i.) human resource planning, (ii.) staffing, (iii.) communication, (iv.) employee development, and (v.) employee maintenance. The staffing pattern has been specified by the government or organisations from time to time, but it is dynamic in nature. National Knowledge Commission Working Group on Libraries has tried to define staffing structure suitable in Indian environment, but changes in the working environment and adoption of new technologies may lead to different patterns of staffing.

1.2.5 Exercise

1. What is HRM?

2. Write the functions of HRM?

3. What is job analysis? Write its advantages?

4. What are the limitations of Job evaluation?

5. Differentiate between Job Analysis and Job Evaluation?

6. Discuss the staff structure in University Libraries?

Unit 1C Financial Management

1.3.1 Financial Resources

Finance is the backbone of any library. Librarian or Library authorities must clearly understand the nature and need of a library so that enough finance is provided to ensure proper library service to one and all. Financial activities involve the job of managing funds, budgeting and controlling costs.

The financial resources should be made available in such a way that growing needs of libraries are met adequately.

1.3.1.1 Public Libraries

Main sources of public library revenue may be as under:

(i) **Subscription**: Some library authorities consider library subscription as a source of revenue, but modern librarians hold that charging of subscription from readers harms the cause of libraries since it discourages the already unwilling readers to register themselves as library members.

(ii) **Endowments and Private Benefactions:** The other popular source which is very often tapped in the USA is the acceptance of endowments and other private donations. The Carngie Trust did the pioneering job in establishing various libraries and helped them to stand on their own feet by providing huge amounts for the purpose.

(iii) **Library Rates:** Library system are based on local rates since the library service there is considered as local service. Library rates alone cannot be sufficient to meet the daily growing demands of libraries. Moreover, most of the local areas differ in their taxable capacities and so uniform and standard library service throughout the country becomes difficult. Besides, the yield from local rates remains insufficient for the purpose. Though there is np harm in tapping this source, yet it should be augmented by other sources also.

(iv) **Library Taxes:** Taxes differ from rates in the sense that the former are levied by the State or Central Governments whereas the latter are charged by local authorities. Taxes levied at State level bring sufficient amount. The assessment of the tax should be made preferably on the value of immovable property. House tax or Property tax is being taken as the basic for library cess/tax in the States of Madras (Tamil Nadu) and Andhra Pradesh. The Mysore (Karnataka) Public Libraries Act, provides a broader base of taxation for library purposes. In the rural areas, surcharge is levied on taxes on lands and buildings alone.

(v) **Government Grants:** The government of the day has to make available regular budget grants as is done for other Departments like Education and Medical. It can be ensured only by a proper legislative enactment. A library service should be impersonal and impartial in the right sense of the words. It should free from party politics gales. The government should provide for initial, expenditure while recurring demands of the libraries should be met from the proceeds of library taxes and rate. Secondly, government should encourage local authorities to collect more funds by giving them incentives by providing matching government grants, the government should also make up financial deficiency in backward areas so that uniform library service is provided to all persons in the country.

(vi) **Gifts:** Libraries, sometimes, receive gifts both in cash and or kind, from various sources. Generally, people with chariable bent of mind and those who love learning and believe in imparting learning to their fellow-beings donate a good number of books from their own collection. The idea behind such donations seems to me to put the books to better use. But this source is simply complementary and supplementary and cannot be considered as primary and substitutionary. As such, library financing policies should not in any way be modified dur too this source.

(vii) **Fees and Fines:** Libraries, generally, take resort to the realization of certain fines and fees when the members either lose the books and /or do not confirm to the library rules and do not return the borrowed books within time. The income from this source will be very few readers would like to pay subscription. The income from fines and overdue would also b every meagre and it cannot be considered a as proper source of revenue.

1.3.1.2 Other Kinds of Libraries

Above mentioned source are generally tapped by public libraries but in case of academic libraries and other special libraries, the sources differ in one respect or the other. In the case of university libraries, the students are charged an annual subscription fee of Rs.3/- to Rs. 5/-in addition to their tuition fees etc. If this is done in right earnest, financial problems can be solved to some extent. The second source of revenue in the case of university libraries is the recurring grants of the respective university authorities. In case of college libraries, the sources of finance include the subscription fee charged from the State Governments or the governing bodies of the denominational institutions.

The source of library finance in case of special libraries is the grant from the institution concerned. But this is generally not enough. It would be proper if some central and regional special libraries in various fields are established and these are financed jointly by the respective institutions and by the Central and State Government. The Council of Scientific and Industrial Research is the proper agency to look after the financial needs of the special libraries in India.

1.3.2 Methods of Financial Estimation

Following are the three methods of finding out the amount of finance required for providing satisfactory library service.

1.3.2.1 Per Capita Method

This method, a minimum amount per head of population is fixed which is considered essential for providing standard library service. Community which highly organized and is educationally well advances requires books and other reading materials of a higher order. The expenditure per capita rises in this case. On the other hand, a backward community, at least in the initial stages of its development, may do well with lesser number of advances treatises. The salary levels of the library staff in relation to other services and the average cost of publications are taken into account for determining this per capita limit.

The per capita estimate can be based either on the number of literate persons or adults.

1.3.2.2Proportional Method

This method presupposes the acceptance of responsibility of providing library finance by authorities at various levels. A library authority considers it its normal duty and provides necessary money out of its regular funds. Generally, a particular minimum limit is fixed.

1.3.2.3.Method of Details

Another method of finding out the financial requirement of a library is called the 'Method of Details'. It implies that all items of expenditure are accounted for while preparing financial estimates for a library. These items, besides others, include salaries/wages, reading materials-books, periodicals and newspapers and other kindred materials; binding and repairing; heating, cooling and lighting, rents and interest; posts, telegraphs and telephones; and stationery and other contingent and miscellaneous items.

1.3.3 **Budgeting**

A budget is an estimate of revenue and expenditure for the coming year. Estimates of possible income and expenditure of future year/years are reckoned and proper means for providing the requisite amounts are tapped.

The dual purposes of a budget are to limit expenditures to income and to assure wisely planned spending. In other words, aproper plan is prepared in advance and many factors, which are likely to affect the economy in future are taken into consideration and need for preparing a budget is quite evident from the fact that a household which plans can prosecute its future undertakings to when a proper plan is prepared, the available resources are put to best use, otherwise all the money is frittered away without any good result. Planning is essential because the economic resources are scarce and limited. A proper choice of priorities is to be made if maximum utility is sought. Librarians should also prepare their budgets so that essential services are provided to the users.

Budget is, no doubt, a different document from that of the annual Financial Report or Statement. The letter is a medium to know as to what was achieved and what was not achieved during the previous year.

1.3.3.1. **Budgetary Classification**

The Budgetary Expenditure can be classified on the following three patterns:

(i) **Classification by Character**

Here 'Character' refers to the period of time for which the budget is prepared e.g. one year, two years, or current year, this analogy, the expenditure can be classified as current expenditure, capital outlay and debt repayments. Current expenditure is a sort of recurring and regular expenditure. It can be termed as an amount which is 'used up during the year. Salaries, office and stationery supplies, heating, cooling, telephone and postage charges etc. are included under this head. Other items such as the purchase of books and periodicals, furniture and equipment and the erection of building etc. are included in 'capital outlay' because through

(ii) **Classification by Object**

The second type of expenditure classifications based on the services rendered or materials acquired by libraries. One of the main items is salaries and wages of the

regular and past time staff employed for providing technical and public services. The materials, services or objects include the provision for books, periodicals and other kindred materials, their maintenance and binding, building, furniture and fittings and equipment for housing them and for putting them to best use. The third items includes the expenditure on administration and routine matters i.e. heating, cooling and lighting charges, postage, contract contingencies.

(iii)Classification by Departments

Third type of expenditure classification is done department wise as follow:

I. Technical Section which may further be divided into
   a) Acquisition
   b) Classification
   c) Cataloguing
II. Reference and Circulation Section
III. Periodicals Section
IV. Office, etc.

1.3.3.2 Practical Procedure for Preparing the Budget

Budget is not prepared within a day it is a continuous job. The requirement and policy decisions which are taken from time to time during the year are incorporated into an annual estimate. The following three ways may be adopted to prepare library budgets.

- Comparison with past expenditures
- By budgeting in accordance with the work programme and
- By using widely accepted standards and norms

1.3.3.3 Tips for successful budget Making

(i) A general budget file should be maintained which contain policy decisions.
(ii) Each section should be asked to maintain a budget file so that they can from time to time note down their financial requirements which are to be incorporates in the budget.
(iii) The department reports should be incorporated in a general budget form.
(iv) Account assistant should carefully do the cumulation work so that an exact idea is got as to what total amount is required for each operating unit of service.
(v) The cumulation should be done for the sources of income so that it becomes easy to know the probable income

(vi) Net amount required should be struck down by bringing out the difference between the estimates expenditure and income

(vii) The budget estimates should be framed carefully

(viii) Ways and means should be suggested for procuring additional revenue to meet the deficit.

1.3.4 Summary

Finance is essential for running the Library properly. Library authorities and librarians must clearly understand the nature and needs of a library so that enough finance is provided to ensure proper Library service to one and all.

1.3.5 Exercise

1. Discuss three main financial sources of Public Libraries?
2. Discuss per capita method of financial estimation?
3. Define budget?
4. Write the points to be considered for budget making?

Unit 2 Functions of different Sections of a Library

1.4.0 Introduction

Every library, irrespective of its size and type, acquires, processes, and makes available library material for use by the library users. Based on the acquired material, libraries offer various services to their respective users. A library needs a systematic organizational structure to perform its functions. The function-based structure is a common form of any library. It divides a library into functional divisions, sections, or units such as acquisition, technical processing, circulation, reference, maintenance, and so on.

These sections are made up of several sub-sections or units. The distribution of the activities under different sections varies from library to library. For example, some libraries place maintenance section with circulation section while some place it with the technical processing section. But, the technical processing section always has activities of cataloguing and classification. In this unit, we will discuss some sections and their functions, which are common to most of the libraries.

1.4.1 Acquisition Sections

The acquisition section in the library is an important functional unit of collection development. It acquires relevant reading materials or information sources, such as, journals, books, electronic books, and periodicals, which are useful for the existing and potential users. Information sources include books, manuscripts, serials, journals, periodicals, newspapers, standards, specifications, patents, thesis, dissertations, maps, atlas, globes, etc. which are deemed fit for serving the existing and potential users. Well-planned acquisition should keep an account of the available funds, storing and shelving area, technological infrastructure, and availability of the staff. It is impossible for a library to buy each and every information source published in the world. So, the acquisition should be planned in such a way that the best suitable material can be procured within available resources so that the objectives of the library can be achieved.

The library also acquires information sources for preservation of intellectual heritage, depending upon its scope. The scope of the library may be local, regional, national, and global. For example, the National Library of India, situated in Kolkata has the responsibility of preserving the intellectual heritage and relevant information sources of the whole country, while a library of Kangra region of Himachal Pradesh may preserve the information sources relevant to that region only.

The types of information sources have witnessed a growth with the development of the society, where the books are no longer the only sources for a library. In different epochs, the Library and Information Science has used various terminologies, such as documents, reading materials, library materials, etc., wherein the information content of the material is more important than its visual layout. Thus, the term information source has acquired a wider coverage and meaning. Though, these terminologies have varying meanings, they have become somewhat synonymous in the text of the Library and Information Science subject. The information sources can be understood as any material, which contains useful information, recorded in textual, visual, audible, or multimedia form in logically organised format, for the purpose of knowledge development of the present as well as future generations.

1.4.1.1Need and Purpose of Acquisition

The library has the responsibility to provide the best available information sources depending on the available financial resources. But, at the same time, the library has its limitations. A certain amount of fund is given to a library for acquiring specific information sources. Hence, the task of acquiring materials and information sources has to be accomplished within the limited resources.

The information boom has led to a tremendous increase in the volume and variety of the information material published across the world. It is, thus, impossible for an individual library to acquire all the desired available material. These publications range from general books, textbooks, reference books, maps, atlases, globe, digital and multimedia based materials, etc. Therefore, acquisition of library material needs to be planned in a proper manner. A planned acquisition system is necessary to:

- achieve the objectives of the library,
- satisfy the needs of the users of the library,
- acquire best available resources/ reading materials deemed fit for the library
- acquire materials of preservation value within the scope of the library, and
- acquire material within the available resources (fund, space and staff).

To achieve the above mentioned purposes, a library requires a sound functional acquisition system.

1.4.1.2 Functions of acquisition system

The acquisition system performs the following basic functions to complete the entire acquisition process.

- Selection, Ordering, Receiving of Documents

- Cancellation of Documents
- Accession of Documents

i. Selection

The selection process of information sources is an important and responsible work. The process of selection revolves around the users of the library. The users' information needs may vary from library to library. As you already know, there are three categories of libraries namely public, academic, and special. Each category has different objectives and caters to the needs of different user groups. Hence, there should be a well-defined selection policy for each and every kind of library.

It needs judicious approach to select each and every information source or document to be acquired. The library should always select those materials which can be useful for a larger number of library members and can be required within the available funds. For the purpose of acquisition, it is always recommended that the library should have a written acquisition policy. The acquisition policy acts as a guiding tool for the staff associated with the selection process, as it helps to maintain standard and consistency in the collection development programme of the library. The acquisition policy should remain the guiding tool to acquire information sources for the library to fulfil their stated objectives.

The selection aids are the tools which help library staff in selecting best materials for the library. Users' demands, suggestions from the authority and different tools (bibliographies, reviews published in review journals and newspapers, etc.) can be used as selection aids. For assisting the library staff to select best reading materials for the library, there is a selection committee. The selection committee is a group of experts from different subject areas depending upon the nature of the library.

- **Selection in Public Libraries**

The objectives of the public library have already been discussed. A public library has a wide range of users which may include children, adolescent, youth, and old aged people. The need of the users may be based on their economic class (lower, middle and higher), professional association, educational level, habitats (rural, urban, hilly region, costal region, etc.), socio-cultural and linguistic background, etc. The library is also expected to acquire the material relevant to the locality like, local history, politics, economy, socio-cultural threading, weather conditions, available professions, etc. As, a public library has the responsibility of serving the community and preserving the relevant information of the region, its approach in material selection is different from other kinds of libraries.

- **Selection in Academic Libraries**

The academic library can be divided into three broad categories, viz. school, college and university Library. The guiding fators of the academic Library are based on the educational courses and the demands of the students, faculty members, and support staff. The selection policy of a school and college library is usually around the acquisition of textbooks, materials for general studies, personality development, career choices, teaching and learning resources, materials for the support staff. Since, the universities offer undergraduate, post graduate, and research programmes, the selection of material must be done with proper care.

- **Selection in Special Libraries**

A special library is meant to serve the information needs of the parent organization of a library. Hence, the selection of information sources is based on the short term and long term programmes of the parent organization. The library selects the materials exhaustively for short term objectives of the organization to meet its programmes at hand. For example, if an organization takes up a research project on life style of urban spaces of India, the relevant material should be selected to support the programme. Considering the long term objectives, the library selects the materials of wider scope of the organization and supports the collection development of the core area as well as other relevant subject areas of the organization.

Selection process should always focus on the long term collection development programmes of the library. On the basis of the acquisition policy, the materials should be scrutinized and lists prepared. Further approval of the selection committee or the competent authority should be taken into account and the process can be moved ahead to order the documents.

- **Selection Criteria and Types of Materials**

The selection criteria for documentary sources are as follows:

(i) **Authority (Authenticity):** The expertise and affiliation of the author regarding the subject of writing should be assessed.

(ii) **Accuracy:** The content of the document should be accurate and authentic. Wrong or misleading information can be disastrous in any documents.

(iii) **Scope:** The treatment of the subject, topic, or theme of the document should be evaluated and correlated to the users of the library. The content should be balanced in covering the extension and intention of the subject, topic, or the theme of the book. In case of some shortage or limitation in the content, it should be mentioned in the preface of the document.

(iv) **Organization:** Information in the document should be organised on the basis of some pre-established characteristics or logic. The consistency in writing and developing from general to specific topic makes the reading interesting and easy to understand. In the case

of non-fiction books, an exhaustive index is expected.

(v) **Format (Graphics):** The graphics illustrations are common in the documents dealing with technical data. In this case, appropriate graphs, colour patterns, sizes, etc. should be evaluated.

(vi) **Bibliographies:** Document should be supported by references in case of nonfiction book. The format of bibliography should be standard and information should be complete.

(vii) **Users:** While selecting a document, prospective users should be identified and ascertained that the material would be read by a large number of readers. The documents should be categorized as scholarly, popular, fiction, non-fiction, entertaining, introductory, advanced, etc.

(viii) **Vocabulary:** The vocabulary of the document should be at par with the level of the users for whom it has been written.

(ix) **Textbook:** The textbooks are mostly referred to by the students for knowledge in a subject area. Hence, the textbooks should be complete in terms of syllabus of the subject with accurate and authentic content. The organization of the content should be such that the students can understand easily.

(x) **Fiction:** In the case of a book of fiction, the author, title, style, theme, plot, setting, characters, and reviews should be evaluated.

(xi) **Multimedia:** The documents in audio, video, animation, and multimedia should be evaluated on the basis of their format. There are a number of formats for audio-video material. For example, an audio file is identified as having mp3, mid, wav, aif, etc., a video file could be mpg, mov, wmv, etc. The file format should be assessed on the basis of the equipment(s) that the library has.

(xii) **Digital Material:** It may be ensured that a database of library material, in all formats i.e. . . . audio, video, multimedia, text, graphics or normal documents is made available in digital form. While selecting information materials in this format, the criteria of that category of material should be applied. For example, e-book should be evaluated on the basis of criteria of books. File format, arrangement, hyper-links and search engines in case of databases, display format, etc. are a few aspects, that may be used to evaluate the digital content.

- **Selection Aids**

There are a number of selection aids available in the market to help and support the selection of information materials for a library. Depending upon the nature of materials, aids could be selected to acquire a particular material for the Library. Some of the selection aids are listed below:

(i) National bibliographies are a list of publications, published in a country or relevant to a country if published abroad. For example, Indian National Bibliography, published by National Library of India, Kolkata; British National Bibliography, published by British

Library, London, and so on.

(ii) Subject bibliographies-are a list of materials published in a particular discipline or subject. Chemical is a subject bibliography, published by Elsevier which covers the subject chemistry; PubMed deals in life sciences and is published by National Library of Medicine, USA. Similarly, a number of subject bibliographies available for reference.

(iii) Trade bibliographies-are published by publishers and distributers or associations, or independent organizations to promote the sales of publications. For example, Indian Books in Print, Whitaker's Books in Print, and so on.

(iv) Book reviews-There are a number of periodicals, newspapers, and websites which publish book reviews. These reviews are critical analysis made by scholars of the subject. For example, Times Literary Supplement, Book Review Digest, and so on.

(v) Bibliographic databases-are a list of publications in database format, searchable online or distributed on CD-ROM, DVD, etc. for offline search. For example, Ulrich's Periodical Directory, PubMed, etc. Some of the databases provide links to the information sources even if they are downloadable.

ii. Ordering

Once the selection process is complete, the ordering work begins. Before ordering the materials for acquisition, pre-order search is conducted to avoid duplicity. The materials are exhaustively searched in existing collection; in processing sections, newly received materials and so on. After the process of pre-order search is completed, a purchase order is generated and sent to the publisher directly or to an approved vendor/supplier of the library. Generating reminders of pending orders and cancellation of orders is also the part of ordering function.

iii. Receiving

The receiving function begins when ordered materials are supplied by the vendor. The materials come with bills or invoices. The supplied material and bills are tallied with the corresponding order list. In the case of printed documents, author, title, edition, publisher, price, and other details are matched with the order list. It is also recommended that the physical condition of the material be checked while receiving them. After a thorough check and verification of material, and subsequent tally with the ordered list, an acknowledgement is issued to the supplier.

iv. Accession

Every library maintains its stock register in which the details of the acquired material are registered. This called Accession Register. The accession register has fourteen columns for recoding the bibliographical details. The materials purchased, received in exchange or gifts are also recorded in this register. An Accession number is a unique number assigned to each document available in the library. Against this number, all the details of the documents are recorded. A specimen of an accession register has been given in the records maintenance section of Module 2, Unit 3 on pages 99 and 100.

- **Mode of Acquisition**

The method of acquisition of information sources is popularly known as 'mode of acquisition'. Traditionally, the three modes of acquisition are Purchase, Gift and Exchange. In the recent times, more methods have emerged and have established worldwide. These are online and consortia based acquisition, which are particularly functional in the digital environment. A brief description of these modes of acquisition is listed below:

i. Purchase

A library goes through a selection process, after which, the information material is made available in the library. Selected materials can be purchased directly from the publishers or their agents, distributors or any vendors depending upon the policy of the library.

ii. Gift

Non-commercial organizations, educational institutions and people who have strong affinity with the libraries from time to time donate their collection or information materials to libraries. Occasionally an author may also gift a personal copy of his/her book to the library. Sometimes, a set of information material becomes irrelevant for one institution, but it, can be relevant for another institution. In such cases, the former can donate the material to the latter. Therefore, gifting is also one of the established methods of acquiring materials.

iii. Exchange

The library may acquire materials, especially the publications of other institutions in exchange of its own publications. From time to time, libraries can exchange duplicate copies of library material. As mentioned earlier, sometimes an irrelevant material for one library may be relevant for the other one.

iv. Online Acquisition

Online acquisition method is more suitable for digital materials. In this process, a library can download material from the publishers' or vendors' portal and make payment online. For example, digital materials, print materials like books, reports, and so on.

1.4.2. Technical Processing Section

1.4.2.1 Classification

Classification is an act of organizing the documents/universe of knowledge into some systematic order. Classifiers, of the technical processing section of a library, are classifying the documents procured in the library.

1.4.2.2 Cataloguing Section

Cataloguing is the process of creating catalogue of the library holdings on the basis of catalogue rules or code adopted by a particular library. As mentioned earlier, a catalogue is a list of the holdings of a library with all the bibliographic details. It is a tool which helps users to search relevant materials on the basis of known information about a particular book or its subject area. Different catalogue entries such as title, author, collaborator, series, subjects, etc. are prepared for an easy availability of the library resource. Catalogue of a library is known as the guide map of the library resources for users of the library.

There are a number of cataloguing codes which are practiced worldwide. In India, Anglo American Cataloguing Rules (AACR) and Classified Cataloguing Code (CCC) are practised. The AACR is more popular cataloguing code as it is compatible with the International Standard Bibliographic Description (ISBD). In 1971, ISBD was recommended by the Working Group, set up by the International Meeting of Cataloguing Experts, Copenhagen, 1969. It was initially designed for monographic publications (books) but, later, it was extended to serials and non-book materials as well. Hence, ISBD has three formats now namely, ISBD (M) for monograph or book, ISBD (S) for serials and ISBD (NEM) for non-book materials. The AACR accommodates the ISBD format in cataloguing as it is more descriptive and is also easily adaptable in computerized catalogue.

Currently, libraries are undergoing a transition; information technologies are being adopted in their operations to provide services to the users. Although, not all the libraries of the world have not made this shift and a large number of libraries continue to operate manually. The libraries which have adopted the technologies and created a computerised catalogue are known as Online Public Access Catalogue (OPAC). They facilitate library resources via the medium of online search. The OPAC searched with the help of internet by any user from any given locale is called web-based OPAC. On the other hand, there are libraries which haven't undergone a computerized process and continue to create catalogue entries on cards. They provide search facility to their members manually.

In the technological era, there are many bibliographic formats available. Out of which, Machine Readable Catalogue (MARC), APA designed, practiced and promoted by Library of Congress, USA and Common Communication Format (CCF) designed and promoted by UNESCO are most popularly practised. The MARC and the CCF, both are used for cataloguing as well as exchanging bibliographic data among the libraries.

- **Functions of Cataloguing Section**

The cataloguing section of a library is supposed to perform the following functions:

(i) Preparing catalogue

(ii) Labelling and Pasting

(iii) Label Writing and Assigning Location Mark

(iv) Cards Checking by Chief Cataloguer

(v) Filing Catalogue Cards

(vi) Preparation of Addition List

(vii) Transferring Catalogued Materials to Concerned Location

- **Preparing Catalogue**

The cataloguer prepares different cards for books or any other material acquired by the library. In the manual cataloguing system, main entry, added entries, reference entry, shelf list card and book card are prepared on catalogue cards according to the cataloguing code adopted by the library. In the computerised system, online catalogue for each and every material is created. The cataloguer also creates different authority files wherever needed. Authority files are usually created for author, collaborator, series, subject, publisher, etc.

- **Labelling and Pasting**

The cataloguing department prepares books or any materials for service. For this purpose, different types of labels as authority stamp, spine label, due date slip, book pocket, etc. are prepared and pasted.

- **Label Writing and Assigning Location Mark**

Different labels contain different data about the book and the library. Hence, under the label writing work, call number, collection marks such as reference, circulation or any other collection name (closed reference, textbooks, etc.), accession number or any other information are written.

- **Cards Checking by Chief Cataloguer**

The quality of catalogue is very important as any mistake in catalogue will fail to provide required information to the users or misguide the users. Hence, the checking of entries and labels pasted on the books is carried out by the chief cataloguer. If needed, corrections are done before releasing the catalogue cards for filing and the books or any other resources for reading.

- **Filing Catalogue Cards**

The cataloguing department files the catalogue cards as per the filing code adopted by the library. According to the heading of the catalogue entry, a card is filed at its appropriate place in the card cabinet. Usually, the catalogue cards are filed in alphabetical and classified order. For filing the entries like author, title, subject, etc. dictionary formula is usually adopted

while the entries having numbers as heading are filed in numeric order. The heading of the shelf list entry is always call number. The main entry of CCC also has the call number as the heading. These cards are thus filed in numeric order.

Shelf list is only prepared for administrative purposes; hence the cabinet of the shelf list is usually kept locked all the time. The entries prepared for searching the library materials are filed in a public catalogue cabinet.

- **Preparation of Addition List**

The cataloguing department prepares the list of new additions to the library holdings for informing the users of the library within a stipulated period. Depending upon the policy of the library, the additions list may be released weekly, fortnightly, monthly, etc.

- **Transferring Catalogued Materials to Concerned Locations**

Once the catalogue cards of newly acquired material are filed in the public catalogue cabinet, the material is transferred to its stipulated location. For example, books meant for circulation are transferred to the circulation department, books meant for reference are transferred to the reference department, etc.

- **Cataloguing Staff and Tools**

Library cataloguing has to be carried out accurately and with concentration. The department should be equipped with qualified staff with good hand writing and supporting tools. In the case of computerised cataloguing, the staff should have very good knowledge of computerised cataloguing format, different authority files and ability to find data from the book and wherever needed from the cataloguing tools. The required cataloguing tools are - different kinds of bibliographies, national bibliographies, trade bibliographies, books in prints, directories of authors, publishers, and dictionaries of names as Indian names, and so on. Presently, Internet can be very helpful and can replace many cataloguing tools if the cataloguer has excellent searching skills. For example, from the catalogue of Library of Congress, USA, proper name of the author, association and affiliation of the author or collaborators, like wise many more aspects can be searched. The chief cataloguers should have suitable qualifications and experience to head the department and maintain the quality of different functions of the section.

1.4.3 Circulation Section

Circulation is one of the most important services of libraries. It allows the users to issue library books and satisfy their reading quest. It is not possible for every member of a library to use the library resources within the library, as they might have other professional and academic Commitments. Hence, the Library has the mechanism to lend books and other

library resources to its member for a certain period of time. This process is known as circulation. The circulation function in libraries promotes maximum and productive use of the library material.

- **Functions of Circulation Section**

The functions of circulation section are listed below:

(i) Registration of Members

(ii) Lending of Resources

(iii) Renewal of Issued Material

(iv) Reservation of Issued Material

(v) Charging of Overdue Fine

(vi) Lending and Receiving Books on Inter Library Loan

(vii) Maintenance of Records

(viii) Maintenance of Statistics

(ix) Miscellaneous Tasks

(i) Registration of Members

Library resources are a public property and the librarian is the custodian of this property. Therefore, it is necessary to maintain a record of the circulation of various resources. The members are required to provide their personal and professional details (name, date of birth, address, phone number, email address, profession, subject/course and so on) to the circulation section for the maintenance of the registration records. The registration details help the librarian to contact members and the professional details or the areas of interest help to identify the subject areas where the library collection has to be further developed.

The circulation section issues library cards to the registered members of the library. The cards enable them to borrow books or any other material. The number of cards issued to a member depends upon the policy of a particular library. The automated libraries have the library automations software, which pre-defines the number of documents to be issued to a particular member.

(ii) Lending of Resources

The lending of library resources to the members of the library is the main function of the circulation section (also referred to as the charging system). In this process, a member brings the required book(s) or other material to the circulation counter along with the library card(s). Against each library card one document is issued to the concerned member and a gate pass is given for the issued material. The Security personnel check the issued material and keep the gate pass in the security file. Some libraries, which do not have the gate pass system, check

the document to ensure whether it has been issued or not. In the automated system of circulation, documents are issued with the help of the software and a gate pass is generated. The RFID (Radio Frequency Identification) system allows members to go out of the library, only with the issued material. In case, a member attempts to take along any unissued documents, the RFID system automatically rings an alarm to alert the security and the appropriate action may then be taken.

When a member returns a book, the librarian should match the call number and the accession number on the book and the book cards. The book card of the retuned book should be inserted into the book pocket of the same book. The member is then given back his/her library card. This process is known as the discharging system.

(iii) Renewal of Issued Material

At times, a library member may desire to retain the library material beyond the due date. This may be due to several reasons and in such a case, the same material is reissued to the member. The material is usually reissued to the member if it is not required by any other member. This process is known as the renewal process. The renewal is usually done when the member presents the material at the circulation counter, or it may be requested over the telephone, through email, by post, depending upon the library's policy.

(iv) Reservation of Issued Material

Sometime a particular book or other documents are not available for being borrowed by the members. The reason may be that the book has been acquired by the library but has not been processed, or has been issued to another member, or it is in binding or otherwise unavailable. In such cases, the circulation section reserves the particular book or any other document required by the user and when that particular document is available for circulation, the member is informed about its availability.

For reservation purpose, there is a reservation card in the library on which name of the member with membership number and details of the document are recorded. A reservation slip is generated for the same document and put with the book card or any other records of that particular document.

In the automated system, depending upon the provisions available in the software, the materials are reserved for the members. The software automatically notifies the administrator of the circulation section about the reservation. The concerned member is informed accordingly. Nowadays, the library automation software also sends a system generated SMS to the concerned member.

(v) Charging of Overdue Fine

Most libraries have the policy to charge a fine, when an issued document is retained by the member after its due date. For this period, a charge is levied (on per day basis) and collected from the member. A due receipt is given to the member for the paid amount. Some libraries maintain an authenticated register given by the accounts department of the library or parent organisation with signature of the member against the collected money. The money is deposited in the accounts department periodically, say weekly, fortnightly, or so on.

(vi) Lending and Receiving Books on Inter Library Loan

A library always tries its level best to acquire all the books and other material which may be useful to its users. But, it is impossible to acquire all the material published worldwide. This is due to two prominent reasons, which restrict maximum acquisitions, i.e., funds and space. Another reason behind this is increase in number of publications. Therefore, there is a system of resource sharing amongst libraries, called Inter Library Loan (ILL). In this system, one library requests another library for a particular book, requested by its member. As member cannot request the holding library to issue a particular document as for this purpose, the person will have to become the member of that library. Hence, the first library gets the document on loan from the holding library and issues it to the concerned member. When the member returns the document, the first library returns the document to its holding library. The whole process is known as Inter Library Loan. To put in simpler terms, ILL is the system where one library issues a book/ document to another library.

The circulation sections of both libraries perform this function and keep the records of lending-receiving and issue–return to and by libraries, that is, by first library and again getting returned by the holding library. In the process a large number of records are generated and maintained by both.

(vii) Maintenance of Records

The records of circulation section are very important for different purposes. These not only show the utilization of the library resources but also disclose the subject areas which are most utilized by the members. The records also help the library to build its collection and make other plans for future growth. The section maintains the members' registration records, issue records, overdue, ILL, and so on.

(viii) Maintenance of Statistics

The circulation section maintains different statistics generated in the section, such as, the number of members registered, number of members withdrawn, number of documents issued, overdue charges, and so on. These statistics help to prepare the annual report of the library

and also catalyse the future plans for the library

(ix) Miscellaneous Task

Listed below are miscellaneous tasks performed by the circulation section:

(i) Issue of reminders and recovery of overdue documents

(ii) Replacement or payment of lost documents or cards

(iii) Allowing consultation facilities

(iv) Providing lockers or carrels

(v) Taking measures against mutilation and loss of documents

(vi) Issuing clearance certificate

Apart from the above, jobs requiring care and maintenance of circulation area, reading room, transfer of books into the stack area, and many more, fall under the circulation section.

1.4.4 Periodicals Section

Journals or serials are also referred to as periodicals. These are publications that are published at regular intervals, that is, in series with certain frequency. The frequency may be weekly, fortnightly, monthly, quarterly, etc. Modes of acquisition of periodicals include subscription, gift and exchange. In the case of subscription, the payment of the subscription period which is usually annual is made in advance to the publisher or supplier. Hence, it needs a special management system. Libraries which subscribe to a large number of periodicals have a separate section dedicated to manage periodical acquisition and services, called a periodical section. The functions of periodical section are discussed as follows:

- **Functions of Periodical Section**

(i) Selection of Periodicals
(ii) Acquisition of Periodicals
(iii) Receiving and Recording of Periodicals
(iv) Display of Periodicals
(v) Shelving of Periodicals
(vi) Indexing, Abstracting and Documentation of Periodicals
(vii) Periodicals' Circulation
(viii) Administration of Periodicals

(i) Selection of Periodicals and Serials

Periodical selection is the process of deciding which periodicals are to be acquired by a library. The selection of a periodical depends upon the collection development policy of a particular Library. It is always recommended that a periodical selection

committee be constituted for selecting periodicals. The committee finalizes the list of periodicals to be subscribed on the basis of the needs and objectives of the parent organization, recommendations of the members and the available funds of the library.

The **Association for Information Management (ASLIB)** has recommended the following criteria for selecting periodicals:

(a) Recommendation by specialists

(b) Recommendation by the members of the library

(c) Opinion of librarians of other institutions

(d) Announcements and reviews

(e) Consultation of list of most cited serials

(f) Reference counting

A number of tools are available for selecting periodicals. For example, Ulrich's International Periodicals Directory, and likewise, many such directories of periodicals may be referred to. Once, the list is ready for acquisition, the process of acquisition is initiated

(ii) Acquisition of Periodicals

There are four methods of acquiring periodicals. These are:

(a) **By subscription:** In this method of acquisition, periodicals are subscribed directly from the publisher or vendors. The subscription amount is paid in advance (annually) to the publisher or vendor for a particular title, following which, the library receives the periodical.

(b) **As a member of societies and institutions:** The societies and institutions send their periodicals free of cost, once a library becomes their member.

(c) **By gift:** A number of organisations send their periodicals free of cost to libraries. Hence, if a library wishes to acquire such journals then the publishing organizations are to be requested to enrol the receiving libraries on their mailing list. This enables the libraries to receive desired periodicals as gifts.

(d) **By exchange:** Acquiring periodicals by exchange is a method in which two organisations exchange their periodicals and other publications with each other (free of cost).

(iii) Receiving and Recording of Periodicals

As you already know, periodicals or serials are published in a series under the same title with a definite frequency. A library receives the issues of periodicals by their frequency. For keeping track of the issues received or not received a library deploys different recording mechanisms. In the manual system, small libraries register the receipt of issues in an alphabetical order. The bigger libraries may register periodicals in the ledger system. This system allots a page to each periodical, according to the alphabetical order of the titles. Apart from the register and ledger systems, one card and three card systems are very popular among the bigger libraries. In one card system, the card is 6”X4” sized, bearing the following information:

Name of the Library..... Place .....

Title ..... Frequency of Publication .....

Publisher .....Supplier .....

Vol. No & Year	**Jan**	**Feb**	**Mar**	**April**	**May**	**Like wise**
v.1 2015						
v.2 2016						
Like wise						

Verso of the Card

Title .....

Vol. No & Year	Subscription Amt.	Bill No. & Date	Voucher No. & Date	Reminders Sent	Bound unto..	Remarks
v.1 2015						
v.2 2016						
Like wise						

The three card system for periodical maintenance was designed by Dr. S R Ranganathan. Each card is of 5"X 3" size. The first card is known as Register Card, second Check Card and the third Classified Card. **The specimen of cards is given below.**

Figure: 1.4.1

Register Card

Title

PAYMENT

Publisher

Vendor

Class Number Class number Periodicity number

and date Order

Note

Vol. and No.	Date of Pub	Date of receipt.	Vol. and No.	Date of Pub.	Date of receipt.

Note : The columns for vol. and no. date of Publication and date of receipt are repeated at the back of the register card

Figure 1.4.2

Check card

TITLE **PERIODICITY**

Vol. and No.	Rem Date	L's init-ials	Vol. and No.	Rem Date	L's init-ials	Vol. and No.	Rem Date	L's init-ials	Vol. and No.	Rem Date	L's init-ials

Note: The columns giving vol. no., Rem. Date and L's initials are repeated at the back of the check card

Fig.1.4.3 Check card

Classified Index card

Cl. No.	Ans. Subs.	Per.
Title		
Vendor		
Publisher		
Vols. available		
Indexes, etc.		
Supplements, etc.		

Fig.1.4.4 Classified card

Apart from these systems, many libraries follow other systems too devised by individual libraries as per their convenience. These systems help in managing the registration and recording the details of periodicals and their issues received by the library.

In case of non-receipt of a particular issue, the library sends a reminder to the publisher or vendor and the same issue is being sent to the library by the publisher or vendor without charging any additional cost.

(iv) Display of Periodicals

The periodicals are processed after receiving, arranged alphabetically and put up in the display area. For displaying the issues of periodicals, special furniture is available in the library. In case of bigger libraries which have a large number of periodical, special furniture is kept for display and storage periodicals. A display of the latest periodicals and storage facility referred to as a pigeon hole rack is found to be most suitable in most of the libraries.

(v) Binding and Shelving of Periodicals

After all the issues are received and a particular volume of a periodical is completed, it can be bound and kept like books on shelves.

(vi) Indexing, Abstracting and Documentation of Periodicals

Some special libraries provide indexing and abstracting services or services based on indexing and abstracting and documentation of periodical articles.

(vii) Periodical Circulation

Usually, periodicals are not for circulation among the members. But, some libraries allow it.

Hence, there are certain methods of circulating periodicals among the members of the library. If the member group is very small then Routing Slip method is used. In this method, name and designation of members are printed or written on a slip and pasted on the title page. It is issued to the first member and thereafter it is passed on to next member without returning to the library. After completion of whole cycle, it comes back to the library. Apart from this, there are other methods too according to suitability of an individual library through which periodicals are circulated.

(viii) Administration of Periodicals

Administration of periodical section involves organizing the periodical section in such a way that maximum utility is derived from minimum expenditure. This function involves allocation of funds and its distribution among the subject areas of the library, allocation of staff, duty, correspondence with publisher and vendor, display, binding, storage, and all other required work for a smooth running of the section and providing services to the members.

1.4.5 Binding and Preservation Section

Libraries have two major objectives, firstly, to satisfy the information needs of the users, and secondly, to preserve the intellectual heritage of the society for posterity. Both the objectives are guiding factors for keeping the library materials in good and serviceable condition. Library materials which are paper-based need special care to keep them fit for use and extend their life to serve the future generations. The library materials such as books, periodicals, maps, etc. are printed on paper, hence they are prone to damage due to excessive use, wear and tear, heat, dust, insects, pesticides, etc.

1.4.5.1 Binding Section If a library collection is extensively used, wear and tear of the documents is bound to happen. Binding helps in strengthening the physique of the books and increases their life. Many large libraries have their own binderies but smaller ones have to get the books bound by professional binders. Some of the reasons of having good and attractive bindings are as follows:

(i) To reduce the risk of mishandling

(ii) To guard against wear and tear

(iii) To avoid shabbiness

(iv) To create new-cover to appeal and attract readers

(v) To preserve perishable and frail materials

(vi) To ensure entire satisfaction of users

Binding process is highly technical and requires lots of skills. There are eight processes

involved in binding work:

a) Collation
b) Sewing
c) Attaching covers
d) Endpapers
e) Colouring edges
f) Headbands
g) Hollow backs
h) Finishing

1.4.5.1.1 Types of Binding

Library binding is of various kinds:

(i) **Full Leather Binding:** Full leather binding implies that the whole cardboard is covered by leather. This kind of binding is recommended for expensive, rare and reference books.

(ii) **Half Leather Binding:** Half leather binding implies that half of the card board is covered with leather and rest half with cloth or buckram. The back and the corner of the book are covered with leather as these portions suffer immense wear and tear. This kind of binding is for the heavy materials like back volume set of periodicals, newspapers and other serial publications.

(iii) **Full Cloth Binding:** Full cloth binding implies that the whole card board is covered with cloth. Standards and text books are given such binding as these materials are extensively used.

(iv) **Half Cloth Binding:** Half cloth binding implies that the spine and corners of the card board are covered with cloth and rest with other cheaper materials such as paper or other decorative materials. This kind of binding is usually given to cheaper books.

S. R. Ranganathan (1967) gave specifications for binding books for the first time or at the time of rebinding as follows:

a) **Collation:** The book received by vendors for binding should be examined and collated, and if found in imperfect or seriously damaged condition may be returned to the library unbound. A periodical should be collated properly and the volume should be bound in correct sequence along with the index at proper place. Wrappers and advertisements in periodicals and books should be bound if the binder has been instructed, otherwise they should not.

b) **Sewing:** Books printed on good quality paper should be sewn one sheet on (except where thinness of paper makes it necessary to sew two sheets on) with unbleached thread of suitable thickness over unbleached linen tapes. Straight-line machine stitching is not acceptable.

c) **End Papers:** End papers should be of good quality, opaque paper with There should be at

least one plain white leaf between each of them and the printed matter.

d) **Cutting Edge:** The binder should avoid cutting the edges of books unless it is really essential. Even if cutting of edges is required, the binder should leave margins as wide as possible.

e) **Forwarding:** Books should have French joints and tight or close flexible backs.

f) **Lettering:** Lettering or printing on cover should be impressed in gold colour.

There are a number of measures given by him and these measures have been incorporated in the standards prepared by Bureau of Indian Standards (previously known as Indian Standards Institute). This standard is "IS: 3050-1965: Code of practice for reinforced binding of library books and periodicals". It was again reaffirmed in 1997. For a better understanding of specifications and types of bindings, the standard should be referred.

1.4.5.2 Preservation Section

Books and other documentary sources of information printed on paper are prone to damage due to several reasons which reduce their shelf life. Libraries of the world face the challenge of keeping printed library materials as books, periodicals, pamphlets, newspapers, and other materials, in sound condition to extend their lives and provide services to present and future generations. Hence, preservation is an important function of every library.

Preservation involves activities which reduce the chances of damaging printed library materials to extend their shelf life and concomitantly it's utility. The reasons of damaging printed library materials may be listed as:

(i) Environmental or Climatic Factors

(ii) Biological Factors

(iii) Chemical Factors

(iv) Human Factors, and

(v) Disasters

1.4.5.2.1 Environmental or Climatic Factors

The damaging agents present in environments are i) light, ii) heat, iii) humidity and moisture, iv) dust and dirt, v) water which damages the library materials and reduce their lives. Let us see how these factors damage the printed library materials.

i. **Light**: Natural or artificial, both types of light damages the paper. When paper is exposed to sun light, the ultraviolet radiation reacts with the paper in presence of oxygen which is in the air. The cellulose of paper gets oxidized into oxycellulose, the cellulose chains are broken and the paper becomes weak and brittle. Some of the artificial light as fluorescent tube light also produces high percentage of ultraviolet radiation and damage the paper in the same way as natural sun light. Sometimes the paper gets exposed to light while photocopying

and it gets damaged because of ultraviolet radiation and heat. The level of damage because of light depends on duration of exposure, intensity of light and distance from the source of light.

ii. **Heat:** Atmospheric temperature is a damaging agent of paper. The fluctuations in the temperature is also responsible for the damage. High temperature with low humidity causes dehydration of cellulose fibres and the paper becomes brittle. Due to this, the paper loses its flexibility to such an extent that it tends to crumble on touch. On the other hand, high temperature with high humidity creates the condition for the growth of moulds. Besides atmospheric temperature, electric bulbs, used for lighting purpose also increases room temperature and becomes the damaging agent.

iii. **Humidity and Moisture:** Water content, that is, moisture available in the atmosphere is known as humidity. Certain level of humidity is needed for flexibility of paper but high and low, both levels of humidity damage paper. Paper is made of pulp which has tendency to absorb water from the atmosphere. If there is high humidity, paper absorbs more water and thereby becomes soggy. Because of sogginess, adhesive gets weak and binding becomes loose. It also increases the size of the paper which causes spreading of ink. Sometimes, pages get stuck together and cause wear and tear. Besides these damages, fungus grows in moisture and damages paper.

iv. **Dust and Dirt:** Dust is composed of soil, tar, metallic substances, fungus spores and moisture among other things. It is air borne and it settles down on any surface of the object. When mixed with high humidity, it gets transformed into dirt and if this dirt sticks to the surface of the paper, it becomes difficult to remove. Dust also increases water absorbing capacity of paper which leads to growth of fungus and chemical reactions which ultimately damage paper.

v. **Water:** Water acts as a physical agent of deterioration by causing hygroscopic materials to undergo dimensional changes. Water may come from any sources like natural calamities, human negligence, from leaking roofs, defective plumbing or through open windows at the time of raining. Excessive water can damage any printed document as paper becomes soggy. Even small quantity of water may damage paper as we have studied above.

1.4.5.2.2 Biological Factors

Micro-organisms, insects and rodents are different types of biological agents which damage paper and other components of printed materials such as leather, textiles or straw board used for binding. **Micro-organisms** include fungus or moulds, bacteria, etc. Fungus is a large heterogeneous group of plant organism that remains in dormant state for long periods but grows in 63-100% humidity and 15-35 C temperature. In libraries, fungal growth is known as mould or mildew and they appear as brown/black vegetative growth on paper, leather and textiles. Fungus consumes cellulose and also thrives on nutrients in leather, glues, pastes, binding threads, etc. Due to this, different components of printed material gets disoriented and damaged. Other than fungus, bacteria have the tendency to decompose cellulose in paper and binding materials. There are certain types of insects which damage paper and binding materials of printed documents. The damaging insects are i) silverfish, ii) cockroaches, iii) booklice, iv) bookworms v) white ants and termites, vi) rodents.

i. **Silverfish:** These insects hide in the day time and come out at night. The starch, glue and gelatine which are used in paper as sizing materials attracts this insect. It is silver or pearl grey in colour and about 8 to 10 mm in length. The insect eats the surface of the paper and adhesive used for pasting bindings and makes holes in paper, prints, photographs, catalogue cards and cardboard boxes.

ii. **Cockroaches:** Cockroaches damage books and other print materials in darkness. They eat paper leaves, bookbinding, fabrics and other organic materials. They usually live in damp and dark places.

iii. **Book worms:** Bookworms or the larva of beetle eat the paper and bindings of library materials by making pin holes.

iv. **Book lice:** Book lice are grey or white coloured insects which eat paste, glue and fungus formed between the edges of inner cover of the books.

v. **White Ants or Termites:** White Ants or Termites are insects that can eat wood, paper, cardboard, leather or any constituents of library materials. Once they start destroying the books, they can do irreparable damage in a short period. They are of two categories, viz. earth dwelling termites and wood dwelling termites. Earth dwelling termites live in the soil and their mud tunnels on the walls, book cases and furniture. Wood dwelling termites live above the ground and enter the building through cracks and openings.

vi. **Rodents:** Rodents include mice, rats, squirrels and other similar species. Mice and rats are mainly found in libraries. They eat and destroy material made up of paper, cloth, leather, glue, etc.

1.4.5.2.3 Chemical Factors

Different types of chemicals like, alum, rosin, etc., are used in the process of manufacturing paper. Certain chemical compounds which have acidic effects are

available in the ink used for printing. In the long run, the chemicals become agents of chemical deterioration, and damage paper and other components of printed materials.

Besides the chemicals used in paper manufacturing and printing, a number of chemicals like carbon oxide, sulphur oxide, nitrogen and hydrogen sulphides are present in the atmosphere. These chemicals react with paper in the presence of oxygen and moisture present in the atmosphere and create acidic compounds, which weaken paper and its constituents. The yellow and brittle edges of old books are caused by sulphur dioxide. Similarly, nitric acid damages the colour of ink, paper, leather and cloth.

Certain chemicals either available in paper, printing ink or in other components of books, like leather, cardboard, adhesive or in atmosphere have acidic characteristics, which over a period of time damage the components of books and other printed materials.

1.4.5.2.4. Human Factors

Apart from biological, chemical and atmospheric reasons, human beings too might act as damaging agents. Due to unawareness, negligence or ignorance, on the part of the library staff and library users, the printed library materials often get damaged. For example, while processing books, several stamping and pasting jobs are performed by the staff, during which, books might be damaged. Books might get damaged while being transferred from the stack area to the circulation counter or technical processing section. This may happen due to several reasons, the most probable being, over loading of a trolley. Books should always be shelved vertically. If a book is placed horizontally it might get damaged. Sharp edged furniture is another damaging agent as it becomes the reason for the wear and tear of books.

In the open access system, users are allowed to go to the shelving area and browse the library collection. Sometimes they might drop the books or place them improperly. Some readers have the habit of using saliva for turning the pages of books while reading. These are the factors which damage the books and other reading material.

Improper storage, faulty repairs, rough handling, deliberate abuse, folding the fore-edges of pages as a mark of reading, marking by pencil/pen, mutilation, vandalism are all examples of human beings damage the library resources.

1.4.5.2.5 Disaster

Disaster is never expected, but it occurs everywhere in the world. It can be both natural and man-made. Natural disasters like flood, earthquake, cyclone, tsunami, etc. damage the library material. Man-made disasters like fire, war and invasion, and so on damage the library material too. For example, the great library of Nalanda University, of ancient

India, was completely destroyed because of war and invasion.

1.4.5.3 Preventive Measures

It is the function of the preservation section to prevent the deterioration and damage of the printed material in a library. The preservation section should prepare an action plan and various other programmes to be executed in a time bound manner. Preservation is a continuous process, hence needs proper and perpetual attention. For each category of damaging factors, the requisite preventive measures should be taken.

1.4.5.3.1 Preventive Measures for Environmental Factors

(i) **Protection from light:** Library materials should not be exposed to sunlight or powerful florescent electric light. In order to save them from sunlight, ultraviolet filter or coloured window screens should be used. Using green or lemon coloured window panes may also stop the ultraviolet rays. The standard electric light should be used in a library while reading. It is recommended to use LED bulbs which generate less heat and ultraviolet rays.

(ii) **Temperature:** The temperature of a library should be maintained at around room temperature. Ideal temperature range for a library is considered to be 20 C to 25 C.

(iii) **Humidity:** The relative humidity inside a library should be kept between 30%-40%. For this purpose, humidifiers or dehumidifiers may be used to control the humidity level.

iv) **Ventilation:** Ventilation is needed for both the library materials and the people present in a library. However, it should be controlled as uncontrolled ventilation may disturb the relative humidity, temperature and pollution level inside the library.

(v) **Pollution:** It is always recommended that the site of a library should be in a less polluted area, where both air and sound pollution is under control. But, libraries are usually near human settlements or industries where pollution can't be avoided. Hence, it is recommended that trees and herbs should be grown around libraries. The walls should be made sound proof if the noise level is very high.

vi) **Dust:** Doors, windows, ventilators or any other source, which allows the passage of dust, should be kept under a check. The books and other library materials should be kept free from dust and proper dusting should be done on a regular basis. For this purpose, sand blaster or vacuum cleaner may be used.

(vii) **Photocopier:** Exposing the pages of books to photocopying machine should be reduced, as much as possible, because it damages the spine of books.

1.4.5.3.2 Preventive measures for Biological Factors

Insects, fungus and all kinds of biological pests grow in dark, damp and dingy places in libraries. The first prevention is to stop the growth of such pests. For this purpose, the house keeping work in every

library should be maintained. Provision of cross ventilation and air circulation inside the library is essential. A distance of at least 15 cm should be maintained between the book racks and the wall. There should be no cracks in the walls, floor and ceiling, as they might act as a breeding place for insects. Eating and drinking should be avoided inside the library because food stuff attracts insects. Insecticidal powder or solution like lindane, should be sprayed in the dark corners, beneath bookracks and inside cupboards, periodically.

Naphthalene balls or bricks, dry neem leaves or seeds or powder and camphor tablets in muslin bags may also be used to keep pests away. Library may also use different methods of pest control for keeping insects growth in check.

1.4.5.3.3 Preventive Measures for Chemical Factors

It is always recommended that libraries should prefer to purchase library edition of books as paper, ink, binding and other materials used in the publication of these editions are made of less damaging chemicals. It is very difficult to put a check on the damaging chemicals present in the air. The only solution is to have a system of air conditioning, which would work round the clock. If this is not possible, then the library should keep its valuable material in cloth wraps or in cupboards. Adhesive, glue, paste, tapes, etc. of good quality should be used as they also contain damaging chemicals. Paint used for painting rack, cupboards or any library furniture should not have chemicals which can damage the printed material.

1.4.5.3.4 Preventive Measures for Human Factors

The human factors are the most important factor as far as preservation is concerned. Every library should organise awareness programmes for the staff and users. The staff should be trained in care and handling of library material. Proper shelving, use of trolleys for transporting books, care at the time of processing and other sound practices should be followed by staff members. In case of minor damage, like loose binding, the wear and tear of pages should be repaired immediately.

The users should be made sensitive toward care and maintenance of books. They should be informed that dropping books, keeping books in improper position, folding the corners/edges of pages, using saliva for turning pages, and so on damage the books or any printed material and reduce its life. Users should not put any sharp object on books and they should avoid underlining the text by ink or pencil.

1.4.5.3.5 Preventive Measures for Disaster

Disaster may occur any time in any library. Hence, precautionary measures can reduce the extent of damage. For preventing fire inside a library, the electric wires and cables of recommended quality should be used. A library should also have fire extinguishers. Any kind of fire or open flame should be prohibited inside the library.

For preventing other disasters, standard measures should be taken. A library building should be earthquake resistant. Libraries in the flood prone areas should be on the first floor or second floor of the building. Likewise as much as possible, preventive measures should be taken to minimise damage.

1.4.6 Conservation

Conservation is the process of reviving damaged artefacts or any library material into a form in which they can be used again. Once any library material gets damaged, the concerned library should have a programme of conservation to bring it back to life through different treatments.

1.4.7 Maintenance Section

This section is responsible for shelving, re-shelving, maintaining orderly arrangement of the collection and taking care of all types of library material and associated equipment. In fact, the ultimate success of all other sections of a library such as acquisition, classification, cataloguing and circulation are dependent upon the efficiency of this section. If the library collection is not maintained and displayed properly it will not attract the library users and thereby the library collection will not be put to maximum use.

This section performs the following functions:

- Shelving and Display of the library material
- Maintenance of the collection
- Preservation of the library collection

1.4.7.1 Shelving and Display of the Library Material

The arrangement of books and other material on the library shelves is carried out by the maintenance section. Work involves shelving of new books received after processing, re-shelving of borrowed books returned by the members and books and other material left on the reading tables by the readers after use.

The section is also responsible for displaying current issues of periodicals as well as newspapers in the reading room and the shelving and maintenance of non-print media like films, audio cassettes, CD-ROM, DVDs, etc. The non-print media is stored away from the open book stack area. This media is usually kept in a media room or computer room, where the equipment for playing these particular media items is available.

1.4.7.2 Maintenance of Collection

Tasks relating to maintenance of collection are also handled by this section. It involves continuous monitoring of the stack rooms and display areas. Shelving and re-shelving the material, keeping the collection in order, taking out books which are not in order and re-shelving them in proper place, identifying and removing the books needing repair, regular cleaning and dusting the area and protecting the collection from dust, heat, direct sunlight, moisture, insects and pest infestation. This section is also responsible for maintenance, checking and rectification of all sign boards and library display guides.

1.4.7.3 Preservation of Library Collection

The activities related to preservation of the library material are carried out at various levels and by various departments in a library. The Maintenance Section's role in preservation is to handle the

library material carefully, keep the environment in stack rooms and storage area clean (free from dust, insect and pest manifestations), and protect the material from direct sunlight.

1.4.8 Information Technology Support (IT) Section

The Information technology Support (IT) Section has following responsibility:

(i) To maintain all computer and network hardware and software.

(ii) To create useful software application programs for the use of users and staff.

(iii) To train staff to use the application effectively.

(iv) To exploit the technical expertise to effectively communicate the Library's requirements to the campus technical support unit.

(v) To advice the authority for IT requirement in the Library.

1.4.9. Summary

In a library, the activities are grouped on the basis of job analysis into different sections, and thus executed. Such jobs are logically distributed among different sections. Usually, all kinds of libraries have seven basic departments and sections, which are: acquisition, technical processing, circulation, reference, periodicals, maintenance, administration, and accounts. Apart from these, depending upon the collection and services, some libraries also have archives, electronic collection and other sections.

1.4.10 Exercise

Chapter 2

Organization of Library Resources: Advanced

Unit 1: Library Classification (Theory)

2.1.1 Concept of PMEST (Fundamental Category)

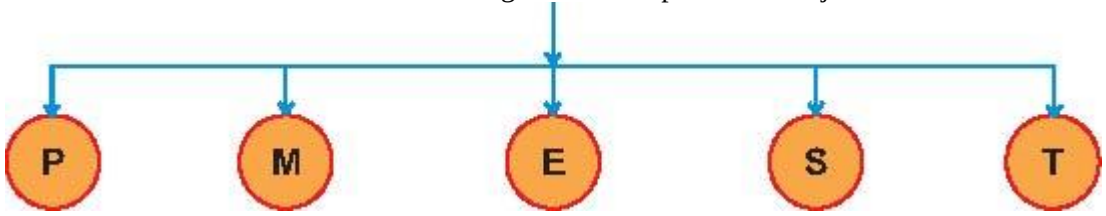
The Colon Classification scheme contains both, the basic subjects and their facets (which contain isolates). A basic subject can stand alone but in contrast an isolate is a term that mediates a basic subject. To create a class number, the basic subject is named first. The isolates follow, entered according to a facet formula. This formula states that every isolate in every facet is a manifestation of one of the five fundamental categories --personality, matter, energy, space, and time. Personality is the distinguishing characteristic of a subject. Matter is the physical material of which a subject may be composed. Energy is any action that occurs with respect to the subject. Space is the geographic component of the location of a subject. And time is the period associated with a subject.

As mentioned above, there are five fundamental categories into which a subject or main class is divided. These are the five aspects of a subject.

Dr.Ranganathan named the five fundamental categories as PMEST, which is Personality, Matter, Main Class Energy, Space and Time. A subject may have a Personality aspect, a Matter aspect, an Energy aspect,a Space aspect, and a Time aspect.

Personality **Matter** **Energy** **Space** **Time**

Fig: The five aspects of a subject



2.1.1.1 Time

According to Mills, the fundamental category, Time "is usually embodied in periods". According to Dr.Ranganathan, "The fundamental category time occurs in every subject

forming a local description of local history of any subject". Time indicates that the entities under different subjects must change in its structure, meaning, history development, with the progress of times.

Example: History of the 18 century is different from that of the 15 century.

2.1.1.2 Space

According to Dr. Ranganathan, "the surface of the earth is a manifestation of the category 'Space'. It occurs in every subject forming a local description or local history of any subject." Most of the subjects, if not all, get manifested in relation with continents, countries and their subdivisions.

In CC (Colon Classification), there is a schedule of Geographical Divisions which can be attached to a subject. In DDC (Dewey decimal classification), there is a space facet applicable under the class History, and throughout the scheme the facet is available under the direction divide, like 940-999.

Example: In the following examples, the term denoting space is given in brackets

i. Agriculture in (India) brought up to 1990.

ii. History of education in (India)

2.1.1.3 Energy

According to Mills, the fundamental category, Energy is, "a category of facets which characterize the exercise of energy, i.e., activities, operations, processes, problems, etc." Palmer and Wells feel that Energy "usually presents itself as a problem to be solved, or a mode of work or approach." Dr. Ranganathan, in his Colon Classification, calls the facet based on the characteristic Energy, the problem facet. Thus, the fundamental Energy covers the problems, action including methods, functioning, and etc. aspects of a main class. Many main classes will have certain units which deal with the problems in the subject. These problems are generally applicable to all the organs of the class.

In the class Agriculture, certain processes and actions like sowing and harvesting also come under Botany; units like physiology, and pathology are noticed in Zoology and Medicine, which deal with functioning. Isolates, which make the category Energy, are generally important actions in the subject and commend a greater influence on the subject from two directions. One is when they are in general reference to the class and the second when they refer to the organs of the subject individually.

Dr. Ranganathan postulates that the energy aspect in a main class may manifest itself in different rounds of energy, that is, 2E= second round of energy after 1E; 3E= third round of energy after 2E and so on. In Agriculture, the energy focus 'manuring' needs to be followed

by another energy facet consisting of foci (facet) such as collection, grading and application. Another example is from Medicine. Pathology or disease is a problem and therefore it is [1E] of the subject treatment and surgery, etc. are for actions on diseases themselves, and therefore, they are the [2E] of the subject.

2.1.1.4 Matter

Dr. Ranganathan postulates matter as a fundamental category capable of manifesting itself as the 'constituent of a whole'. However, Mills argues, "Matter is the category of facets which reflect substances, materials, etc. It is manifested clearly in most technologies and in many of the natural sciences; and it is generally absent from theoretical disciplines like Law, Economics, Literature, etc." Vikery feels that "Matter comprises constituent materials of all kinds."

The Matter facet is inherent in many subjects falling within a main subject. The ones enumerated in CC are: Library Science, Engineering, Sculpture, Painting and Music. The 7th edition of the Colon Classification has given large scope to the Matter facet. There are three groups of "Matter" viz. Matter Material, Matter Property and Matter Method.

For Example: In the Main class of Library Science, Matter figures as the reading material. In the class Painting, Matter figures as the materials used for painting. In the class Music, Matter figures as the musical instruments, and so on.

Dr. Ranganathan was convinced that the facet "Matter" should be expended into three groups and many isolates from the facet "Energy" be shunted to "Matter Property". The three groups of Matter are:

1. Matter Property [MP]

Ex.	**Main Subject**	**MP**
	Biology	Morphology
		Physiology
	Education	Thinking
		Reasoning

2. Matter Method [MM]

Ex.	**Main Subject**	**MP**
	Chemistry	Physical Method
		Fluid Method

3. Matter Material [MM]

Ex.	**Main Subject**	**MP**
	Technology	Product

Biology Substance

2.1.1.5 Personality

The fundamental category 'Personality' is most concrete and the category 'Time' is the most abstract or the least concrete sector. The Personality facet indicates the core point of the subject at hand. According to Palmer and Wells, 'the term personality is used for the wholeness of any subject. Personality inheres in the subject itself and gives colour to the other fundamental concepts transforming them into concrete things.'

The Personality facet is of prime importance in many subjects, belonging to different classes, and it is the most recognizable facet for the specialists of a class. Personality is the first facet in many subjects and it is often experienced that the other facets work as attributes of personality for its further subdivision. Matter, Energy, Space, and Time are often required in relation with the personality facet. The other facets are required in lesser degree in relation to the main class. Without Personality there can be no organ, constituent, attribute, action, etc.

According to Dr.Ranganathan, if a concept cannot easily fit into the other four categories then it is probably a Personality facet. He further adds that Personality is only recognizable by elimination. After separating out the manifestation of Time, Space, Energy and Matter in the subject, the residue often turns out to be a personality facet. This may be called the Principle of Residue.

Within the Personality facet, we find a number of levels into which the whole personality is spread. These are known as levels of personality facet, P1, P2, P3, P4 and so on. The different levels are arranged with the help of the principles of helpful sequence.

Example, **Personality facet**

Main class	**P1**	**P2**	**P3**	**P4**
	Literature	Language	Form	Author work

The following example enumerates how the fundamental category, personality, is used in DDC and CC respectively:

Main class	**Personality facet**	**DDC**	**CC**
Psychology	Abnormal psychology	137	S6
Zoology	Vertebrate	596	K9

The fundamental category and the connecting symbols used to distinguish them in a class number are as indicated below

Personality **:** The connecting symbol is Comma(,)

Matter : The connecting symbol is semi-colon (;)

Energy : The connecting symbol is colon (:)
Space : The connecting symbol is Dot (.)
Time : The connecting symbol is inverted comma (')

2.1.2 Steps in Library Classification

Dr.Ranganathan has prescribed a procedure involving nine successive steps for translating the title of the document; for analysing the title of a specific subject into facets, and for giving it an appropriate class number. The steps are as given below.

Step 0: Write down the Raw Title (= Title as found in the document).

Step 1: Full title (= Title expressing each of the relevant basic and isolate ideas in the subject of the document, arrived at by filling up all the ellipses in the Raw title). Deriving the Expressive Title from the Raw Title by filling up ellipsis such as basic class or any other facet implied in the Raw Title. This is done by breaking down composite terms into their fundamental constituent terms, according to a principle which sets a limit to the semantic depth of the fundamental terms.

Step 2: Kernel Title (= Full title except the auxiliary or apparatus words and each composite term denotes a composite idea replaced by the fundamental constituent terms, which denote its fundamental constituent ideas).

Step 3: Analysed title (= Kernel Title with each kernel term marked by a symbol, which denotes the fundamental category of which the ideas denoted by the term is a manifestation and also the round and the level to which it is assigned in conformity to the postulates of classification). This is done essentially with the help of wall picture-principle, taking two kernel terms at a time.

Step 4 : Transformed Title (=Analytical title with the kernel terms rearranged according to the symbols of analysis attached to them).

Step 5: Title in standard terms (=Transformed title with the Kernal terms replaced, wherever necessary by their respective equivalents as given in the appropriate schedules).

Step 6: Title in Facet Numbers (= Title in standard terms with the kernel terms replaced by their equivalent numbers). Deriving the title in Facet Number from the title in standard terms by translating the Basic Class Facet and every other facet into its Basic Class Number or the Isolate Number, as the case may be. This is done with the aid of the classification schedules.

When any isolate is new, that is, not available in the schedule, its isolate number is constructed with the aid of the principles.

Step 7: Class number (got by removing the symbols of analysis and inserting the appropriate connecting symbols between the facet numbers in accordance with the Rules).

Step 8: Translate the synthesized class number into natural language by way of verification. In this step, carry out facet analysis of the Class Number, giving a digit by digit interpretation and verifying the correctness of the number.

Steps 0 to 4 deal with the work in the idea plane. Step 5 deals with the work in the verbal plane. Step 6 and 7 are concerned with the notational plane. Step 8 involves the examination of work in all the planes. Step 0 shows the title as it appears on the document. Under Step 1, adding the name of the main subject, if it is not included in the title and break the compound terms into their constituent terms. Under Step 2, it shows only those terms which denote kernel idea by removing other meaningless words like the auxiliary words -of, in, for, etc. The words that are used in a natural language do not require translation in the artificial language, and are omitted. In Step 3, the Kernel ideas represented by their respective terms are analysed into categories (finding out who is what). They are branded according to the postulates. Under Step 4, these terms are arranged in a sequence of concrete to abstract, about which the postulate exists. Under Step 5, the non-standard terms are replaced by the terms adopted in the scheme of classification. Under Step 6, each term is translated into numbers. In Step 7, the various isolate numbers are connected with each other by the symbols prescribed by the postulates. Lastly, Step 8 examines the entire process in the light of the postulates.

Example: Feeding of Cattle in India

Step 0: Raw Title

Feeding of Cattle in India

Step 1: Full title

Feeding of Cattle in India in Animal Husbandry

As the name of the main class was missing in the raw title, it has been added under this step.

Step 2 : Kernel Title

Feeding Cattle India Animal Husbandry

The words 'of' and 'in' are auxiliary words. They are not necessary for depicting the specific subject of the document. Hence, they are omitted

Step 3 :Analysed title

Feeding [E] cattle [P] India [S] Animal Husbandry (BC)

Feeding is an activity, hence the manifestation of Energy; Cattle is a group of animals, hence the manifestation of Personality, India is a geographical unit, hence the manifestation of Space; Animal Husbandry is a recognized basic class.

Step 4: Transformed Title

Animal Husbandry (BC) Cattle [P] Feeding [E] India [S]

The postulates prescribe that the BC will come first of all and the sequence of facets will be PMEST. As [M] and [T] are absent the sequence maintained is [P] [E] [S].

Step 5: Title in standard form

Animal Husbandry (BC) Cattle (P) Feeding (E) India (S)

All the terms used are standard terms. Therefore, there is no need for replacing them.

Step 6: Title in Numbers

From CC (6th ed.)	KX (BC) 2 [P] 1[E] 44 [S]
From DDC	636(BC) 2(P) 084 (E) 0954 (S)

Step 7: Synthesised Number

CC (6 ed.)	KX 2: 1.44
DDC	636.208 40954

In CC, colon (:) was used to connect 1 of [E] and Dot (.) was used to connect 44 of [S]. In DDC, dot (.) is used to connect 2 (P) and 0 (zero) is used to connect 954 of (S). In 7 edition of CC semi colon (;) has been used to connect [MP] and Dot (.) is used to connect [S].

Step 8: Verification by reverse translation **CC (6 ed.)**

KX	is	Basic Class
2	is	Personality facet
1	is	Energy facet
44	is	Space facet

Meaning thereby 'Feeding of cattle in India'.

DDC		
636	is	Basic class
2	is	Personality facet for cattle
084	is	Problem facet for feeding
0954	is	Space facet

Meaning thereby 'Feeding of cattle in India'.

2.1.3 Call Number

Besides the notation in a classification scheme, library material should also include an author indicator, i.e. the first three alphabets of an author's surname. Some libraries may also add a title indicator, date of publication, and/or a copy number. All these elements together, form a Call Number.

The purpose of the call number is to provide the address for an item acquired by the library. This address is where the staff will shelve the item, and where the user can look for the item. The call number also allows a user to browse the collection, to find the available items on any given topic. The idea of creating the call number for each item in the library is that each item can have a unique address. It is the cataloguer's job to determine the specific focus of the item being catalogued, and group the various material dealing with the same topic together. It, thus, creates an organized and accessible collection.

The call number of a document consists of three parts

(i) Classification Number/Class Number

(ii) Book Number

(iii) Collection Number

Therefore, we can say

Call Number = Class Number + Book Number + Collection Number

2.1.3.1 Class Number

The class number of a document is an ordinal number representing the position of a class in a scheme of classification used in a library and also represents the subject matter of the document. The purpose of classification is to bring related items together in a helpful sequence from the general to the specific. There are several schemes of library classification available. The one used most widely in the libraries is the Dewey Decimal Classification (DDC). A classification scheme of Indian origin, is the Colon Classification.

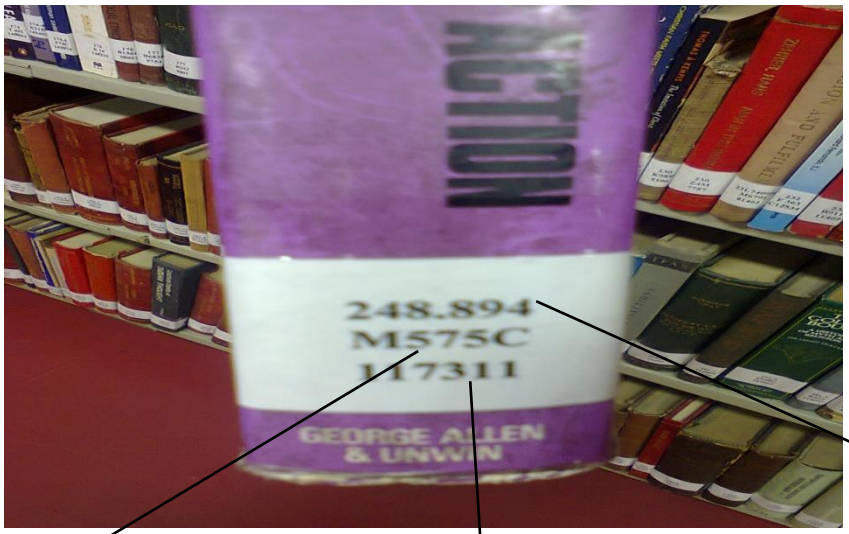
2.1.3.2 Book Number

A book number is the ordinal number which fixes the position of a document in a library, relative to the other documents belonging to the same class. The book number adds a further detail to the book. It is usually constituted from the author's name.

2.1.3.3 Collection Number

The collection number is a symbol denoting any special characteristics (size, physical form, or class of users, and so on.) of a group of books, with which the books may be separately located. In other words, the mark added to the class number and book number of a book to indicate a collection, is called the collection number. The following is a sample schedule for Collection Number:

Nature of Collection	Collection Number
Under-size	Underline book number
Oversize	Over line book number
Rare Book	RB
Text Book	TC
Film Strip	FS



Classification Number

Book Number **Accession Number**

2.1.4 Summary

2.1.5 Exercise

2.2.1 Types of Authors

2.2.1.1 Personal Author:

Definition: A personal author is the person chiefly responsible for the creation of the intellectual or artistic content of a work. For example, writes of books and composers of music are the authors of the work they create; compilers of bibliographies are the authors of those bibliographies; cartographers are the authors of their maps; and artists and photographers are the authors of the works they create. In addition, in certain cases performers are the authors of sound recordings, films and video recordings.

General rules: Enter a work by one or more persons under the heading for the personal author (see definitions), the principal personal author, or the probable personal author. In some cases of shared personal authorship (see --) and mixed personal authorship, enter under the heading for the person named first. Make added entries as instructed in 21.29-21.30

2.2.1.2 Corporate Author:

Definition: A corporate body is an organization or a group of persons that is identified by a particular name and that acts, or may act, as an entity. Consider a corporate body to have a name if the words referring to it are a specific appellation rather than a general description. If in a script and language using capital letters for consistently capitalized and /or if, in a language using articles. The words are always associated with a definite article, consider the body to have a name. typical examples of corporate bodies are associations, institutions, business firms, nonprofit enterprises, governments, government agencies, projects and programmes, religious bodies, local churches, and conferences.

2.2.2 Subject Heading

The important function of a library catalogue is to provide access to documents in a library through their subject contents. In other word, subject headings are created for use in cataloguing and it reflect the topics covered in a given collection. A classified catalogue facilitates subject approach to documents in a library and the dictionary catalogue provides an alphabetical subject index through verbal subject representation of the content of documents. Subject headings for the document are constructed following their own designed, developed standard of rules and procedures. The subject heading systems commonly used by most

libraries and bibliographical publications are Library of Congress Subject Headings (LCSH) and Sears List of Subject Headings (SLSH).Subject headings authority lists is a lists of authorised controlled vocabularies or terms arranged in alphabetical order to provide access to the subject of documents. The subject terms are readymade and mainly pre-coordinated headings where these are selected as needed by the cataloguer and are attached to the catalogue record of each item.

Subject headings authority lists helps to ensure that the same heading is assigned to all works on the same subject. When existing subject headings are revised or new headings are added, cross-references often serves as the source for verification and validation of subject headings to individual cataloguing records for uniformity, consistent and current terminology. Thus, cross-references guide users to related headings and retrieve useful records.

Sears List of Subject Headings (SLSH)

Sears List of Subject Headings (SLSH) is an abridged version of the Library of Congress Subject Headings. SLSH was named after Minnie Earl Sears who compiled a list of subject headings in response to demands more suitable to the needs of the small library. List of Subject Headings for Small Libraries was first published in 1923. H.W. Wilson Company published the SLSH which incorporate the new headings or changes in old headings. SLSH is widely used in the world by general libraries.

Formation of Subject Headings

SLSH like Library of Congress Subject Headings (LCSH) is an enumerated list of subject headings. In order to provide subject headings, the cataloguer has to only navigate through the standard list of subject headings like SLSH, and select the most appropriate heading which matches the contents of the documents being indexed.

The headings, terminology and subdivisions used in SLSH, is similar to the pattern and practice of LCSH, with some modifications to serve the needs and requirements of small and medium libraries. The principles that guide the indexers in the choice and rendering of subject headings in SLSH are ‘Specific Entry’, ‘Common Usage’ and ‘Uniformity’.

a) **Specific Entry:** A work should be entered under the most specific subject heading which accurately and precisely represents the content of the book. If a reader wants a book about bridges, the direct approach is to consult the catalogue under the heading

Bridges, not under the large topic **Engineering**, or even the more restricted field, **Civil engineering**.

b) **Common Usage:** The subject heading chosen to express the contents of the document should be popular or common usage as preferred over scientific or technical names. A reader in a small public library will look under **Birds**, not **Ornithology**.

c) **Uniformity:** One uniform heading must be selected from several synonyms, and this heading must be applied consistently for the same topic. China, Chinaware, and Porcelain are all entered under **Porcelain**.

(1) Single Word Heading (Single Noun)

The simplest form of subject heading consists of a single noun. Examples: **Art, Birds, Flowers, Tools,** etc.

Homonyms Headings

These headings are differentiated by providing a contextual meaning of the word.

Seals (Animals)

Seals (Law)

Singular and Plural Headings

Choice must be made for used of singular (abstract ideas) and plural (objects and things) forms of single words as headings, as they carry different meanings.

Painting - - - - - - - - - - - refers the art.

Paintings - - - - - - - - - - refers to the object.

(2) Phrase Headings

Sometime the subject content of the document can be expressed only by more or less complex phrases. The different types of phrase headings recognised in SLSH are as follows:

Adjectival Phrase Headings

A noun is qualified by an adjective to get the specific concept of the subject.

American literature

Electric engineering

Prepositional Phrase Headings

Some concepts can be expressed only by more or less noun phrases connected by prepositions.

Freedom of information
Information storage and retrieval systems
Medicine as a profession
Women as physicians

(3) Compound Headings

The compound headings used two nouns joined by ‘and’ to connect or express a relationship between two subjects which cannot be separated easily in concept and which are usually treated together in books.

Boats and boating
Religion and science
Good and evil
Joy and sorrow

Subdivisions

Examples of Form subdivisions:

Geology-Maps
Chemists-Directories
Bible-Pictorial works
Cross-References

Examples of subdivisions subject headings from a particular point of view:

Education-History
Religion-Philosophy
Radio-Laws and regulations

Examples of Chronological subdivisions:

United States-History-1945-1953

Examples of Geographic name subdivisions – Subject divided by place:

Agriculture-India

Music, Spanish

Examples of Geographic name subdivisions – Names of Places subdivided by subject:

India-Census

Italy-History

China- Climate

Cross-References

With the SLSH 15th edition, 1994, 'x' (See ref.) and 'xx' (See also ref.)was replaced by thesaurus symbols such as UF (Used For)/USE, SA (See Also), BT (Broader Terms), NT (Narrower Terms),and RT (Related Terms). Below is a sample heading from the SLSH.

Card games

UF	Cards, Playing
	Playing cards
SA	names of card games, to be added as needed
BT	**Games**
NT	**Bridge (Game)**
	Canasta (Game)
	Card tricks
	Solitaire (Game)
	Tarot
RT	**Gambling**

The three types of cross-references used in SLSH are discussed below:

1) Specific "See" References

   The UF label stands for "Used for" and it designates those unpreferred terms or phrases for which the subject heading is used instead. Such words and phrases might include the following:

   (a) Synonyms or terms so nearly synonymous; e.g Cards, Play *see* **Cards games**

   (b) Compound heading; e.g Evil and good *see* **Good and evil**

   (c) Inverted form of a heading, when the noun is preceded by an adjective; e.g Education, Adult *see* **Adult Education**

   (d) Variant spellings; Colour *see* **Color**

   (e) Opposite of a term; Intemperance *see* **Temperance**

   (f) Singular of a plural term; Mouse *see* **Mice**

2) Specific “See Also” References

As a rule, a term has only one broader term, unless the term is an example or aspect of two or more things. Following the BT label is a term ‘Games’ that a broader in application than the main heading term ‘Card games’. The reference entry in the catalogue will be **Games** See also **Card games.**

Following the NT label are terms that are narrower than the main heading. The reference entries in the catalogue will be

Card games

See also

Bridge (Game)

Canasta (Game)

Card tricks

Solitaire (Game)

Tarot

Following the RT label are terms related to the main term, on similar or associated subjects. Related terms are of more or less equal specificity, neither broader nor narrower. The term **Card games** is related to **Gambling** because not all card games involve gambling and not all gambling involves card games. Reference entry will be **Card games** *See also* **Gambling.**

3) General References

The SA stands for “See also” and introduces a “General Reference”, not to a specific heading but to a general group or category of things. In the example of **Card games** given above, the “SA” label introduces the general reference to “names of card games, to be added as needed”. This instruction provides reminder to the cataloguer not to be limited to the examples of card games given in the SLSH. In above example, there happen to be three card games appearing in the NT field under **Card games**, but if the library acquires a work devoted to the card game **Rummy (Game)**, then the reference entry will be **Card games** *See also* **Rummy (Game).**

Entry Format and Filing Order

The SLSH remains an alphabetical subject heading list and has adopted thesaurus format to help cataloguer to distinguish relationships among terms and to establish appropriate references in the public catalogue based upon these relationships.

Like LCSH, the subject entries in SLSH are printed in boldface and the cross-references terms appear in light faces. SLSH follows the ALA Rules for Filing where all punctuations marks are ignored.

Sears List of Subject Headings is fairly much simpler to use than the Library of Congress Subject Headings. As the rules and principles used in SLSH follow the same pattern as LCSH, it becomes easy for a library to change over to Library of Congress list when the library collection becomes large enough. As SLSH does not backed any library collections, so updating and revision of subject headings cannot keep pace with changing current terminology and growth of new subjects.

2.2.3 Machine Readable Catalogue: MARC21-(Latest Edition)

MARC (**Ma**chine-**R**eadable **C**ataloging) **standards** are a set of digital formats for the description of items catalogued by libraries (such as books). It was developed by the US Library of Congress during the 1960s to create records that could be used by computers, and to share those records among libraries. By 1971, MARC formats had become the national standard for dissemination of bibliographic data in the United States, and the international standard by 1973. There are several versions of MARC in use around the world, the most predominant being MARC 21, created in 1999 as a result of the harmonization of U.S. and Canadian MARC formats, and UNIMARC, widely used in Europe. The MARC 21 family of standards now includes formats for authority records, holdings records, classification schedules, and community information, in addition to the format for bibliographic records.

MARC 21 Format for Bibliographic Data is designed to be a carrier for bibliographic information about printed and manuscript textual materials, computer files, maps, music, continuing resources, visual materials, and mixed materials. Bibliographic data commonly includes titles, names, subjects, notes, publication data, and information about the physical description of an item. As its name suggests the format aims to meet the challenge of the 21st century.

A MARC record involves three elements: the record structure, the content designation, and the data content of the record. These are described below:

Record Structure: The structure of MARC records is an implementation of national and international standards, e.g., Information interchange format (ANSI Z39.2) and format for information exchange (ISO 2709).

Content Designation: Content designation, the codes and conventions established to identify explicitly and characterize further the data elements within a record and to support the manipulation of those data, is defined in the MARC 21 formats.

Data Content: The content of most data elements is defined by standards outside the formats, e.g., Anglo-American Cataloguing Rules, Library of Congress Subject Heading, and National Library of

Medicine Classification.

A MARC 21 format is a set of codes and content designators defined for encoding machine-readable records. Formats are defined for five types of data: bibliographic, holdings, authority, classification, and community information.

Bibliographic Data Format: It contains format for encoding data elements needed to describe, retrieve and control various forms of bibliographic material. It is defined for books, serials, computer files, maps, music, visual materials and mixed material.

Bibliographic format blocks

0xx=Control information, numbers, codes

1xx= Main entry

2xx= Title, edition, imprint

3xx= Physical description, etc.

4xx= Series statements

5xx= Notes

6xx= Subject access fields

7xx= Name, etc. added entries or series

8xx= Series added entries; holding and locations

9xx= Reserved for local implementation

Holding Data Format: It contains format specification for encoding data elements pertinent to holding and location data for all forms of material.

Holding format block

0xx= Control information, numbers, codes

1xx= Not defined

2xx= Not defined

3xx= Not defined

4xx= Not defined

5xx= Notes

6xx= Not defined

7xx= Not defined

8xx= Holdings and location data, notes

9xx= Reserved for local implementation.

Authority Data format: It contains format specification for encoding data elements that identify or control the content related to authority control.

Authority format blocks

0xx= Control information, numbers, codes

1xx= Heading

2xx= Complex see references

3xx= Complex see also references

4xx= See from tracing

5xx= See also from tracing

6xx= Reference notes, treatment, notes, etc.

7xx= Heading linking entries

8xx= Not defined

9xx= Reserved for local implementation

Classification Data format: It contains format specification for encoding data elements related to classification numbers and caption associated with them.

Classification format blocks

0xx= Control information, numbers, codes

1xx= Classification numbers and terms

2xx= Complex see references

3xx= Complex see also references

4xx= Invalid number tracing

5xx= Valid number tracing

6xx= Notes

7xx= Index terms and number building fields

8xx= Miscellaneous

9xx= Reserved for local implementation

Community Information Format: It provides format specification for records containing information about events, programs, services, etc. so that this information can be integrated into other public access catalogues as data in other record types.

Community information format blocks

0xx= Control information, Numbers, Codes

1xx= Primary names

2xx= Titles, Addresses

3xx= Physical information, etc.

4xx= Series information

5xx= Notes

6xx= Subject access fields

7xx= Added entries other than subject

8xx= Miscellaneous

9xx= Reserved for local implementation

A MARC record consists of three main sections: the leader, the directory and the variable fields.

The Leader

It consists of data elements containing coded information and it is identified by relative character position. The leader is fixed in length in a string of 24 characters, 00 to 23. It occurs in the beginning of each MARC record.

The Directory

It contains the tag, starting location, and length of each field within the record. It serves as road map of the data contents area. Directory information is dynamically gathered and stored in a place between the Leader and the Data contents sections. The Directory is generated programmatically by computer for locating data fields with the help of their address, which is a string of 12 numeric characters. The size of directory area varies depending on the number of times the address repeats in the directory. The directory ends with a field terminator character.

Variable fields/Data Content

The data content of a record is divided into variable fields. MARC 21 format describe two types of variable fields, viz. variable control fields and variable data fields. Control and data fields are distinguished only by structure. The data fields are separated by the field terminator which is a pre-determined special character such #, @, etc. The data content resides in the final section of a Record, and ends with the Record Terminator.

Variable fields and Tags

- The data in a MARC record is organized into fields, each identified by a three – character tag.
- The MARC 21 formats use only numeric tags.
- The tag is stored in the directory entry for the field, not in the field itself.
- Variable fields are grouped into blocks or according to the first character of the tag, which identifies the function of the data within a record, e.g., main entry, added entry, subject entry. The type of information in the field, e.g., personal name, corporate name, or title, is identified by the remainder of the tag.

Variable control field

- The 00x field in the MARC 21 formats are variable control field.
- It consists of data and field terminator. It does not contain indicators and sub-field codes.
- It contains either a single data element or a series of fixed length data elements identified by relative character position.

Variable data field

- All fields except 00x are variable data fields.

- Following four levels of content designation are provided for variable data fields in ANSI Z39.2:
    - A three character tag, stored in directory entry
    - Indicators stored in the beginning of each variable data field
    - Sub-field codes preceding each data element
    - A field terminator following the last data element in the field

MARC 21 Format

MARC Format involves the logical record structure, the content designation and the data content. Content designators, field tag, Indicator 1 and 2, and sub-field code, all contribute to a computer's performance in reading the content of a bibliographic record meaningfully.

Field Tag: The Field Tag is a three digit code meant for a particular type of data. For example, Tag 100 stands for main author.

Indicators:

There are two Indicators, viz. Indicator 1 and Indicator 2. These provide supplementary information about the field content. Each indicator holds single -character code. The code may be a numeric or a lowercase alphabetic character or a blank space. Use of a blank (#) indicator is inconsistent.

Subfield Code: It identifies data elements within a field for enabling the computer to manipulate each one separately. It is composed of a sub-field delimiter and a Data Element identifier. A delimiter's function ends with passing a signal to computer predicting the presence of a Data Element Identifier, while Data Element Identifier is a Code.

Example

245	Title Statement	NR
$a	Title Proper/Short Title	NR
$b	Remainder of Title	NR
$f	Designation of Vol./Issue and /or date	NR
$h	Medium	NR
$6	Linkage	

Examples of sub-field codes with Dollar Sign as subfield delimiter.

Variable Control Fields

The first block of fields is made under tag 00X that, contains Variable Control Fields, e.g., 001 is control number.

Variable Data Field

All fields except 00X are variable data fields. These fields consist of indicators, one or more sub-field codes, Variable data and a field terminator. The primary groupings of variable fields

are as follows:

0XX = Control information, numbers, Codes

1XX = Main entry

2XX = Titles, edition, imprint

3XX = Physical description, etc.

4XX = Series Statements

5XX = Notes

6XX = Subject access fields

7XX = Name, etc. added entries or series, linking

8XX = Series added entries; holding and location

9XX = Reserved for local implementation

All fields are not required by every library. Therefore, a policy may be formed to concentrate on a set of relevant fields, indicators, subfields. The minimum required fields for book cataloguing may look something like the following:

020 ISBN

040 Cataloguing Source

09X Local call number

100 Personal Name – Main entry

110 Corporate Name – Main Entry

130 Uniform Title – Main entry

240 Uniform Title

245 Title of the work

246 Varying form of title

250 Edition Statement

260 Imprint, Publication, Distribution

300 Physical Description

440 Series Statement/Series Title Added entry

500 General Note

504 Bibliographic Note

505 Formatted contents Note

520 Summary Note (abstracts, etc.)

59X Local Notes

600 Subject Added entry – Personal

630 Subject Added Entry -Uniform Title

650 Subject Added Entry – Topical

651 Subject Added Entry – Geographic

69X Local Subject Access field

700 Personal Names – Addition Access Point

710 Corporate Name – Addition Access Point

730 Uniform Title – Addition Access Point

9XX Local data Elements

Example:

010		91-12500/Ac
020		0452010616: # C $ 9.95 ($12.99 cm)
082		00822.33
100	1	Westall, Robert
245	14	The kingdom by the sea/ #c [by] Robert west all
250		1st American ed.
260		New York: # b Farrar Straus Giroux, # c 1992, e 1990
300		175P; # c 21cm 520 During World War II, twelve year old Harry and a stray dog travel through war-torn England in search of safety
650	1	World war, 1939-1945 # Z England # v Fiction
650	1	Dogs # V fiction

Chapter 3

Unit 1 Library and Information Services: An Overview

- **Types of Reference Services**
    - **On demand and in anticipation**
- **Ready Reference Services**
- **Long Range Reference Services**

Unit 2: Library & Information Services: ICT Applications

- **Modern Library & Information Service**
    - **Electronic reference service**
- **Emerging Trends**

3.1.1 Reference Services

Reference and Information Services

To meet informational needs of the users, libraries provide a range of services referred to as Reference and Information Services. Reference service are concerned with direct personal assistance to the users seeking information. They cover services such as assistance to the users in the use of the library and its tools, assistance in searching and locating documents, ready reference, and long range reference service, literature search and compilation of bibliography.

On the other hand, information services are provided in anticipation of various needs of the users of libraries. The current awareness services, indexing, and abstracting service are included in this category. These services are provided to users when they ask for it. The factors which affect the nature of services depend on the information-seeking behaviour, the information needs, and the service expectations of the targeted community. There are a number of ways by which a library can provide information services including direct personal assistance or reference service and referral services where the user is directed to the source, reader's advisory services, document delivery services and many other services designed in anticipation of user needs such as current awareness services, Selective Dissemination of Information (SDI), etc. There are value added information services like information repackaging (particularly in the field of business and science), subject analysis and information analysis, citation analysis, abstracting, translation, etc.

Types of Information Services

The variety and number of information services and products provided by modern libraries and information centres are quite large in the present era of information and knowledge explosion. The surge in knowledge creation and consumption happens in basic and interdisciplinary fields of technology, development, industry, marketing, trade and research and calls for an increase in personalized services.

Reference and Information Services may be categorized as :

i. Responsive services or services on demand, and
ii. Anticipatory services

Responsive information services, also known as **passive information services**, are provided in response to the requests from the library users. **Anticipatory information services,** also known as **active information services** are provided in anticipation of the needs of the library users.

The following features and some of the important information services provided by libraries under these categories are discussed in the following sections

Responsive Information services

An information service provided in response to an expressed demand by the user is called a responsive or on demand information service. Here, the user requests an information professional to search and find out the specific information that he/she needs. A brief description of important responsive information services provided by a library is given below.

Reference Services

The concept of reference service was formulated in 1876 by Samuel Swett Green, librarian of Worcester Free Public Library in Massachusetts. In an article published in Library Journal, he advocated personal assistance and service by librarians to library readers. The purpose of reference service is to facilitate access to information. This is a highly personalized service, where the librarian interacts with the users in a one-toone manner and provides access to the information. According to Dr. S. R. Ranganathan, "reference service is the establishing of contact between reader and book by personal service". The concept will get clearer when we understand the role of the library professional or the reference librarian, who delivers the reference service. Green's original paper suggested a reference librarian as the one who teaches people how to use the library resources, answers reader's questions, aids the reader in the selection of good books and promotes the library within the community.

Joan M. Reitz, in her "Dictionary of Library and Information Science" defined reference service as, "including but not limited to answering substantive questions, instructing users in the selection of appropriate tools and techniques for finding information, conducting searches on behalf of the patron, directing users to the location of library resources, assisting in the evaluation of information, referring patrons to resources outside the library when appropriate, keeping reference statistics, and participating in the development of the reference collection."

Reference services delivered by a library depend on the local situation, traditions, kind of users, size, resources and the organizational and administrative philosophy followed by the library. The nature of service also varies from one type to another type of library. The reference services may be divided into three categories.

A. **Basic services:** There are several essential and minimum reference services that a library should perform. These include:

a) Provision of general information (e.g., queries like "where is periodical section?")

b) Provision of specific information (consulting the documents)

c) Assistance in the location and searching of documents (locating on the shelf and if not available, then searching in other places)

d) Assistance in the use of library catalogue

e) Assistance in the consultation of reference books, etc.

B. **Services performed on regular basis:** The reference services usually performed in a library are:

a) **Readers' advisory service:** This is the process of recommending sources to library users based on their needs/queries. The reference librarian chooses a source which may be a book, journal, database, or website based on his/her skills, expertise and the nature of user's query.

b) **Inter-library loan and document delivery:** Inter-library loan is the process of sharing materials between libraries. The libraries under a consortium or a mutual agreement may loan a physical item in original or a partial copy of it and deliver the same to the requesting library for a specific period of time based on certain established codes and copyright guidelines.

c) **Reservation of documents:** This service allows a user to reserve an item of the library that has been loaned out to another user. When the item is returned, the user who reserved the same is informed and allowed to borrow it.

d) **User Education (instruction):** User education deals with educating the user about the use of library facilities and services. In other words, this is a methodical approach to teach the users as to how to use the library effectively. There may be user education programmes on the general use of library and the use of library tools like catalogue, bibliographies, reference books, etc. Library orientation, which is given in the beginning (initiation of a freshman), is also a part of user education. But, user education is treated as a continuous service.

e) Compilation of Bibliographies: This service may be on demand or in anticipation. This service will significantly help students and researchers.

f) Bibliographic verification and citations: This is the process of reading, identifying, and interpreting citations to information sources, including books, manuscripts, journals, theses, web pages, or any other form of publication. During this process of verification, the reference librarian frequently finds other reference sources that cite the same publication, correct errors, and determines where to find the preferred information.

g) Indexing and abstracting services: This service is mostly performed by special libraries. The abstracts and indexes of acquired publications may be prepared locally at the library .The intended users can refer to these services to find the required information.

h) Subject specialists: Subject specialist reference librarians are now common in large and special libraries. They are specialists in specific subject fields or disciplines who select material for the collection as well as assist users with specialized research requirements. These service providers work closely with researchers and handle very complex questions.

i) Ready reference: This service is particularly important for public libraries, where factual answers to highly specific queries are provided. (e.g., “What is the population of New Delhi?”).

j) Library Tour: This is a reference service given to a library visitor or a new member to understand the resources and services. The member is taken around the library under the guidance of a professional/instructor.

k) Holding of library exhibitions: Exhibitions and displays are important services to attract users' attention towards new additions or previously unknown resources.

l) **Issue of permits for library use:** This involves issuing of permits to nonmembers of the library to use the library for a certain period of time.

m) **Maintenance of clippings and vertical files:** Clippings prepared from newspapers, magazines and pamphlets and vertical files containing pamphlets, prospectuses, reports, press clippings, etc., are sources of information having special importance.

n) **Preparation of library publications:** Bringing out publications like handbooks, user guides/manuals, newsletters, bibliographies, indexing and abstracting documents, etc., and assisting other departments in their publishing activities, is an important reference service.

C. Services performed sometimes

These are information services not always provided by the library but only when the users demand. They are:

a) Display/list of current periodicals

b) Maintenance of special files

c) Reproduction of documents (Photocopying, CD/DVD writing, microfilming, etc.)

d) Translation service: Translation is a process of transforming precisely the information contents of the text from one language into another language.

ii. Referral Service

Referral service is referred to a prospective user of information source. The Concise Dictionary of Library and Information Science defines referral service as a "service which, if unable to provide the information required, refers the enquirer to another potential source or service". The distinction between a reference service and a referral service is that, in the former, the user is actually provided with the required document or information but in the latter (referral) the user is directed (referred to) the sources such as secondary publications, professional organizations, information units, research organizations or individual specialists. A referral service guides a user where to search for a resource which is presently not available in the library.

iii. Literature Search Services

Literature search service is an extension of reference service. The process of literature search starts with the library professional first understanding the nature, scope, depth and exact area of enquiry of the user by a user interview. Assessment of these indicators decides whether the search is for specific information, or for a few select references or for a comprehensive bibliographic information (mainly for research). This is followed by the formulation of a search strategy for searching different information sources. Knowledge of the subject area of search is beneficial for the librarian here. Traditionally, books, journals, theses, etc. and in modern parlance online databases, CD-ROM databases and web sites are considered as the most important sources for literature search service.

Anticipatory information Services

An information service provided for anticipating a user's needs is called an anticipatory information service. The important services under this category are given below:

i. Current Awareness Services (CAS)

The meaning of the term "current awareness" is the knowledge regarding recent developments in a subject area of special interest to an individual. The process of current awareness function includes the reviewing of newly available resources relevant to the user community or pertinent to the programme of the organization and the selection and organization of individual items which must be brought to the attention of the user. The means for delivering this service varies depending upon the type of library. This service is concerned with the dissemination of latest information to a specialist to keep him/her up to date and well informed.

Finding relevant information has become more and more difficult for a professional, particularly in the field of science and technology. The exponential growth of scientific and technical information makes it impossible for the users to examine the information comprehensively. The need and relevance of CAS comes into effect at this point. The CAS enables the researchers to keep them up-to date and well informed. The information products delivered periodically by the libraries under CAS keep the researchers abreast of the recent developments in their field of study or work and save their valuable time. This is a perfect example of an anticipatory information service which draws a user's attention to latest trends/developments in a specific area of interest.

Current Awareness Services have two categories:

a. **CAS directed towards individuals or group of users:** This type of CAS includes communication of information to individuals or groups through informal conversation or by telephone or mobile phone; through electronic messages (SMS), messages sent on notification form, selective dissemination of information (SDI), selective dissemination of documents, routing of documents (periodicals), etc.

b. **CAS directed towards all users of the services:** This includes accession lists (new arrivals), bibliographies, indexing and abstracting services, literature surveys, bibliographic surveys, table of contents of periodicals, etc. The end products are current awareness bulletins which may include all the above elements.

The systematic ways to deliver a CAS are:

(i) Reviewing or scanning of documents regularly and focusing on a desired subject.

(ii) Selecting information and recording individual documents, and

(iii) Sending notification to the users about items of information of their interest.

The selected information is recorded and delivered by suitable means, such as (i) telephone calls or personal visit by the library professional; (ii) Written messages sent on notification

forms or post to call at the reference desk; (iii) routing of periodicals, selective dissemination of documents and users; (iv) preparation and publishing of library bulletins; (v) display, and (vi) view data.

iii. Selective Dissemination of Information (SDI)

The concept of Selective Dissemination of Information was originally given by Hans Peter Luhn in 1958. Selective Dissemination of Information (SDI) is a highly personalized service. It is a method of supplying each user or a group of users with references of documents or abstracts relating to their pre-defined areas of interest selected from documents published recently/received during the period in question. This service saves the user the effort and time of having to scan through a number of publications, and to choose the documents of interest to him. The basic concept behind SDI is the matching of information/documents with the profile of each user or group of users with same interest. A user profile and document profile are two important components of the SDI service. Then the matching items are brought to the attention of the user. The same activity can be performed effectively with the help of a computer. Commercial mechanized SDI services are available in highly information rich fields like science and technology.

During the process of SDI, the `user profile' which comprises of a set of `key words' organised as meticulously as the 'system' permits, describe the subject of interest, in accordance with the keywords that appear on the documents. A document is selected when two key words coincide. In an automated environment, once a search profile of the user is created and saved, relevant information is sent to the researcher automatically (and the selected databases/catalogues are updated). The effectiveness of an SDI service depends on the completeness or comprehensiveness of the user profiles and the relevance of the information; which are to be matched with each other. The SDI is considered as one of the best current awareness services available at present.

Ready Reference Services

This is another important category given to the practicing librarians leading towards the development of reference services and process. Here again Ranganathan worked in detail about the ‘What’, ‘Why’ and ‘How’ of Ready Reference Services, what is also called as short Range Reference Services in view of the time involved. Ready Reference Services requires a good knowledge of reference sources. He has established how the preparation and assimilation help the reference librarian in effectively providing this service to the generalist users in minimum time.

Long RangeReference Services

The fourth category of reference service (including its process) is the Long Range Reference Services, and Ranganathan has told about its 'What', 'Why' and 'How' to provide this service to the specialist users, particularly in research and special libraries. Reference service for serious studies will require a good bibliographical mastery and familiarity with the developments in the universe of subjects.

Thus he has developed the concept of reference service in detail, and elaborated various methods of giving the service in the form of 'What', 'Why' and 'How'. He also described the "idiosyncracies of readers" as well as those of books, and these types have already been recognised by the reference librarians the world over. These have also necessitated, indeed, the rendering of reference service itself.

Ranganathan's concept of Long Range Reference Services has been his unique contribution in the development of reference service, as it is the result of the implication of the fifth Law of Library Science. When one studies reference service of this kind in relation to the Fifth Law, it comes to the mind that Ranganathan had perceived about the rate of information explosion, which many scholars, including De Solla Price, studied much later.

Difference BetweenReady Reference and Long RangeReference Services

Ranganathan's basic contribution, however, lies in drawing a line of demarcation between the Ready Reference Services and the Long Range Reference Services which otherwise seems quite indefinite and elusive. He has recognised their distinguishing features, and the basic difference between the two lies in respect of the following points:

a) The time involved
b) The material used and
c) The nature of information sought

It is the general practice to classify queries into quick or ready reference and long range reference queries. A quick reference query is one the answer to which can be found readily in a directory, yearbook or other reference material. A long range reference query is one, the answer to which can be found only by consulting several reference works or source and which therefore takes a longer time to answer. A long range reference query becomes a ready reference one when it is repeated a second time, since the answer is now readily available.

Value To The User

In such a classification we are using as the yard – stick of measurement, the length of time taken to provide the answer and the range of reference material in which the information was sought. But we do not have any means of judging the value to the enquirer of the answer provided. Merely because an answer takes longer or is more difficult to find, it cannot be assumed that its importance is greater. A small piece of information out of a reference book provided when it is most needed may prove of vital importance to the inquirer.

Unit 2: Library & Information Services: ICT Applications

Modern Library & Information Service

Modern library and information services have been profoundly affected by the emergence of a large number of information and communication technologies and tools. Exponential growth of digital/electronic information spearheaded creation of new information products which in turn demanded new user services. The rise of Internet as a gigantic store house of information has set challenges as well as opportunities before the libraries and information centres. Web based information services take prominence as the quantity of global population which has access to Internet increases day by day. The changing preferences of today's users from print to digital/online and real-time information tend the libraries and information centres to redesign their traditional services by incorporating web based tools or developing innovative services based on these technologies.

Modern trends in library and information services can be listed under three categories:

I. Web-based library and information services

II. Services to electronic/digital/web resources, and

III. Services to local/internal digital resources

The features of the various fast developing library services will be discussed in the following sections.

Web-based/Electronic Library and Information Services

'Web' is a synonymous and popular term of World Wide Web (WWW) or Internet. The traditional method of offering library and information services has changed greatly in recent years because of the development and applications of new technology, especially the Internet and Web Technologies. The demands and expectations of users have also changed considerably. In the changed scenario, the academic libraries in India are offering new web-based library services to satisfy the users.

For this unit, "Web –based library services means library services provided using Internet as medium and library website as a gateway with the help of integrated library management systems (Madhusudhan, Nagabhushanam 2012)". In simple words, web-based library services that are modified versions of existing services and technology-driven library services (Arora, 2001). The history of web-based library and information services began in 1960s by the introduction of computers in libraries for information processing, which resulted in the creation of bibliographic databases like MEDLARS in 1963, BLAISE (British Library Automated Information Service), and the formation of online library networks, like OCLC.

In the following sections, some of the major web-based library and information services will

be discussed.

i. Library Web Portals

A library web portal is a website that offers access to a broad range of information resources and services, such as online catalogues, e-journals, databases, information on new additions, programmes, etc. It acts as a gateway to the libraries web/online resources and services. Web portals have replaced the earlier static library websites, which had limited features, and now have become more interactive and user-friendly.

ii. Web OPAC and Next Generation Catalogues

Web OPAC is an Online Public Access Catalogue made available on the web. It offers the user with a 24x7 access to the library catalogue. The user can search the library catalogue and find the availability of library holdings. Simple and advanced search options are available and many of the webOPACs offer online renewal and reservation facilities to the members. A Next Generation Catalogue, also termed as Catalogue 2.0, is a single point of entry for all the library information. Here, 'information' refers to all library resources, including all bibliographic information on printed books, journals, multimedia documents but also links to full text electronic databases, digital archives, and any other library resources. These new generation catalogues use federated search engines for this one-stop searching. The users are directed to electronic and printed resources which are linked together on a single interface. Other features of the next generation catalogues are, state of the art web-interface, which is intuitive and visually appealing, enriched content (images of book covers, CD cases, book summaries, tables of contents, reviews, etc.), faceted navigation(which allow users to narrow down the search by facets, like, authors, dates, types of material, subjects, location, etc.), simple keyword search box (like popular search engines, e.g., Google) instead of controlled vocabulary, and options for advanced search, relevancy (ranking of resources using many criteria like circulation statistics, comments received, etc.), “Did you mean…?”(Spell checking of search entries and recommending other search queries), recommendations and related materials (suggestions to related materials), user contributions (ratings, reviews, comments and tagging by the users) and RSS Feeds (which give updates about new acquisitions and search updates).

Examples for Next Generation OPACs: Voyager ILS by Ex Libris, EBSCO Discovery Service (proprietary), Evergreen, Invenio, KOHA (open source).

iii. Bulletin Board Services and ListServes

A 'bulletin board' is a public discussion area where users can post messages without sending them to anyone's personal e-mail address, which can be viewed by anyone who enters the

area. The entry to the area may be restricted by invitation or be kept open. Bulletin boards are also known as forums or newsgroups. Announcements regarding library resources and activities, information on special collections, etc. can be displayed over here. These electronic bulletin boards are linked to library websites for general users and special groups.

Listserves are topic or subject oriented online forums, where messages are communicated through e-mail. These are basically discussion forums which deal with topics on academic or professional interests. One who subscribes to the listserve can send and receive emails, the process that is controlled by a programme, hosted by the parent organization/authorized individual, for example, Become a Reading Butterfly!

iv. Subject Gateways

A gateway is defined as a facility that allows easier access to network based resources in a given subject area. Subject Gateways provide high quality evaluated web resources. These act like clearing houses to quality information selected by subject experts. Basic objective of any subject gateway is to help users to locate high quality information resources available on the Internet. These are user searchable metadata databases with hyperlinks to specific information. Search may be with keywords or subject headings.

Examples: INFOPORT (INFLIBNET Subject Gateway for Indian Electronic-Resources), ipl2: Internet Public Library (IPL) and the Librarians' Internet Index (LII) (http://www.ipl.org/), INTUTE (Social Science Information Gateway), covering social science resources and OMNI (Organizing Medical Networked Information) covering medical resources.

v. Web based Current Awareness Service

Libraries offer web based CAS primarily through e-mails. Individual and customized email alerts are provided to the users on their area of special interest about new acquisitions of documents, table of contents of journals or new web resources available on the Internet. Many publishers also provide journal alerting service.

Example: Journal Alerting Service by Oxford University Press, Journal Table of Contents Service (tic TOCs) by JISC, National Archives, UK.

vi. Online Question and Answer Service

Web-based question and answer service is an asynchronous system that uses a web form to receive requests (questions) and responses (answers) which are sent via email to the enquirer. 'Ask a Librarian' service provided by libraries is an example for a Question and Answering Service. This is also considered as a part of the digital reference service. Example: Ask ERIC

(U.S.).

vii. Webcasting

Webcasting is the method of broadcasting live audio and video in real-time, to audiences all over the world via the Internet. It is 'broadcasting' over Internet. Streaming media technology is used here to distribute a single content simultaneously to multiple viewers/listeners. There is no need to download the content before viewing. A webcast may either be distributed live or on demand. In the area of LIS, Library of Congress (LoC) offers webcasts of audio and video resources like talks on history, performing arts, culture, science and technology, through its web page for webcasts.

viii. Web based Reference Services

Providing web based reference services to users, who are sitting anywhere in the world in a 24x7 mode is now popular in many libraries. Access to in-house electronic reference sources and external digital resources like database and online reference websites, provided in a mediated way is the base of such services. Web based reference services include:

a) **Reference websites:** These are websites that exclusively provide reference information like Britannica online (http://www.britannica.com), Encyclopedia.com (http://www.encyclopedia.com/), Infoplease (http:// www.infoplease.com), Oxford English Dictionary (http://www.oed.com/).

b) **Online Reader's Advisory Service:** The recommendations and review of the book titles and other resources by experts are posted on the library website. A search features allow the visitors to search for reviews of specific titles/resources and an online form permits the readers to submit their own review for publication on the site. Additional information on local book talks and book club is also provided with links to web sites of interest to readers.

c) **Online Instruction Service:** Bibliographic instruction to new members is provided in an online way using web based tools and technologies. Instructional videos on the use of OPAC, resources, etc. are made available online which can be viewed/ listened by the users.

Services to access web resources

Modern libraries largely depend on web resources (also termed as electronic/digital resources) to provide up-to-date information. Almost all digital information resources are now available on a networked (internal or internet) environment. Providing access to these resources in the library or remotely on a network is one of the main services of a library. Web resources have many advantages over traditional print resources. Some are:

a) Web resources can be interlinked and hence users get comprehensive information

(e.g., journal articles can be hyperlinked with their own reference sources, external indexing/abstracting databases and other web resources).

b) b) Anytime anywhere access: Digital/web resources can be accessed 24x7 and from anywhere, may be on an internal network or on internet using a remote login facility.

c) Web/digital resources save the time of the user, physical space in a library and are easy to maintain.

Main library and information services which are intended to provide access to various web based information resources will be discussed in this section.

i. E-Books and other Downloadable Media

Merriam Webster's Dictionary defines an E-book as "a book that is read on a computer or other electronic devices. It is a book composed in or converted to digital format for display on a computer screen or a handheld device

Fig 3.2.1: An E-reader

Encyclopaedia Britannica categorizes the method of distribution of e-books on the Internet as: (i) downloadable files that can be read offline, (ii) as live web pages that must be read online, or (iii) as web pages that are cached by a web browser for reading offline. e-books may be downloaded or accessed in a closed (proprietary) system, where the buyer or the library has to purchase the e-book from the publisher/distributer under the Digital Rights Management (DRM) Policy. Example: Amazon Kindle, Apple iBooks, etc. In an open system, e-book files may exist in only one place, but anyone can access and download the files (whether for purchase or free download), because their metadata are freely available and can be freely shared. Examples: Catalogues created in the Open Publication Distribution System (OPDS, part of the Internet Archive's Book Server Project)and the Project Gutenberg. E-books can be read on any electronic device with a software to display their given file format. Most common e-book file formats include EPUB, (an

open standard for e-books created by the International Digital Publishing Forum (IDPF)), e-Reader (Palm Digital Media), iBook (Apple), AZW (Amazon), LIT (Microsoft), PDF (Portable Document Format by Adobe), ODF (Open Document Format), MOBI (MobiPocket), etc. e-book reading devices include dedicated e-Readers, personal computers, mobile (smart) phones, hand held devices like tablet computers, and consoles attached to televisions or other screens.

The other downloadable media to which modern libraries provide access to users are:

a) **Audio Books:** access to downloadable audio books (e.g. Audible.com, Amazon Prime)
b) **Music:** access to downloadable music (e.g. Freegalmusic, Napster, Spotify, Shazam)
c) **Digital Magazines (digital newsstand):** access to magazines in their digital form (e.g. Zinio, GTxcel)
d) **Movies:** streaming movie service to access, films, documentaries and other video contents (e.g. Indieflix, Netflix, HuluPlus, YouTube)
e) **News:** access to newspaper databases (eg: Worldcrunch)
f) **Learning Resources:** e-versions of test preparatory materials, guides, handouts, etc. (e.g. Thomson Gale)

ii. Online Database

A database (e-database) is an organized collection of information, of a particular subject or multi-disciplinary subject areas; that can be searched and retrieved electronically with the help of searchable elements or fields. A single database may refer to a specific type or a variety of sources, including periodical articles, books, government documents, industry reports, conference proceedings, newspaper items, films, video recordings etc. A database may be dedicated to a single subject or cover several subjects. The contents may be updated in a daily/weekly/monthly manner. Libraries, based on their user needs, subscribe to these database through information retrieval service providers or database vendors/publishers. As the contents of library database are sourced from experts and professionals on the field, they are more reliable than the information that is available on some websites. Primarily, database can be: (i) Full-text database (compilations of documents or other information in the form of database in which the complete text of each referenced document like journal articles, conference proceedings, etc. is available for online viewing, printing, or downloading), e.g. Academic Search Premier, JSTOR, Science Direct, and (ii) Bibliographic databases (databases of bibliographic records or citation information), e. g., LISTA, MEDLINE.

Database have three categories based on the scope of the subject area they cover. They are:

a) General interest (multi-disciplinary) database: consist of information from several subject areas and disciplines. E.g., JSTOR, Academic Search Complete, Project MUSE.

b) Discipline-specific databases: consist of materials from related subject areas. E.g., SocINDEX (sociology research database), SPORT Discuss (sport medicine and related fields)

c) Subject-specific databases: provide in-depth information on a specific subject. E.g., Ethnic News Watch (ethnic, minority, and native press content), PsycINFO (behavioural science and mental

health).

Libraries provide in-house and remote access to subscribed databases to their members. To reduce the huge subscription cost, libraries form consortia share the resources among them. INDEST (Indian Digital Library of Engineering, Science and Technology), and INFLIBNET are two examples for such library e-journal consortia. Another method to provide access to e-journals is through Aggregator services, which offer searchable databases of contents of e-journals from several publishers, and links to journal site for full text. E.g., Emerald, J-Gate.

iii. Other web-based resources

Other important web-based resources to which libraries provide access are:

a) Electronic Theses and Dissertations (ETDs)

Many Universities and research organizations in India and abroad are now digitizing their thesis and dissertations and make them available on internet for public access. One global initiative is Networked Digital Library of Theses and Dissertations (NDLTD). Indian Digital repositories of Theses and Dissertations include that of Indian Institute of Science, Bangalore, India and 'Sodhganga' at INFLIBNET Centre.

b) Open Educational Resources and other Course Materials

According to UNESCO, Open Educational Resources (OERs) are any type of educational material that are in the public domain or introduced with an open license. The nature of these open materials means that anyone can legally and freely copy, use, adapt and re-share them. OERs range from textbooks to curricula, syllabi, lecture notes, assignments, tests, projects, audio, video and animation. Examples of this include MIT Open Courseware Project, World Bank Open Knowledge Repository, Open Yale Courses and NROER (National Repository or Open Educational Resources) by NCERT.

Other digital learning repositories which provide teaching and learning resources on the web include ERIC (Education Resources Information Center, USA), NDLR (National Digital Learning Resources, Ireland).

Services to access local/internal digital resources

Many libraries are developing their digital collection of documents like institutionalrepositories and archives of historically important documents and are making themavailable on intranet and on the Internet. The main digital services are:

i. Institutional Repositories

An institutional repository (IR) is an electronic archive of the scientific and scholarly output of an institution, particularly an institution, which has been stored in a searchable digital format and which can be retrieved for later use. The contents deposited in IRs include: (i) Electronic Theses and Dissertations; (ii) Conference papers and Proceedings; (iii) Preprints and post prints of journal articles; (iv) Books and Research Datasets; (v) Working papers and Reports; (vi) Teaching and Learning objects; and (vii) multimedia collections. DSpace and E-Prints are the most common software used for developing IRs. IRs make the institutional outputs open to the world. Open Access

IRs around the world can be accessed at the Directory of (Academic) Open Access Repositories (Open DOAR) and Registry of Open Access Repositories (ROAR) websites. Indian examples include Dyuti (Cochin University of Science and Technology), Open Access Repository of Indian Institute of Science Research Publications (ePrints@IISC), etc.

ii. Online Exhibitions

An online exhibition or virtual exhibition or online gallery is a web based service provided by libraries, museums and archives where an exhibition of digital artefacts (photographs, paintings, documents, etc. normally owned by the institution) is conducted online. It may be viewed or visited by anyone irrespective of time and physical location. Advantages of an online exhibition over the physical one include a wider reach to the audience, saves production costs, solves conservation/ preservation problems, creates a durable online record and provides anytime-anywhere access.

Examples: American Treasures of the Library of Congress, Latin American BusinessHistory by Harvard Library, Online Gallery of British Library, Columbia University Library Online Exhibitions.

iii. Web Archiving Service

JinfangNiu (2012) describes web archiving as 'the process of gathering up data that has been recorded on the World Wide Web, storing it, ensuring the data is preserved in an archive, and making the collected data available for future research. Like the management of many other kinds of information resources, the workflow of web archiving includes appraisal and selection, acquisition, organization and storage, description and access.' Web archiving services are getting prominence, as in many occasions, the web has become the sole medium for communication, sharing and collaboration between organizations and individuals and the information published on a website may be the only place where it is available. Websites are now important records for organizations and individuals that are to be preserved for reference and posterity. The dynamic nature of the websites also warrants their preservation. Web archivists use automated tools (or web crawler softwares) to collect or harvest websites. Web crawlers go across the web and into the websites to copy and save the needed information. These archived websites are organized and made available to the users for online access. Many of the national libraries are now archiving the culturally important and country specific web contents. Proprietary web archiving software services are being utilized by companies to archive their own web content for business, heritage, regulatory, or legal purposes. The largest non-profit web archiving service available is the Internet Archive (https://archive.org/).

Examples for Library web archives:

- **Legal Deposit UK Web Archive:** Developed by the British Library with millions of websites obtained through an annual archiving of the entire UK domain. This was enabled by the non-print legal deposit regulations introduced by the U K Government in 2013. This archive is only accessed internally through computers on premises controlled by the library.

- **The UK Open Web Archive:** This is a smaller collection of selected websites archived by the British Library. Selected websites will continue to be added to this open access collection, again with the permission of website owners. It is available online.
- **The Australian Government Web Archive (AGWA):** A web archiving initiative of the National Library of Australia (formerly known as PANDORA).
- **The Library of Congress Web Archives (LCWA):** The early development project for LoCWeb archives was called MINERVA.

Emerging Trends in Library and Information Services

As discussed above, new concepts are emerging in the field of library and information science. Let us understand some important emerging trends in the area of library and information services.

i. Mobile Applications for Libraries

There is an exponential growth in the number of users, particularly in developing countries, who access internet on their mobile devices, especially on smart phones. As in the case of e-commerce and entertainment industries, modern libraries are also using mobile technologies to reach out to these customers who are on the move. For that, mobile/cellular phone based applications and services are designed and incorporated by libraries. Mobile services are "typically (and often implicitly) understood as services that make use of mobile devices and/or mobile networks". Mobile based library services include:

a) Mobile interface to library website: Mobile optimized library website homepages
b) Mobile interface to library catalogue
c) Mobile reference service: Access to mobile interfaces of important reference sources like Encyclopaedia Britannica
d) Downloadable e-books and audio books on mobile

Fig.: Mobile website homepage of Riverside Libraries, University of California

e) Mobile interfaces to e-journal and other databases

f) SMS notification services: Circulation (reminder, renewal, reservation), Current awareness, SDI, Content alerts, catalogue enquiries, SMS reference services, etc.

Some libraries also developed Mobile Apps which help the users to access library services. These apps need to be downloaded and installed in the user's mobile/handheld device. E.g., BARD Mobile (National Library Service for the Blind and Physically Handicapped (NLS), Indian Law Mobile Library etc.

ii. Application of Cloud Computing in Libraries

Merriam-Webster's Dictionary defines cloud computing as "the practice of storing regularly used computer data on multiple servers that can be accessed through the Internet". There are three service models of cloud computing services: (i) Infrastructure as a Service (IaaS), (ii) Platform as a Service (PaaS), and (iii) Software as a Service ((SaaS). Types of cloud deployment models include: (i) Private Cloud (ii) Community Cloud (iii) Public Cloud, and (iv) Hybrid Cloud. Cloud computing technologies are used in libraries to:

a) develop cloud based digital libraries/repositories (e.g. DURACLOUD)

b) share searchable library data

c) host websites

d) search scholarly content (e.g., Knimbus Knowledge Cloud)

e) store files (e.g., Dropbox, Google Doc, SkyDrive)

f) build networks with other libraries and people

g) support library automation through cloud based acquisition, cataloguing and processing services and hosting the entire data on the cloud which will cut down the costs for hardware and maintenance. (e.g., ExLibris, OSS Labs)

Chapter 4 : Computer Applications in Libraries: Advanced

Unit 1: Use of Computer in Libraries

- **Study of different Library Software**
  - **e-Granthalaya**
- **Use of Open source software**
  - **KOHA**

Unit 2: Use of Social Networking Tools

Unit 1: Use of Computer in Libraries

Study of different Library Software

Introduction

Software is a set of programmes, meant to perform a well-defined function. The software is created by grouping various related programmes. These programmes are written in computer programming languages. A programme is a sequence/set of instructions which are made to perform a well-defined task. On the basis of functions, the software can be grouped in following categories:

(i) Operating System

(ii) Utility Software

(iii)Application software.

(i) **Operating System:** The Operating System is a programme which controls the overall internal operations of a computer system. It performs the booting and rebooting functions, schedule the tasks, control the peripherals and manages the files. Windows, Linux, etc., are some of the examples of an operating system.

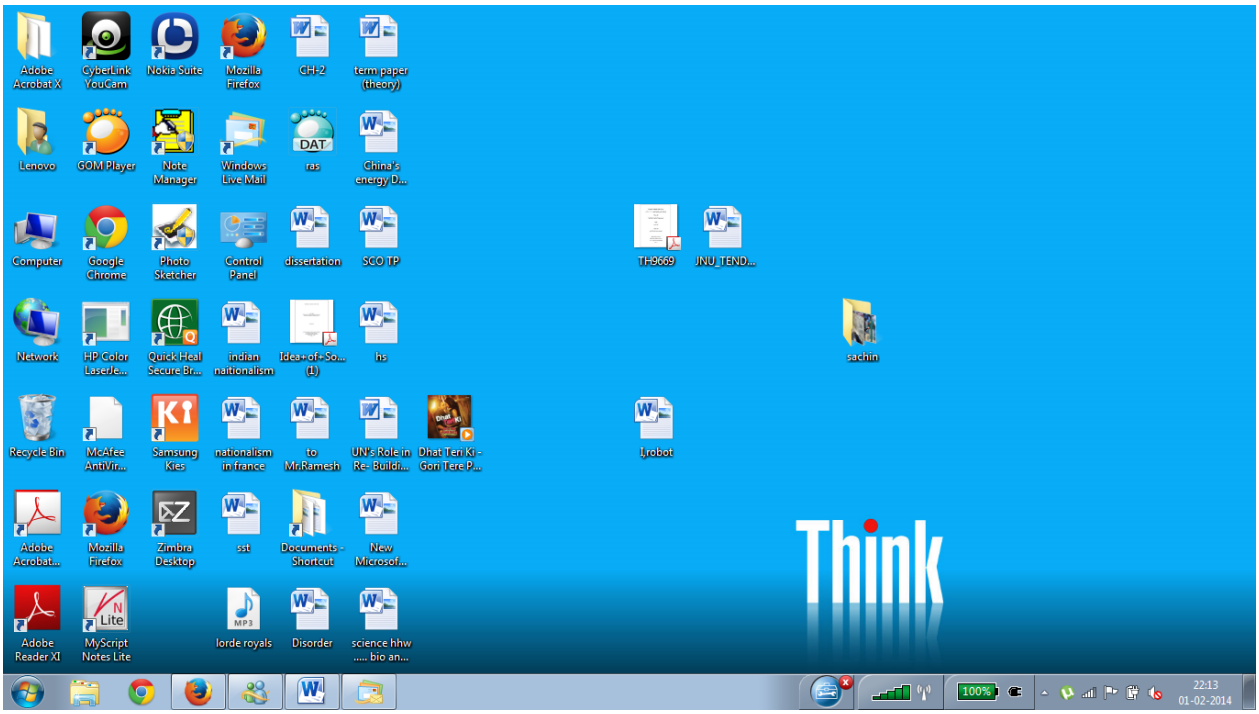


Figure 2.1: Windows operating system

(ii) **Utility Software:** The utility software is a programme which analyzes, configure, optimize or maintain a computer system without any input. All the antivirus and

system software fall under this category. For example- Microsoft Security Essential, etc.

(iii) **Application software:** Application software is designed to perform a particular task or a group of tasks to satisfy the needs of a particular environment. They are created by analyzing the environment and the need of a particular system. For example, a Library Automation Software (LAS) is a customized application software for managing day to day functions of a library and its management. The Library Automation software is developed to perform the housekeeping as well as storage and retrieval tasks. The work in library can be categorized into two categories:

a) Routine work,
b) Information Service work.

Both the above tasks in a library can be performed easily in less time through the LAS. It helps the library staff performing routine, administrative or clerical works efficiently, accurately and reduces the duplication of work.

The LAS has the provisions of controlling and performing the routine works in acquisition, circulation, accounting, records maintenance, library catalogue, information storage and retrieval, etc. The library automation software, automates the library functions with the help and assistance of computers and other equipments such as radio frequency identification (RFID), barcode, and so on.

Review Questions

1. What do you mean by software?
2. What is application software?
3. What does the RFID stands for?

2.2. Need and Purpose

Recent advancement in the field of information technology has compelled libraries to automate their functions to provide better services to their members. Suitable library automation software coupled with computers and other equipments can enhance the effectiveness of library services.

The LAS is needed for managing library in computerized environment. The maintenance of library records and provision of lists (catalogues) and notices involve considerable manual efforts and time. There are a number of routine works which are repetitive in nature. With the

help of LAS, these functions can be performed easily, efficiently and effectively with less time consumption.

The need of library automation software can realize as follows:

(i) To provide efficient and accurate services,

(ii) To reduce duplication of work, save the time of library staff and increase their productivity,

(iii) To quick and easy update, edit and information retrieval.

(iv) To control the rapid growth of information,

(v) To save the time of the reader/user,

(vi) To utilize the library resources efficiently and effectively,

(vii) To prepare library catalogues,

(viii) To provide OPAC,

(ix) To prepare various records of library such as circulation records, accession register, etc.

(x) To create different statistical reports

(xi) To make statistical analyses

(xii) To compare with records of previous year to enhance efficiency of the library

(xiii) To provide current awareness services and selected dissemination of information

(xiv) Stock verifications, etc

The purpose of LAS can be understood as:

(i) The LAS introduces in library to keep pace in the era of information explosion and the need of the users. Once information is store in the computer and verified, it becomes an asset for the library. After that it provides accurate information to the users and the library staff, easily and quickly..

(ii) There are a numbers of repetitive works performed by the library staff which consumes time and prone to make mistake also. For example, sending reminders, different notices, circulars, ordering books and many others. with the help of LAS, the repetitive works may be done in very less time and with accuracy. It reduces the burden of library staff and save their time which would enhance their productivity.

(iii) The application of LAS saves the precious time of the library users/readers as it provides them quick and accurate information services.

(iv) The LAS facilities to update, edit and replace the existing data and different information which make day-to-day task easier and to complete them within the specific time.

(v) The LAS helps in locating the resources available in-house as well as in other libraries which makes staff and users both controlling over the rapid growth of information and finding the relevant information resources with less effort and time.

(vi) The LAS provides tool to create centralized library catalogue and make it searchable over Internet or Intranet. This provision of the software maximizes the utilization of the library resources and makes the users self-dependent in using the library services.

(vii) The LAS has the provisions of creating different reports which helps in managing the library functions and further planning and designing better services to the users.

(viii) The LAS provides tools for reference services, as new addition list, selective dissemination of information, arrival of new issues of journals, compilation of study list or bibliography on the topic of interest, etc.

(ix) The LAS provide different administrative tools for the authority of the library to monitor the library functions, keep eyes on activities of the libraries, consumption of budget, stock verification, etc. There are such provisions through which a library can be monitored remotely in real time environment.

(x) The LAS gives time and tools for research and development in the field of library and information science.

Review Questions

1. Define library automation software.
2. How does LAS save the time of the users?
3. How does LAS save the time of the Library staff?
4. How does an LAS helps in better planning and designing library services?

3.3. Function of LAS

In an automated library system, all kind of the tasks are performed through the LAS. It can perform housekeeping operations as well as information retrieval and dissemination. It can be applied in all sections of a library such as acquisition, cataloguing, OPAC, reference service,

serial control and other services. It can also help library in its administration and management such as, planning, decision making, stock verification, statistical analyses, etc.

Use of LAS in various section of a Library

(a) Acquisition

The LAS has the provisions to undertake all the routine work under acquisition with the wide range of outputs, giving the librarian full control over acquisition process and budget. It supports in selection of library materials, ordering, receiving, accessioning, budgeting, fund management and other works of the section. The application of the LAS in acquisition section can be understood as follows:

(i) Collecting bibliographical information through various selection tools and managing the recommendations given by the members of the library.

(ii) Assuring the availability of proposed materials within the available or allotted budget.

(iii) Preparation of supply order to be sent to the vendors.

(iv) Maintaining online records of all materials, ordered, received, accessioned, pending, etc.

(v) Maintaining database of vendors.

(vi) Detection of delay in supply and sending reminders.

(vii) Checking in of item received, processing of invoice, accessioning of materials.

(viii) Accounting fund for payment of bills, and controlling the funds for books and other materials.

All the tasks of acquisition section can be done accurately and efficiently with less human resources and in less time compared to manual system.

(b) Serial control

Serial acquisition is completely different from acquiring books. Serial subscription is being paid in advance and issues are received continuously within the period of subscription. Each periodical is being subscribed separately and because of different frequency, each issue is received and recorded separately. Payments details of each title is recorded and maintained separately. The records of the serial section are very important and necessary to keep up to date. Therefore, serial control in a library needs separate set of functions to manage the serial section.

The LAS can help in subscription, keeping payment records, receiving and maintaining issues, claiming missing issues and sending reminders, renewal of subscriptions, updating list of current holdings and managing bound volumes, as well as other functions of the section.

(c) Technical Section

The LAS can make possible the computerized classification and cataloguing of books, which reduces the manpower and save the time of the library staff. Computerized classification has been experimented by DRTC Bangalore, in India. Classification needs much human intelligence to decide a class number for a material therefore, difficult in implementing.

A library can create its own catalogue or can get help from other libraries, or cataloguing service providers. Library of Congress(USA) is one of the largest catalogue holders in MARC format from which a catalogue can be imported directly in to own library database. Today there is a number of software for example KOHA, in which data can be imported directly from the catalogue database of other libraries if they Z39.50 standard compatible and online. The LAS provides tools to create, edit, delete catalogue and make them searchable.

(d) Circulation section

The LAS makes the functions of circulation section easy and fast. It also helps library in saving time and space as there is no need to keep members borrowing cards and book cards at the circulation counter in different trays.

The software helps the library staff in issue, return and renewal of the library resources and also in maintaining the records. With the help of software the circulation work can be made automated to the extent that there would no need of staff for issue and return. This can be done with the help of RFID.

LAS give the facility of reservation of books and other materials. The members of the library can reserve the issued materials online which, leads to save the time of the users and staff both.

The software helps in preparing different reports and statistics of the circulation section like, issue-return, fine, membership granted and terminated number of users/readers, etc.

(e) Inter Library Loan

The Inter library loan is one of the services provided by libraries in which required resources, (if not available in the library) can be traced and brought from other libraries

into own library and issued to the needed member. Similarly, if needed, materials can be issued to other libraries too.

Locating resources and their availability is easy through online catalogue. For this purpose, generating request letter to holding library, issue-return process(with the member who has demanded), again returning the material to holding library and maintaining the records, all are done through the LAS.

(f) Library Catalogue

The library catalogue is being created through LAS. Once, the database of catalogue created and uploaded for online access, it becomes easy to search required materials and to know their availability status. It provides full bibliographic details of the materials and depending upon the library, image, content page, reviews, etc, of the materials may be provided also.

(g) OPAC/WebOPAC

The online access of a catalogue is known as OPAC (Open Public Access Catalogue). It provides the library collection on a computer system to its user in the form of searchable catalogues. It is a tool which makes user self-dependent in searching required materials. All the LAS have the provision to provide OPAC.

The OPAC accessible through Internet is being known as Web OPAC. The Web OPAC saves the time of the user and the staff of the library. It is a tool which makes the users self-dependent in exploring the resources of the library remotely.

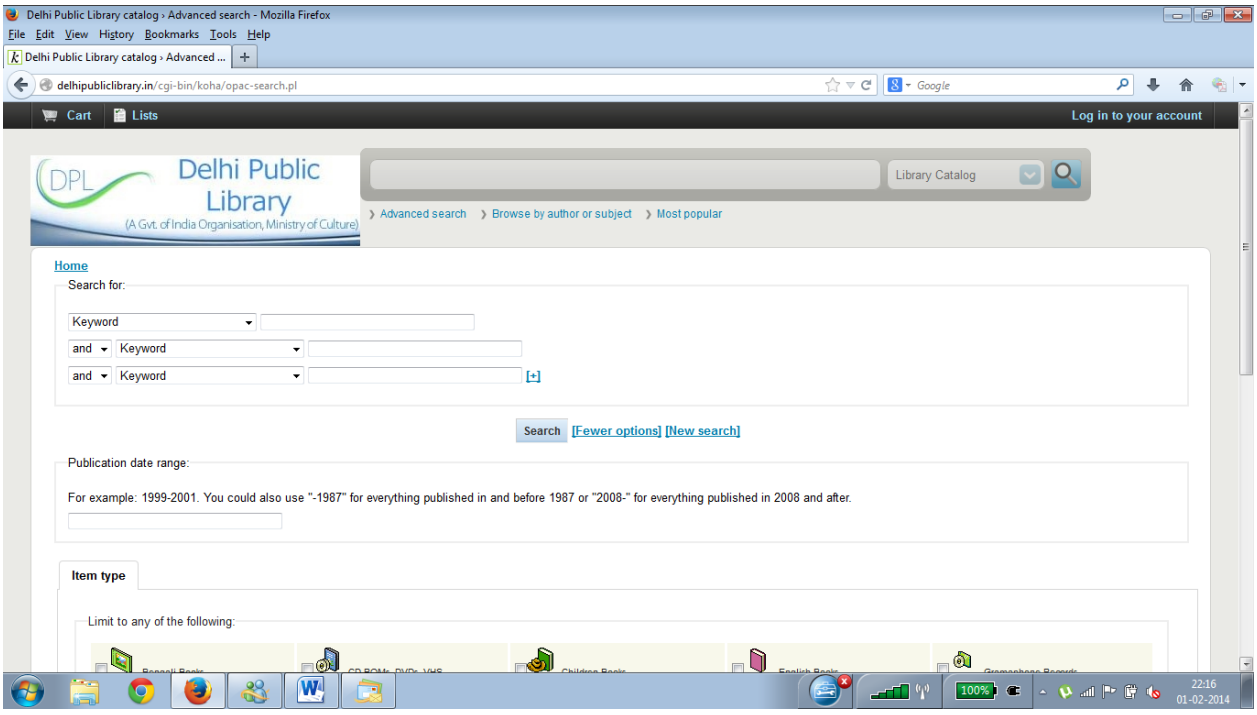


Figure 2.2: OPAC of Delhi Public Library

(h) Reference Section

The LAS provides tools for reference service to the users. It helps in locating required materials in own library and if needed it can search other library also.

Preparing study list and compiling bibliography on a given topic, bringing out new addition list, providing Current Awareness Service (CAS), Selective Dissemination of Information (SDI), or other activities of the section become easy through LAS.

(i) Maintenance Section

Maintenance of records, statistics, pre-defined and customized reports can be taken out with maximum accuracy through LAS. Planning for future, data analyses and decision making information is easy through proper utilization and timely updating different databases of the LAS.

Analysis of data and comparison with the data of previous years are easy and accurate through LAS which enhance the efficiency of a library.

2.4. Types/Kinds of Library Automation Software Packages:

The LAS can be categorized on the basis of different characteristics of the software. Here, we are discussing the types of LAS on the basis of licensing. There are two types of Library automation software available in the market. Those are:

(i) Proprietary software

(ii) Open Source Software

(i) Proprietary software

The proprietary software is a kind of software for which ownership remains with the creator under the provisions of copyright. The owner or proprietor provides license to the user, for using its applications on certain terms and conditions. Users are not being given the right to open, modify or further distribute the source code of such software. Because of this, the software of this category is being called closed source software also. The owner of the software takes fees for granting the license for using its applications, sometimes, some of the software may be free from charges for using its applications but the source code of the software remains closed.

The proprietary software is most of the times a paid software but sometimes it can be made available free of cost, on the basis of some terms and conditions decided by the owner whereas. Whether such software are being purchased or made available free of cost, but the source code of such software remains closed. We have a number of Library automation software in this category. For example, LIBSYS, VIRTUA, TRUDAN, etc.

(ii) Open Source Software

The Open Source Software (OSS) is a software for which source code is open. The users are granted license to use, study, modify and further redistribute it. Such software is usually the product of collective efforts of the professionals to provide free and also the right of customization as per need of the user.

There are a number of open source Library automation software available and being used worldwide. For example, KOHA, New Gen Lib, ABCD, etc, are a few open source LAS available worldwide.

Here, we are going to discuss KOHA, which is one of the popular and worldwide used open source LAS.

Use of Open source software

KOHA: A Library automation Software

KOHA is one of the most popular, free and open source Integrated LAS in the world. The package was developed by Katipo Communication Limited , wellington, New Zealand for the Horowwhenua Library Trust(HLT). The HLT is a regional library system located in Levin, near Wellington. The developer of KOHA proposed to develop a new system for HLT using open source tools as, Perl, My SQL and Apache which run on LINUX platform and use telnet to communicate with the branches.

The KOHA software was first released in July 2000 under the general public licensing for public. The whole world took interest in this software and a global community of users and developers of KOHA got created. From its first Version to Version 2.9, the package was available for both Linux and Windows operating systems. Since the KOHA community is promoting the concept of open source software therefore, only Linux version was being developed and distributed, from version 3 onwards. Hence, KOHA version 3 onwards is available for LINUX environment only.

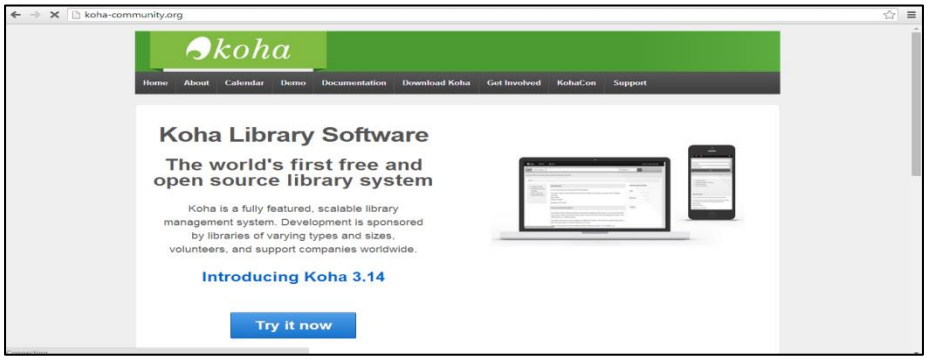


Figure 2.3: http://koha-community.org

(a) Features of KOHA

KOHA is an open source, web centric Integrated Library automation software, free to download from its official website: **http://koha-community.org/**, without any fees for licensing, customizing, using and further distributing. It has a strong user community worldwide to provide documentation and technical support. Technical details and operating guidelines have been given in the manual of the software. The manual is available online as well as in PDF form. It is suggested that, download a PDF version of the manual of a particular version of KOHA you are going to work with. It has been observed that the website of the KOHA Community maintains the manual of latest and few previous versions of the software.

The salient features of KOHA can be listed as follows:

(i) **Centralized Vs Decentralized Library:** The software provides facility to create different branches of a library and share their resources and members. It has provisions to restrict inter-operability among branch libraries. This feature is very much useful for universities or public library system which has branches to control. With the help of the software, control can be centralized and real time monitoring system of the library operations can be developed.

(ii) **Administration:** The software has very strong administration tools. It can restrict its users or staff from accessing its certain areas of activities. The access can be linked with IP address. It gives control over each and every operation within the software. All the parameters which are needed to operate the software and keep the possible security measures under control are given in administration module.

(iii) **Tools:** The software provides tools to create different reports, notice, circular, members comments, imports patron profile in bulk, and a number of templates to be used.

(iv) **Patrons:** The software provides separate module for managing information of members, its addition, editing, import in bulk, etc.

(v) **Circulation:** The software provides facilities for issue-return, renewal, and reservation of the library resources, fine collection, using barcode, and generating overdue list for reminder.

(vi) **Cataloguing:** The software provides facility to create bibliographic database in popular fields like author, title, ISBN, and other attributes. KOHA supports MARC and its different forms. One of the best features of the KOHA is Z39.50 compatibility.

With the help of Z39.50 feature one can easily import MARC records in own database from the databases of other libraries like the Library of Congress, RMIT Library, etc, modify them as per needs and make its own record. It is also a Unicode compatible LAS hence, multilingual catalogue can be created in it.

(vii) **Serials:** The software provides separate module for serials management. Under this module, serial subscription process, renewals of old subscriptions, receiving of issues, reminders of non-receipt of issues, are the key features.

(viii) **Acquisitions:** The software provides facility to manage real time budget, vendor profile, ordering, receiving, suggestions to purchase, and other routine works of the acquisition.

(ix) **Lists and Cart:** The software provides facility to save a collection of content on a specific topic or for a specific purpose under list and session specific storage space under cart.

(x) **Reports:** The software provides facility to create customized reports and standard statistical reports needed for decision making and records.

(xi) **Searching:** KOHA software provides searching of the library resources of own library as well as the associated libraries. It has options of basic and advance searches.

(xii) **OPAC:** The software provides facility to search library catalogue online and to reserve or put comment against a record under its OPAC module. The OPAC created with the KOHA can be made accessible globally through internet.

(xiii) **Customization:** KOHA provides facility to customize it as per the need of the library. The library staff, with the knowledge of HTML or XML can make changes easily. As the source code of the software is open and the schema of database and coding instructions are given on the community website, with the help of those a person having knowledge of coding can change in programme of the software as per need and vision to create a better version.

Apart from above mentioned features, there are a number of other features of the software which can be learnt from the documentation section of the KOHA Community website.

(b) System Requirements:

The KOHA can run on any personal computer (under LINUX operating system) but it is recommended to install it on web server to get better result. It to be remembered that the LINUX having different versions. Two versions of LINUX namely Ubuntu and Dabian are popular. Hence, KOHA is available for these versions of LINUX.

In addition to the server, barcode printer and barcode reader as well as normal printer to print different labels and reports, should be connected to the system. With these machines and equipments a library can operate its automated systems with KOHA.

(c) Software requirements for installing and running KOHA are as follows:

(i) Operating system: A Linux server – the software can run on any version of Linux, Debian or Obuntu.

(ii) Apache: this is a web server software on which Koha runs.

(iii) MySQL: this is an RDBMS software which provides back end support to KOHA.

(iv) Perl: this software provides web interface.

(v) Root access to the server

(d) Other Skills

(i) A reasonable level of comfort with the command line

(ii) Database administration skills.

The KOHA and other required software to run KOHA are listed above. They can be downloaded from the KOHA community website where links of the download page of different software have been provided. All this software is licensed under the GNU General Public License, either version 2 of the License, or (at your option) any later version. Instead of downloading different software separately, complete bundle of KOHA with related software can be downloaded from the CD or DVD version which is known as CD or DVD image or KOHA Live CD/DVD. After downloading CD or DVD image or can say ISO file, burn it on CD or DVD and boot your system with this CD or DVD and follow the instructions. All the software gets installed and after setting the parameters, KOHA runs.

As we know that the KOHA runs on Linux operating system, therefore, if you are running any other operating system and rebooting the system with the KOHA, CD or DVD then you may lose your previous operating system and data as it may format the hard disc and then installs the software. Hence, it is recommended that, before installing KOHA especially from CD or DVD, save your important data and then installs it. If you wish to run KOHA on your personal computer or laptop for practice purposes then, install KOHA in another partition of the Hard Disk of your Computer system. This will facilitate you to boot your computer system with the operating system you wish to work.

It is recommended that you download the KOHA Manual of that particular version of KOHA you have installed in your computer system and follow the instructions. For example, if you have installed KOHA 3.10 then download the Manual for KOHA 3.10. With the help of the manual and documentations available at the KOHA community web site(http://koha-

community.org/), you would be able to operate the software and execute the functions of your library smoothly.

2.6. Summary

The library automation has become necessary to provide fast and accurate services to the library uses. Computers and some other equipment along with automation software are needed to automate a library. With the help of LAS almost all the functions of a library can be automated.

Library automation software is an important tool for creating an automated library system. There are two types of LAS available in the public domain namely proprietary and open source software. Most of the time, the proprietary software is paid and sometime it may be free too but, whether paid or free, the owner of such software only provides the license to use its applications only. The users of the proprietary software cannot get access of its source code hence, cannot customize it as per their needs. The open source software is licensed to use its applications and make changes in programme as the source code of such software is open. It also provides licence to bring different version after changing in the programme and further distribute it to others.

The KOHA is one of the popular open source LAS worldwide. It runs in the LINUX environment and is completely web compatible. All most all the functions of a library can be automated through KOHA. A number of features of KOHA have been discussed in this chapter. The KOHA and its supporting software can download from http://koha-ommunity.org and associated links and can install in any computer.

Using KOHA can save the financial resources of a library and make the library service efficient and effective. The documentation and technical support can be obtained from the above mentioned website of the KOHA to run the system smoothly.

2.7. Exercise Questions

1. Define proprietary software.
2. Define open source software.
3. What are the different software required to run KOHA?
4. Name a few proprietary LAS available in India.
5. Name different versions of LINUX.
6. What do you mean by a Library Automation Software?

7. Why automation of a library is needed?
8. What are the salient features of KOHA?
9. Write down the process of installing KOHA.
10. Write down the purpose of Library automation in 1000 words.
11. List the different sections of a library which can be automated through LAS?
12. How LAS provides searching facilities to the users?
13. What are the functions of acquisition section which can be automated through LAS?
14. What are different tools provided by LAS for reference services?
15. How the LAS do saves time and space in circulation section?

2.8. Practical

1. Download KOHA and other required software from http://koha-ommunity.org and install it.
2. Download a KOHA manual from http://koha-ommunity.org/documentation and make a short note on each module given in the manual.
3. Verify your short note made for each module of KOHA from KOHA software.
4. Create catalogues in KOHA for five books.
5. Create five patrons in KOHA.
6. Create five Catalogue through importing data from Library of Congress.
7. Create budget in KOHA and order five books to a vendor.

Unit 2 Use of Social networking tools

Social Networking Tool

Now a days, Social media is being used by Libraries to communicate with readers and to market their services. It is being used as a platform for discussion, promotion of library services.

Facebook

One of the most popular social media portals is Facebook. It is one of the best for communication, organization and maintenance of professional and personal contacts. The data/ Information reveals that the Library community mostly communicate through Facebook. This includes library pages, Librarian's profiles and various thematic library group. It has convenient function of maintaining detailed statistics. Any one can track how many times people visit FB pages, gender, age and country of origin of viewers of "wall", photos, information or events, counting the number of the visits and likes.Facebook is a social networking website where users can post comments, share photographs and post links to news or other interesting content on the web, chat live, and watch short-form video.

Facebook began in February of 2004 as a school-based social network at Harvard University. It was created by Mark Zuckerberg along with Edward Saverin. Facebook makes it simple to share photos, text messages, videos, status posts and feelings on Facebook.

Facebook provides a customizable set of privacy controls, so users can protect their information from getting to third-party individuals.

Features of Facebook

- Facebook allows you to maintain a friends list and choose privacy settings to tailor who can see content on your profile.
- Facebook allows you to upload photos and maintain photo albums that can be shared with your friends.
- Facebook supports interactive online chat and the ability to comment on your friend's profile pages to keep in touch, share information or to say "hi."
- Facebook supports group pages, fan pages, and business pages that let businesses use Facebook as a vehicle for social media marketing.

Twitter

Twitter is an online news and social networking site where people communicate in short messages called tweets. Tweeting is posting short messages for anyone who follows you on Twitter, with the hope that your messages are useful and interesting to someone in your audience. It is also called microblogging.Twitter is a blend of instant messaging, blogging, and texting, but with brief content and a broad audience

How it works

Twitter is easy to use as either broadcaster or receiver. You join with a free account and Twitter name. Then you send broadcasts (tweets) daily, hourly, or as frequently as you like. Go to the "What's Happening" box, type 280 or fewer characters, and click **Tweet**. People who follow you, and potentially others who don't, will see your tweet.

People send tweets for all sorts of reasons: vanity, attention, shameless self-promotion of their web pages, or simple boredom. The great majority of tweeters microblog recreationally.

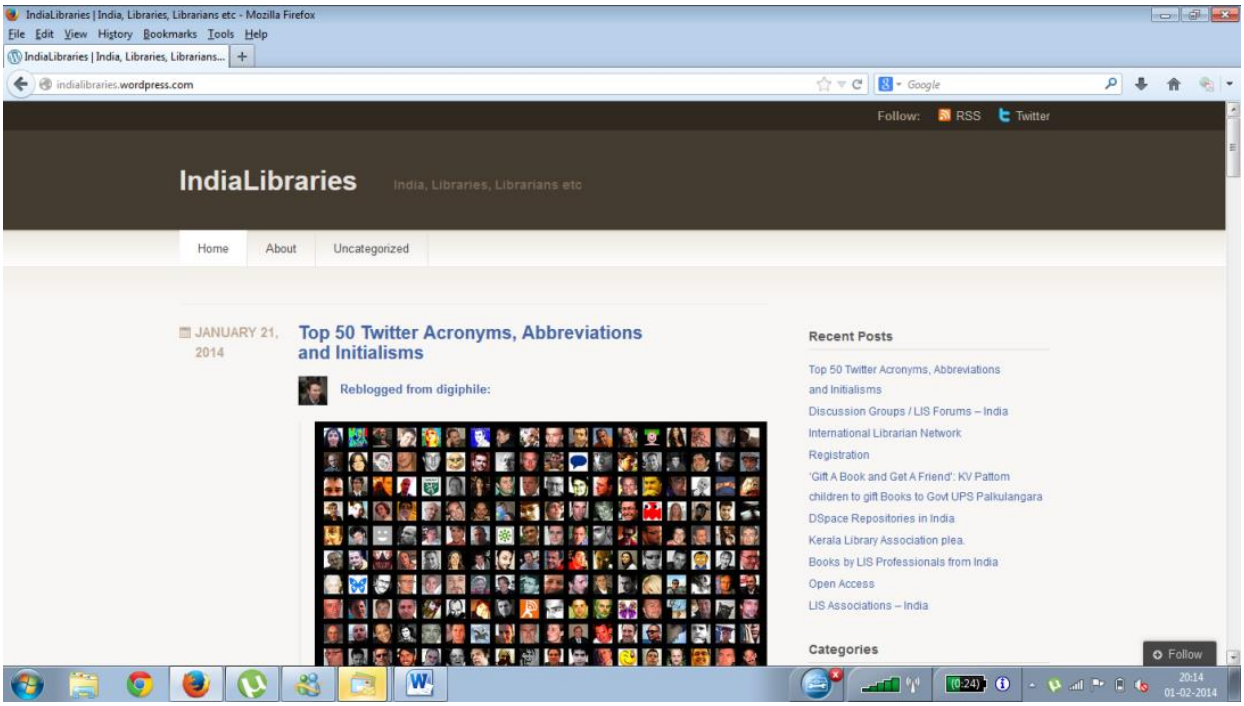
Thousands of people advertise their recruiting services, consulting businesses, and retail stores by using Twitter, and it works.

Twitter has become one of the most used social media platforms because it is both personal and rapid. Celebrities use Twitter to build a personal connection with their fans.

Blogs

The term “Blog” refers to a website, which indicates a blending of words Web and Log. “Log” stands for describing the systematic/sequential recording of data processing event, often chronologically and “Web” points to material available on the World Wide Web. Based on this principle, blog has evolved for publishing and posting data on the web. Various authors have defined blog differently, however, the basic theme remains same. In the word of a few, like Peter Sepp, Chris, Ivan and Stephen Downes, “Blog is an online publishing press or an information transmission hub, news reporting networks, a catalogue with new contents, personal diary or a website ‘with new data’ and updated frequently with links, commentary and, contains brief entries arranged in reverse chronological order”.

In the context of library, a blog can be defined as a referring content management or distribution tool/system that helps to broadcast information to the end-user to promote awareness about the library programs and services. It is a communication agent or new publishing media for those libraries which connect with the world online. Through the library blog, a library can assist users and keep them updated about its products and services such as; new arrival of books, journals etc. With the help of a blog, the library can secure participation of user in various programs such as, book review, discussion forum, research tips, conferencing, book and other information source selection, etc. It provides as opportunity to build a virtual community, encourage feedback from patrons, extends or derives value addition to library services. It also enables rapid production and consumption of web based publications, archive and share those new documents automatically to establish an information social market place within the library. A few examples of blog service providers are Blogger, Typed, WordPress, etc.



RSS

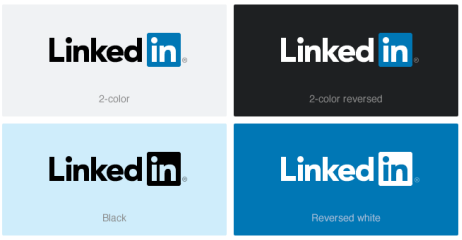
RSS (Real Simple Syndication/RDF (Rich) Site Summary) is becoming one of the influential tools with growing number of tasks, such as headline syndication/news posting, eTocs, updating and locating content for websites. It allows a blog posting to be syndicated and fed into an aggregator. Generally RSS is a simple XML syntax, describing feed of recent additions to a website and/or weblog. Any web user can subscribe these feeds to initiate the

subscriptions to that site. It can be done through entering the URL address into an RSS reader or by adding these feeds icon into the concern website and/or web browser. Through this subscribed RSS feed, the user can see the update posts on a regular basis and downloads any update and aggregates them for reading new contents from multiple sites without visiting those sites.

Fig-. RSS Feeds

(Source: http://www.problogger.net/what-is-rss/)

Linkedln



Linkedln is one of the most popular social platform today. It is a social network for professionals. Whether you're a marketing executive at a major company, a business owner who runs a small local shop or even a first year college student looking to explore future career options, LinkedIn is for anybody and everybody who's interested in taking their professional life more seriously by looking for new opportunities to grow their careers and to connect with other professionals. LinkedIn is very similar to Facebook in terms of its layout and broad feature offering.

Features

Some of the basic features are :

Home: Once you've logged in to LinkedIn, the home feed is your news feed, showing recent posts from your connections with other professionals and company pages you're following.

Profile: Your profile shows your name, your photo, your location, your occupation and more right at the top. Below that, you have the ability to customize various different sections like a short summary, work experience, education and other sections similarly to how you might create a traditional resume or CV.

My Network: Here you'll find a list of all the professionals you're currently connected with on LinkedIn. If you hover your mouse over this option in the top menu, you'll also be able to see a number of other options that will allow you to add contacts, find people you may know and find alumni.

Jobs: All sorts of jobs listings are posted on LinkedIn everyday by employers, and LinkedIn will recommend specific jobs to you based on your current information, including your location and optional job preferences that you can fill out to get better-tailored job listings.

Interests: In addition to your connections with professionals, you can follow certain interests on LinkedIn as well. These include company pages, groups according to location or interest, LinkedIn's SlideShare platform for slideshow publishing and LinkedIn's Lynda platform for educational purposes.

Search bar: LinkedIn has a powerful search feature that allows you to filter your results down according to several different customizable fields. Click "Advanced" beside the search bar to find specific professionals, companies, jobs and more.

Messages: When you want to start a conversation with another professional, you can do so by sending them a private message through LinkedIn. You can also add attachments, include photos and more.

Notifications: Like other social networks, LinkedIn has a notification feature that lets you know when you've been endorsed by someone, invited to join something or welcomed to check out a post you might be interested in.

Pending Invitations: When other professionals invite you to connect with them on LinkedIn, you'll receive an invitation that you'll have to approve.

These are the main features you'll first notice when you get on LinkedIn, but you can dive deeper into some of the more specialized details and options by exploring the platform yourself. You may eventually be interested in using LinkedIn's Business Services, which allow users to post jobs, take advantage of talent solutions, advertise on the platform and expand your sales strategy to include social sales on LinkedIn.

What You Can Use LinkedIn For (As an Individual)

Now you know what LinkedIn offers and what kind of people typically use it, but that probably doesn't give you any specific ideas for how to start using it yourself. In fact, many users create an account and then abandon it because they have no idea how they should be using LinkedIn.

Here are some tips for beginners.

Get back in touch with old colleagues. You can use the My Network section to find old colleagues, teachers, people you went to school with and anyone else you might think is worth having in your professional network. Just enter or connect your email to sync your contacts with LinkedIn.

Use your profile as your resume. Your LinkedIn profile basically represents a more complete (and interactive) resume. You can include it as a link perhaps in an email or your cover letter when you apply to jobs. Some websites that allow you to apply to jobs will even allow you to connect to your LinkedIn profile to import all your information. If you need to build a resume outside of LinkedIn, there are apps for that.

Find and apply to jobs. Remember that LinkedIn is one of the best places to look for job postings online. You'll always get recommendations from LinkedIn about jobs you may be interested in, but you can always use the search bar to look for specific positions too.

Find and connect with new professionals. It's great to get back in touch with old colleagues and connect with everyone at your current workplace who may also be on LinkedIn, but what's even better is that you have the opportunity to discover new professionals either locally or internationally that may be able to help out with your professional endeavors.

Participate in relevant groups. A great way to meet new professionals to connect with is to join groups based on your interests or current profession and start participating. Other group members may like what they see and want to connect with you.

Blog about what you know. LinkedIn's very own publishing platform allows users to publish blog posts and gain the opportunity to have their content read by thousands.

Published posts will also show up on your profile, which will increase your credibility in related fields that are relevant to your professional experience.

Upgrading to a Premium LinkedIn Account

Many people can do just fine with a free LinkedIn account, but if you're serious about using LinkedIn and all of its most advanced features, you may want to upgrade to premium. As you go about exploring the platform, you'll notice that certain things like various advanced search functions and the "Who Viewed My Profile" feature aren't available to free users.

.LinkedIn currently has premium plans for users who want to land their dream job, grow and nurture their network, unlock sales opportunities and find or hire talent. You get to try any premium plan for free for a month, after which you'll be charged a monthly fee depending on which plan you choose (plus tax).

- **LinkedIn Premium Career:** $29.99 a month. For individual professionals looking to get hired and advanced their careers.
- **Linkedin Premium Business:** $47.99 a month. For businesses that are looking to grow and build a network.
- **LinkedIn Premium Sales:** $64.99 a month. For professionals and businesses looking for targeted leads.
- **LinkedIn Premium Hiring:** $99.95 a month. For professionals and businesses looking to recruit and hire employees.

As a final note, don't forget to take advantage of LinkedIn's mobile apps! LinkedIn has its main apps available for free on iOS and Android platforms with various other specialized apps for job search, contact lookup, Lynda, SlideShare, Groups, and Pulse. Find links to all these apps on LinkedIn's mobile page.

https://www.lifewire.com/what-is-linkedin-3486382

https://www.lifewire.com/what-is-facebook-3486391

https://www.lifewire.com/what-exactly-is-twitter-2483331

Summary

The concept of Web2 has changed the information seeking and providing pattern of the users and Information providers both. Now, the advancement in technology and availability of different web tools has provided strength to the users to access the right information at the right time. The communication has become duplex because of these tools and techniques.

The concept of Web 2 has applied in the file of library services too hence the Library2 has borne. By using this concept, libraries are becoming more interactive with their members and providing more personalized and customized services. There are a number of web tools to help people in accessing the web resources and use them effectively in their education, research and entertainment purpose. The Web2 provides a host of platform to the people as well as organizations to create organize and share the information with the world. The web user, individual or organizations can exploit the potentiality of these tools for their own benefits. These tools are emails, e-forum, discussion board, listservs, instant messaging, conferencing, blog posting, media wiki writing, participation in polls, group emails, group talks, comments posting, recommendation, and many more.

Besides these tools, there are a number of devices available in the market through which one can access different forms of information with ease and convenience. These devices and software; like, Ipad, IPod, mobiles, e-books readers and so on can enhance caliber of accessing digital information of the user. With the help of these devices one can access the information provided by a library through the Internet or resources available on the Internet.

The Web2, its tools and information access devices have broken the wall of the library and now the information resources of a library and other content available resources on the internet are available 24 hours a day and that also for whole week, month and year.

Exercise Questions

1. Write a short note on each of the following tools:
2. Write a short note on each of the following devices:
   (i) Smart Phone
   (ii) E-Book Reader
3. How library 2.0 helps to promote e-learning process, explain?
4. Discuss the role of web 2.0 for the growth of CBSE school education?
5. How social web tools are effective for providing and promoting the library services?
6. What is an RSS? Describe its role and use?
7. How mobile technology will help in e-learning and teaching at school?
8. How Library website becomes the guiding tool for school education growth? Explain.

Practical

1. Create a library blog for your school library, using blogger software applications?
2. Create Google groups based forum to share your thought and various awareness at your school.
3. Upload and share photo, video, etc, on social media as Facebook, Twitter, etc?
4. Subscribe latest news about CBSE Schools Education through RSS feed?

Chapter 5: Communication Skills

5.1.1 Need & Importance of Communication skills

5.1.2. Types of Communication Skills

5.1.3 Interpersonal Communication Skills

5.1.1 Need & Importance of Communication skills

The word communicate is derived from the Latin word ‘communis’ which means sharing or common. Sharing information, idea, feeling and attitudes between two or more than two people can be called communication. The communication takes place though words, sign, symbols, gesture and /or body language. In this process one who communicate is known as source or communicator, to whom communicated is known as audience or receiver and what is communicated is known as message. One more factor is to be mentioned here is media or channel. Here, words, sign, symbols, gesture and or body language can be called media. Apart from this physical media like, electronic, digital media, etc., are the part of this process as they become necessary when receiver is at distant place from the source. For example, when you talk with someone through phone, then the telephone technology becomes your channel for communication. Similarly, when you send text, photographs, or anything through electronic mail then the internet becomes the channels of your communication.

We can understand the communication process in a simple model including the elements mentioned above as:

Message

Source/ Communicator ⟶ Audience/ Receiver

Channel

In sophisticated communication model, physical, mechanical or electronic channels are used to send the message to receiver. Such a situation occurs when source and receiver are physically at distant place

Or when the receivers are more than one spread over wide geographical area. When receivers or target audiences are more and wide spread then the media used to send the message known as mass media, like radio, television, newspapers etc. since, the message reached to the receiver though mechanical or electronic channels so it is being converted into channel compatible form and at the receivers end the this is converted into the original message. Now, to convert message into channel compatible format at receivers end and again reconverting them from channel compatible format to original massage format, needs special device which is called encoder and decoder. On the basic of this description we can illustrate a communication model as:

The communication has been defined differently by different reference sources and scholars. The oxford English Dictionary define it as “the imparting, conveying or exchanging the ideas and knowledge whether by speech, writing or signs”. While, the Webster’s Dictionary defines it as “a process by which information is exchanged between individuals through a common system of symbols, sign or behaviour”. Such definitions may be found in other dictionaries also. Some of the concept can be also found in relevant literatures and reference sources as ‘act or instance of transmitting; imparting or interchange of thoughts, opinions, or information by speech, writing etc. These definitions state that the communication refers to the transmission or exchanging information. The transmission process could be oral, images

or icons, text, sound or combination of all these modes of communication. A sophisticated communication model which uses channels for transmitting message can be given as:

Source/ Communicator → Message → encoder/decoder → channel →

encoder/decoder → Massage → Audience/ Receiver

Here given all the elements are the part of design and needed for communication. At the time of communication an unwanted element come in the channel or in the devices used in this process, is known as noise. The noise creates disturbance in the process and distort the form of message. For example, thundering and lightening disturbs the signals of radio and television. Hence, thundering and lightening can be termed as noise in the radio and TV communication.

5.1.2 Evolution of Communication

We can say that society has developed with the pace in development of communication methods, form, media and channels. After the study of the history of civilization you will find that, initially sign languages and body languages where the medium of communication. Then the languages evolved and the spoken words become the common form of communication. Further development of scripts and writing paved the way for written communication. Afterwards, invention of printing technology strengthen the written form of communication and provided means for recording the knowledge and communicate through generations. Further, invention of postal services, telephone and telegraph provided support to overcome the physical distance between source and receiver. The invention of radio, television, internet and or other electronic media have overcome the physical distance between sources and receivers as well as dissemination the message to a large size of receiver (mass). The present age is ruled by the media which targets the mass hence, it is designated as mass media.

5.1.3. Types of Communication Skills

The communication can be categorize on the basis of different characteristics. On the basic of mode of communications, it can be vocal and non vocal communication. On the basis of the number of receivers, it could be categorize as intrapersonal, inter-personal and mass communication.

5.1.3.1 Non vocal Communication

Non vocal communication is such a process in which sign, symbols, gesture, signals etc. are being used as the mode of communication. We can say in other words, as the communications which uses anything as a mode but not the sound. Written communication also fall under this category as it uses scripts, which comes under the sign and symbol category. We can take a few other example as, facial expression, socking head in acceptance or denial, etc.

5.1.3.2 Vocal Communication

Vocal Communication is such a process in which human vocal chords or sound is being used as the mode of communication. The human sound is the main mode in this category. It could be any things from simple speeches to shouting. The example of such communication can be illustrated from anywhere in the society. For example, communication between teacher and students in the class room while teacher is making you understand any topic or you ask anythingfrom your teacher in your voice in natural language.

5.1.3.3 Non-verbal Communication

Non-verbal communication is a process of communication in which body language, gesture, facial expression, sign, symbol and other iconic or behavioural gesture are used. Even those communications can come under this category in which vocal chords are used but not in the form of words.

5.1.3.4 Verbal Communication

Verbal communication is a process in which vocabulary (words) are used as mode of communication. It could vocal or written both.

5.1.3.5 Intrapersonal Communication

Intrapersonal Communication is such a communication in which an individual communicate with oneself. Here the source and receiver both are the same person. Talking or questioning to oneself, trying to reach to some decision in mind, reading, digesting or authenticating, collected information, all are this kind of communication.

5.1.3.6 Inter –personal Communication

Inter –personal communication is such a communication which takes place between or more persons. It could be face to face or in the case of physical distance between the participants, with the help of some media as telephone, internet, etc. the involvement of persons in this category of communication is on one-to- one basis.

5.1.3.7 Mass Communication

Mass communication is such a communication which takes place between one person and a group of person. Here, the source is one and the receivers are many. In this category of communication, depending upon the size of the receivers and the nature of the message, media or channels are selected. Broadcasting on radio, telecasting on television, etc. are a few examples of this category of communication. Sometimes, mass communication is being termed as public communication also.

5.1.4 Barriers of Communication

The communication process achieves its objective when the message from the source reach to the receiver and the receiver understand the message with same value which was perceived by the source. But, from source to recipient, message gets affected by all those elements which comes in between source and recipient. The impact of the massage depends on many characteristics of the recipient. All those factors which create hindrance or disturbance in receiving the message as it was designed at source end and understanding with the same value as it was perceives are known as barriers to communication. The barriers can be put in two groups, (i) Human factors and (ii) Mechanical or technological barriers.

5.1.4.1 Under the category of **human factors**, the barriers of communication could be listed as:

i. **Linguistic Barrier:** Linguistic barrier includes the factors related to language as common language, vocabulary, use of syntax, etc. if the communication takes palce in the language in which the recipient is not proficient or the vocabulary used are jargons for the recipient then the language becomes a barriers.

ii. **Socio-cultural Barrier:** Communication between two different groups based on any characteristics class, community, economic group, religious groups etc. Because of socio, cultural, and economic differences the recipient does not receive the message as source wants.

iii. **Intellectual or knowledge Barrier:** Existing intellectual capacity of knowledge of an individual becomes barrier when the source try to communicate advance knowledge to receiver.

iv. **Physical and Health Barrier:** Under this category, the state of physically handicapped, sickness, or any health problem become the barriers as they create disturbance in communication.

v. **Psychological Barriers:** Lack of motivation, emotional disturbance, intelligence quotients, etc., are few psychological factors which work as barriers to communication.

5.1.4.2 Mechanical or Technological Barriers: Thetechnology becomes barrier when communication takes place through mechanical, electronic or any other media. The limitations of the recipient in accessing the technology, skill set required to handle media and infrastructure may become barriers in receiving the information. For example, while watching television, if there is no electricity then a large number of audience would not be able to receive the message delivered through TV while there was no electricity in a particular area. Even there are areas where electrification has not been done yet. In those area it is very difficult to use devices or systems which needs electricity to run. Similarly, if some message has been disseminated through internet and an individual has not skills to access of this technology the skills becomes barriers in the process of communication. Sometimes, the disturbance in media also becomes barriers as, you might have noticed that, while running any electrical gadget like juicer, mixer etc. the television signals get distorted and the audience is not able to proper sound and image. This creates hindrances in receiving the message by recipient.

5.1.5 Overcoming Barriers of Communication

Understanding the barriers of communication is important as, it provides base and understanding for reduce them from the communication process. Reducing the barriers of communications from the communication process completely is near to impossible. But we can reduce the impact up to a certain level, we would be able to know their nature and reasons. Many a barriers could be reduces with the design of message if, the source of the generator of message understands the linguistics and intellectual level, physical and mental conditions of the target audience. We can also overcome the barriers of communication to a certain extent through selecting proper communication channels keeping target audience in consideration.

15.1.6. Summary

1) What is communication?
2) What are the elements of communication in a channel based communication?
3) What do understand by noise?
4) What is encoder and decoder?

5) List the all types of communications?
6) What is barrier of communication?
7) What are different categories of barriers of communication?
8) How barriers can be reduced from the communication process?
9) Why knowing barriers of communication are important?
10) List all barriers of communication may occur in the communication process.