7.0 OBJECTIVES

The purpose of a library building is to provide functional space for storage of resources, readers and staff. The space however also performs a social function of providing a place for social interaction among the library users. This social function will continue to remain even after conversion of library resources in digital form. Construction of a library building requires selection of a site, development of design by an architect and construction of the structure.

Care is taken in designing that the building is secure as well as provides an environment that is safe and healthy for all those who are going to use the building.

After reading this Unit, you will be able to:

• describe the changing design in library buildings over a period;
• discuss the purpose and need for a library building;
• explain the process of planning a library building;
• highlight the stages through which the construction proceeds;
• describe the criteria applied in allocation of space for various functions of a library; and
• identify the provisions needed in the building for the safety of resources and for an environment which is not injurious to the health of the occupants.

7.1 INTRODUCTION

Library as a social institution is a reflection of an urge inherent in human beings to record and preserve for wider dissemination of new knowledge acquired through observation, discussion, experimentation and deep thinking. The ongoing search throughout the history in the adoption of new medium for recording knowledge is an indication of desire in mankind to find a medium which is capable of survival and at the same time which could reach a wider public expeditiously. An equally if not more important need was to put these records at a place where it was accessible to people. The place now called library has thus played a significant role in generation, preservation and in dissemination of new knowledge.

Building is one of the most important parts of the library system. The design of library building has been changing from the post World War-I from a monolithic building to a building system scattered over a wide area due to the improvement in storage and communication technology. The Unit covers space requirements for a library and the guidelines that determine the placing of various parts of the library. Clarification has been provided about how a brief for the building is developed into a blueprint for the building and who are the people who are involved in finalising the blueprint. One of the most important decisions in regard to the building is the selection of site for it. The building reaches to completion by passing through the various stages as is explained in the Unit. Apart from provision for information and communication technology needs the building must have a disaster management plan. You will also know the importance of taking up an insurance policy for the library. Library also needs various types of furniture and equipments for carrying out its functions.

7.1.1 Need for Library Building

The need for building arises to house collection of reading materials available in various forms, to provide space for users, who visit libraries in search of information on topics of their interest and also to provide space for staff engaged in the job of acquisition, organisation and facilitation for access to these resources. The above three needs have been traditionally the principal factors behind construction of library building. But the developments during the second half of the Twentieth Century in the areas of information generation, communication and storage and heralding it as the “Information Age” have put a question mark on the very need for buildings. In an emerging “paper-less society” where libraries are going to be “without walls” the very idea of thinking about a building appears to be irrelevant activity. But a deeper reflection on the functions of library makes one realise that such thoughts occur only due to a wrong comprehension about use of library as merely a reading space. Libraries are not wholly or even primarily for information. They are about preservation, dissemination and use of recorded
knowledge, in whatever form it may come, so that humankind may become more knowledgeable. Further, libraries are not providing space for study of recorded information only. Libraries provide an atmosphere for scholarly pursuit. Working in library room also offers opportunity of working among fellow scholars of same discipline. Further, libraries have been extraordinarily successful social space where literateurs, scientists, artists and art connoisseurs come together to influence and get influenced through exchange of views and ideas. Change in the forms in which information and knowledge are recorded has been changing throughout the history and libraries have successfully adopted themselves with every change. Even talking about the books the facts are that publishing has not come to a standstill position with the arrival of the age of digital sources.

**Self Check Exercise**

**Note:**

i) Write your answer in the space given below.

ii) Check your answer with the answer given at the end of this Unit.

1) State the need for library building.

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7.1.2 Changing Concept of Library Building

If libraries have withstood changes in media for recording information and knowledge from clay tablets through papyrus, silk to palm leaves, to papers and films in frame as well as in spools, surely these are going to survive through the digital era as well. Thus, there has been a need for a building for library through all the various stages through which the recording of human knowledge has travelled and is likely to travel in future.

But the changes in storage design and in communication have also led to changes in design in library building. The style of impressive palatial structure has now given way to functional buildings. The first major change occurred in the Post-War years when fixed building design was replaced by flexible modular structure. Modular design facilitated space adjustment as per requirement of the library. The pressure for space in urban areas on the one hand and space being no more an inherence for transfer if information has thrown up the concept of dispersal of collection. This has brought another change in design. Now, in place of one building providing for accommodation for all types of materials in the collection, collections are stored in a system of buildings. In the face of changes in communication technology dispersal of collection to more than one building is no more a hindrance to access.

The concept of dispersal of building has gained acceptance because of change in the way readers now look at the library. Earlier users regarded librarians as over protective about their collection. Now there is a keen understanding about the role of the librarian in the research process. Emergence of new communication
technology has helped improve the nature of services offered by libraries. Users now want information irrespective of form of document, location of document and time of their requirement. The only criterion is relevance, accuracy and expeditious access. The size of collection of a library has lost its attraction for the contemporary user community. The library, in place of an isolated building, is now part of a library system. Yet another change in users’ attitude is development of an urge for contact with scholars who share their interest. In this perspective the contemporary library building has to be an “intelligent library building that maximises the efficiency of the occupants while at the same time allowing effective management of resources with minimum life time cost”.

7.2 SPACE NEEDS OF A LIBRARY BUILDING

The first consideration in a new library building is to have a clear idea of purpose of the building. Keyes Metcalf’s Planning Academic and Research Library Building, a classic on the subject, identified main purposes for which a building is needed:

- Protection of books and collection of other records from poor environment and mishandling;
- Housing of books and other collections in variety of accommodations for ease of access;
- Accommodation for readers and other occasional visitors who need immediate or frequent access to the collections and services;
- Provision for staff who select, acquire, organise and care for servicing the collection and who aid readers in their informational needs;
- Quarter for ancillary functions such as photocopy services, bibliographic instruction, audio visual material preparation, computer support facilities, etc.
- Quarter for library administration and business offices, such functions as personnel, finance, fund-raising, publications of graphic or signage, building operations, security, supplies, mail and delivery service, etc.;
- Study, research and writing quarters for students, faculty and visiting scholars;
- Space to publicise resources or services through exhibits, lectures, publications, etc.
- Structure to serve as a memorial to an individual and symbolism of institutions academic life in pursuit of scholarly achievements.

Implicit in the above stated purposes are the space needs for a library. We may regroup purpose as below to get the idea of space need:

- Space for users (4, 8, 2)
- Space for properly secured collection (1, 3)
- Space for staff (5, 7)
- Space for services (6, 9)

In the working for requirements of space for above four broad groups we should keep in mind and give provision for:
Library Functions and Operations

- Non-assignable space such as entrance lobbies, corridors, lifts well, stairs, etc.
- Space for furniture and equipments be added appropriately under services.

The total space requirement for a library building may be worked out by adding the above space needs with the help of available standards at national and international levels. The major space needs come from storage area for collection, accommodation for the user community and the staff. In planning a library building generally space division between the collection and the user is kept in the ratio of 40: 60. Similarly provision for readers in academic library is kept in the range of 10% to 20% of the total enrolment. In American Universities often it goes up to 30%. The standards developed prior to the developments in ICT, have to be adjusted to the situation developed with increasing use of e-sources. Normal space need of a reader is 25 sq. ft.per reader. But for a computer user this will go up to 30 to 35 sq. ft. per reader. Similarly space calculation for collection storage is 10 ft. per 100 books and 15 ft. per 100 periodical or large size books. The ratio of e-journal and e-books will have impact on space requirement for the collection.

The following factors should also be taken into account for working out space requirements:
- Library policy regarding access to stacks (open or closed)
- Net growth rate of collection (addition—weeding out)
- Availability of auxiliary space for storage of collection
- Ratio of electronic resources in the total collection
- Shelving system (compact or ordinary system)
- Policy of participation in net work system.

Self Check Exercise

Note: i) Write your answers in the space given below.

ii) Check your answers with the answers given at the end of this Unit.

2) List purpose of library building as described by K. Metcalf.

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3) Explain how to work out total space requirement of library.

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7.3 SPACE MANAGEMENT

Considerations for Internal Allocation of Space

Internal allocation of space on completion of building requires very judicious planning. The foremost point for division is the ratio between space for reading material and space for user community. The generally accepted norm is a ratio of 40:60. Another point is space requirement for technical and administrative functions. The quality of public service depends directly upon the internal organisation and efficiency of the library. The UGC Committee on University and College Library has given in detailed guidelines for spatial contiguity of different rooms of a library. Anthony Thompson suggests that all the departments should be divided into three areas; Quiet Area, Talking Area and Noisy Area. In space management relationship between the two departments should be based on these characteristics of the area. The following points should be taken into account while deciding allocation of space (Mount, Ellis, Creative Planning of Special Library Facilities.1988). ITC system needs space for office machine room for servers and other mission-critical equipments, general work space and room for storage. All these spaces should be preferably adjacent or within close proximity to each other.

- **Noise:** The areas earmarked for study should be far from circulation area. Similarly supervisory staffs require area suitable for confidential communication.

- **Traffic flow:** Movement in, out and around should be kept in mind in placing working areas.

- **Security:** The need for supervision and overseeing of particular area will have an influence on the location for special collection, electronic and other equipments.

- **Convenience:** The areas which are expected to receive frequent visit by staff and users should not be placed in distant corners.

- **Critical distances:** The details of the floor plan layouts will be influenced by standard clearances for furniture and shelving arrangements.

- **Equipments:** Space required for electronic and electrical equipments need special light, provision of fresh air, electrical connectivity and special furniture space for work areas.

- **Interaction:** Requirement of interaction between staff and users will affect the location and prominence of enquiry/information desk.

- **Economical use of the space:** The need for the economical use of the space may call for a very formal arrangement of seating and shelving space.

- **Lighting:** Interior design, stack location and selection of furnishing are influenced by availability of natural light. Areas with tinted windows will need more provision for light aid. Different functional areas will need provision of different light levels.
Self Check Exercise

Note: i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of this Unit.

4) List the points that should be taken into account in allocation of space.

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7.3.1 Utilisation of Space

Space available in a library building is divided on functional basis. In this context Prof. P.N. Kaula’s proposal with some modification is as follows:

<table>
<thead>
<tr>
<th>Service area</th>
<th>Circulation Area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reference and Bibliography Area</td>
</tr>
<tr>
<td></td>
<td>Public Catalogue Area</td>
</tr>
</tbody>
</table>

The actual space under these areas will be affected by the extent of automation carried out by the library

<table>
<thead>
<tr>
<th>Study Area/Readers activity Area</th>
<th>Textbook storage-cum Study Area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Periodical Display and Study Area</td>
</tr>
<tr>
<td></td>
<td>Electronic materials Study Area</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Administrative Areas/Staff Activity</th>
<th>Acquisition Area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Technical processing Area</td>
</tr>
<tr>
<td></td>
<td>General Administration including Upkeep and maintenance Area</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Collection Storage Area</th>
<th>Main/ Basic collection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Non-book Materials</td>
</tr>
<tr>
<td></td>
<td>Official publications</td>
</tr>
<tr>
<td></td>
<td>(National/International bodies)</td>
</tr>
<tr>
<td></td>
<td>Special Collection Area (Rare materials and photographs, local history, art books, non-book materials, private papers of eminent people, etc.)</td>
</tr>
</tbody>
</table>

7.3.2 Financial Resources and Space Requirement

The foregoing discussion gives us an idea of space requirement or demand side of the building plan. But a more important factor in finalising the proposal for building is the available financial resources. It is therefore rightly said that a proposal should contain a “sensible wish list”. The capital cost of the building is a “considerable sum of money” which has to be secured and the expenditure must be kept within the agreed budget.
7.4 PLANNING FOR A LIBRARY BUILDING

The process of planning a building begins at the idea level in the mind of librarian, once s/he feels a need for the same. The idea is given concrete shape as a written proposal. The written proposal is thus culmination of librarian’s odyssey to give shape to the idea. The proposal has to be based on:

a) A close study of functioning of the library over a period of time, taking into account the various bottlenecks that were faced during the past years and, about which one is reminded while peeping into, the annual reports of the library;

b) A close study of existing literature on the topic;

c) A wide-ranging consultation with internal staff, management /faculty members, and known experts on the subject;

d) Visiting libraries to observe adoption of the space and its impact on the day to day services; and

e) Study of user behavior and preferences based on circulation and reference service statistics, study of user visit and library traffic pattern and study of literature on user behavior and preferences. However user studies should be carefully selected to cover also those studies which relate to the e-sources period, as now there is a marked preference among users for e-sources over print sources.

The written proposal which is called, pre-planning brief is according to Prof. Kaula “a description of the primary elements of design, the interrelationship between the various areas, their estimated size and helpful location. It also describes the philosophy, principles, requirements and limitations of the proposed building”. It includes:

• the general features, the type of library and its status i.e. is it a new developing library, or a new service is to be started at the location,

• nature of users, type, use pattern, purpose, etc.,

• construction features, buildings life span, usual feature, provision for the physically disabled, HAVC system in closed areas,

• special requirements,

• services to be offered.

Self Check Exercise

Note: i) Write your answer in the space given below.

ii) Check your answer with answers given at the end of this Unit.

5) List out the points to be considered in pre-planning of library building.
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The idea of the building takes its physical shape by passing through three distinct stages viz. planning, design and construction. There is another, often neglected, stage of post-occupation evaluation vis-a-vis the original idea or the pre-planning brief. The British Commission for Architecture and Built Environment has split the stages for construction into six stages:

i) **Preplanning Stage**: Assessing the need, thinking about alternatives, making a case and securing financial resources (librarian’s job).

ii) **Planning Stage**: Writing and developing architects brief, selection of architect and selection of site (librarian and architect).

iii) **Design Stage**: Translating the conceptual brief into a working drawing (architect and the librarian).

iv) **Construction Stage**: The erection of the building (builder, architect and the librarian).

v) **Occupancy Stage**: Moving in and making the building operational (librarian, furniture, equipment and systems suppliers, removers).

vi) **Post Occupancy & Evaluation Stage**: (Librarian, architect, the builder and the users).

The actual operation of construction may not proceed exactly in the above described sequence as revision in design may become necessary and occur at any stage.

**Self Check Exercise**

**Note:**

i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of this Unit.

6) List out the stages through which building reaches to its physical shape.

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7.4.1 **Building Planning Committee**

Although conceptually library building is the brain child of the librarian but for giving it a physical shape it needs input from diverse quarters. In other words there is a need to have a planning committee comprising representatives of all those persons who will facilitate its construction by providing architectural, financial, aesthetic, and utilitarian view point in its designing. The committee initially constituted may undergo changes as the work of construction proceeds and need arises for such changes. Thus, generally building committee consists of

- librarian,
- architect,
• a representative of the library authority,
• engineer of the organisation/institution, and
• one or two senior staff of the library.

At a later stage involvement of representatives of the user community and an interior designer will prove very productive.

The librarian is to present a comprehensive list of requirements that needs fulfillment by the building. The job of the architect is to translate the idea plane requirements into a functionally elegant interior and aesthetically pleasing exterior of the building. Architect is also expected to ensure economy, both in construction cost as well as the cost of maintenance of the building. The architect also plays a major role in selection of a suitable site for the structure. The presence of the library authority representative will ensure easy flow of required financial resources. The engineer of the parent body shall be helpful in ensuring proper electrical wiring system for the required work stations, server location, and connectivity for monitors and LAN, WAN, etc. User representatives shall provide input for provision of such facilities in the building that will ensure creating an atmosphere conducive for study and research. Library being a furniture and equipment intensive building, planning of functional areas in the building is equally an important part of the planning. The interior designer in the committee shall help in designing functional areas, types and extent of space, location and accommodation of equipment, types of lighting and other electrical and mechanical support systems.

Once the work of construction is underway a team comprising some internal staff and a member of the finance department may be constituted to function as a forum for discussing day to day building-related matters and keep authorities informed on the progress in the work. The committee may also discuss changes necessitated during the construction phase.

7.4.2 Location/ Site Selection

The first step in construction of the building is to select a proper site for location of the building. It is said that a good location is essential to fulfillment of the library’s mission of service to its community. The success of a library is principally attributed to the right location chosen through the joint efforts of the planners, librarian and others. The question of selection of site is taken up only after the decision about the functions and the type of building has been finalised. Though the decision is a collective decision of the planning team but the advice of the architect is considered to be of immense value in finalisation of the decision. In addition to the architect’s brief the following factors are considered helpful in selection of site:

• **Cost:** In case of public library it is the actual cost and in case of academic library it is alternative uses of the chosen space. But the cost has to be seen in the perspective of accessibility, the travel distance and distribution service point.

• **Accessibility:** In case of public library it should have closeness to public transport system and, convenience of parking facility to physically disable. In case of academic library closeness to faculties is more important.
• **Size and shape:** Site with large space is helpful for future expansion, provides quieter atmosphere, better natural light, and eliminates risk of fire from adjacent building.

• **Relationship with other buildings:** In height, colour, and design the building must blend with neighboring buildings. In case of public library a desire to make the library building part of the other local authority buildings to save on cost.

• **Physical suitability:** Considerations about sub soil water, seismic zone, closeness to river, weight bearing capacity of soil, etc. are important considerations in site selection.

**Self Check Exercise**

*Note:* i) Write your answer in the space given below.

ii) Check your answer with the answers given at the end of this Unit.

7) State the factors that are required to be considered in selection of site for library building.

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**7.5 QUALITY ASPECTS OF LIBRARY BUILDING**

Traditionally libraries are categorised as public, academic and special library. The categorisation is based upon the type of users, range of the main collection, and the level and range of services offered by the library. These differences play a role in the design for building. Therefore there cannot be a model building for all requirements and all types of libraries. But there are certain basic requirements which must be ensured in the building design irrespective of category to which the library belongs. Though originally these were identified by internationally renowned architect, Henry Faulkner-Brown, these were later revised by A. McDonald to bring them in consonance with contemporary situation of emergence of hybrid information sources forming part of the library collection. According to McDonald, a library building must be:

• **Adaptable:** Flexible space so that its use could be changed easily,

• **Accessible:** Social space which is inviting, easy to use and promotes independence,

• **Varied:** With a choice of learning environment and between different media,

• **Interactive:** Well organised space which promotes contact between user and services,

• **Conducive:** High quality humane space which inspires people,

• **Environmentally Suitable:** With appropriate conditions for readers, books and services,
Physical Infrastructure Planning

- **Safe and Secure:** For people, collection, equipments, data and building,
- **Efficient:** Economic in space, staffing and running costs,
- **Suitable for information technology:** With flexible provision for users and staff.

In addition to the above, the following general considerations may also be taken into consideration in designing a library building:

- People move horizontally more easily than vertically;
- Public services, where possible, are better placed on ground floors;
- All immovable features of the buildings such as elevators, toilets, and stairs should be in one area of the building;
- As far as possible make one facility serve two purposes e.g. provide toilets at a point where they are accessible even when the library is closed.

### 7.5.1 Health and Safety Considerations

Library buildings, being public buildings are used by people of different age and physical abilities. Generally these are thought to be a safe place. But the building is potentially an unsafe place and therefore:

a) Proper provision must be incorporated for preventive measures against unsafe conditions in stairs, electrical wiring, and placing of various electrical equipments.

b) Efficient housekeeping and maintenance must be a regular practice in the library.

In this context the following points need consideration:

- **Air Quality:** The building design must provide adequate ventilation and free flow of fresh air.
- **Stairs:** Stairs and ramps must be secure enough with provision for strong hand railings.
- **Lighting:** Different areas in the library have different lighting requirements which must be provided. Proper and sufficient provision for lighting is essential for the safety of the building also.
- **Equipments and Furnishings:** Provision of adequate aisle width between and around equipments and furnishing must be provided to allow wheelchair access to the bookshelves. Electrical equipments within public access areas such as copying machines, microfilm reader printer, computers, etc. must be properly grounded.
- **Staff Health Consideration:** Working long hours in a building sealed for supporting interior atmosphere often leads to the so called “sick building syndrome” (SBS) or unhealthy reaction in staff. Building design and equipment design selected should bear such health hazards in mind. Chemicals used to control insects and for preventing plant growth, must be regulated and only those should be used which are not harmful to human beings and are legally allowed.
- **Disability considerations:** Building design should be supportive for people suffering from mental and physical impairments such as sight, hearing, and mobility and learning ability.
Self Check Exercise

Note:  i)  Write your answer in the space given below.  
   ii)  Check your answer with answers given at the end of this Unit.

8) What measures of health and safety considerations are incorporated in the design of library building?

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7.5.2 Impact of Developments in ICT on Library Building Plan

Developments in ICT and its impacts on library services have now made it necessary to incorporate in the building plan, ICT enabling provisions. The library building of electronic environment must be capable of supporting electronic workstation and communication. The planning team should prepare a complete list of electrical and electronic equipments by type, quality and location. Provision for neutralising the HVAC impact on the electronic equipments is an essential part of the ICT plan. The ICT plan will also take care of heat generating capacity of electrical equipments, humidity, wiring and varied light needs to building. For example a video-display terminal requires special lighting arrangement to allow glare-free reading; photo copy machine needs more humidity. It will be better if the planning team seeks advice of an expert in laying out wiring network bandwidth requirement and physical location. An up-to-date documentation of wiring, list of network sockets along with sockets which are operative should be maintained. The major points to be considered for exploiting new access, storage and communication technologies include:

- Number of power outlets more than is thought necessary at first stage of operation.
- A network system that can meet future demands for capacity and diversity.
- Storage and work space for repair and housing equipment in transit.
- Dispersed or clustered terminals.
- Building that permits the flexible installation, moving and adding of ICT system
- Cable/wire management.

7.6 DISASTER MANAGEMENT

Unit 9 presents a detailed account of disaster management. What is presented in this section is a glimpse of disaster management with emphasis on certain preventive measures. Disasters, manmade or natural, have been serious threat to the libraries. The library building therefore must incorporate in its building plan necessary preventive measures for such events. Study of the past disasters has made it very clear that whatever may be the nature of the disaster, the damages to
the library resources occur through water flooding or fire that results in the aftermath of disaster. The building design therefore should provide for safety against these causes. In choosing building site the foremost requirement is to study seismic nature of the area. Disaster management manual should be updated at regular intervals.

7.6.1 Fire Preventive Measures
- Adoption of principle of compartmentalisation of building structure.
- Provide for installation of warning system.
- Furnishing and furniture should be made of fire resistant materials.
- Electrical installations for lighting, power supply and for HVAC system should have quality control certificates and installation should be done by a license holder mechanic.
- Fire Extinguishers, both water and gas operated, and fire suppression equipments should be in place to meet any emergency situation.
- Provision of separate store for storage of inflammable liquid.
- As far as possible avoids wooden furniture.

7.6.2 Water Flooding Preventive Measures
- Building should have sufficient drainage over roof
- No water or drainage pipe over storage areas.
- Basement should be fitted with sump and pump.
- No provision for books or any rare material storage in basement.
- Ensure installation of automatic water warning system.
- Over head and basement plumbing system blueprints should be kept at a safe place for reference in emergencies.

7.6.3 Security Arrangements
Necessary security system should be provided to safeguard against manmade disasters. The interior of the building should provide maximum visibility of the public areas, more so of the rare materials area. Provision of adequate lighting inside and outside the building will ensure maximum visibility so essential for security purposes. Unwanted rear doors should be avoided. Open able windows should have security screen. Arrangement should be made to prevent unauthorised entry in electronic installations and electronic sources areas lest someone plays mischief with stored information. The library should have a system of regular patrolling inside continuous activity of the library.

7.6.4 Electronic Security
Library should provide security against unauthorised obtaining, removal alteration or destruction of computer stored information. In addition to protection against data misuse, security system should have provision against deliberate destruction of computer equipments. A simple way to discourage undesirable use is to place the machines in highly visible and well frequented area. Software’s are available to electronically snoop on what users are doing at the computer.
Self Check Exercise

Note: i) Write your answer in the space given below.
ii) Check your answer with the answers given at the end of this Unit.

9) State preventive security arrangements needed while planning/designing library building.

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7.6.5 Insurance Provision

Libraries are valuable properties and any loss due to disaster is a major loss. The library therefore must take up insurance policy covering building, equipments, resources furniture and fixtures the negotiation for the policy should be carried out by person knowledge able in insurance terminology. The library must prepare a complete inventory of all insured materials. The policy should be regularly updated for changing value of the materials.

7.7 LIBRARY FURNITURE

The UGC Committee on University and College Libraries has listed the following furniture for a library:

- Book Rack,
- Charging Desk with wicket gates,
- Catalogue Cabinet,
- Study Table,
- Chair,
- Periodical Display Rack,
- Book Display Rack,
- News Papers Rack,
- Encyclopedia/ Dictionary Stand,
- Atlas Stand, Book Trolley, and
- Side Rack for Carrels.

The report was prepared when major part of the collection consisted of printed books. The character of the furniture now needed in libraries has changed under the impact of changing nature of library collection. As far as older furniture are
concerned the need for these types of furniture is still there and the standards for their fabrication are available with the Bureau of Indian Standards. They provide standards for the quality of wood, dimension and materials to be used in their manufacture. Due to increasing addition of non-book materials and electronic publication in library collection some new categories of furniture have become essential. The new requirements for furniture include furniture for computer hardware, for audio and video storage and use, reading tables for microfilms and microfiche. Electronic publications reading room furniture should be suitable for video conferencing also. Reference desk, circulation desk and OPAC desk should be capable of handling electronic equipments and wiring suitable for future when Wi-Fi enabled lap tops will replace the older work station.

Library services now stress on extension services which require bulletin boards, signage display stands, show cases, video conferencing equipments and furniture, public address systems.

**Self Check Exercise**

**Note:** i) Write your answer in the space given below.

ii) Check you answer with the answers given at the end of this unit.

10) List furniture required for ICT use.

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**7.8 SUMMARY**

Building is required to provide space not only for users, but also for stacking resources and for library staff to work and deliver services to customers. The design for the building begins with the brief prepared by librarian. The architect transforms the brief into a blue print. It is based on the space requirement of the library for carrying out its functions, for storage of materials, furniture and equipment and space for readers. The design for library building has changed a great deal from the nineteenth century concept of a monolith structure to a system of buildings scattered over a wide area. The finalisation of building design and the construction work is carried out under the guidance of a building committee composed of librarian and one or two senior colleagues, the architect and representatives of the authorities. The construction work is completed in five
stages. The success of the planning and the building that takes shape depends upon certain qualities in the building such as its adaptability existence of environment conducive to study and research.

The ready space in the completed building has to be appropriated on functional basis among various sections/units such as reading room, textbook section, etc. of the library. The allocation of space for various requirements is done on the basis of certain guiding principles. National standards are available for space requirements of a library. Similarly there are certain basic qualities which must be there in a building. Library furniture is also prepared as per standard developed for them.

The emergence of electronic sources and developments in communication technology has created a debatable opinion about the futility of constructing a building for library. But such thinking is based on a very narrow concept of library. However, the building must be capable of incorporating and easily accommodating various features and fixtures of latest developments in ICT.

The occurrences of various disasters have now made provision for preventive measures and need for insurance an essential part of library building maintenance. As far as furniture is concerned, it is better to acquire from specialised firms in the country as per need than getting them made by local carpenters. The Bureau of Indian Standard has developed standards for various furniture items. Similarly equipments needed for storage of offline electronic sources are available from firms specialising in electronic goods furniture and equipments.

### 7.9 ANSWERS TO SELF CHECK EXERCISES

1) The main need for library building are as follows:
   i) Urge in human beings to record and preserve new knowledge and cultural heritage,
   ii) Need for space for collection, users, staff for service to the collection,
   iii) Need for a place to stimulate scholarly and creative endeavour,
   iv) Need for a place to work in group of scholars of the same discipline,
   v) A meeting point for scholars of diverse disciplines for interchange of ideas,
   vi) A place for social interaction and for developing intimate human relationships.

2) The purpose of library building as described by K. Metcalf are:
   i) To protect collection from elements responsible for deterioration and loss of collection,
   ii) Housing collection in various accommodations for ease of access,
   iii) Accommodation for regular and casual readers, who need access to collection,
   iv) Accommodation for staff for organisation and service to the collection,
   v) Space for ancillary functions,
   vi) Space for extension services,
vii) A structure to serve as memorial to a social or scholarly personality,

3) Major space is required for users, for collection and for staff is:
   • estimated on the basis of national and international standards,
   • Space for users is calculated at 25 to 35 sq.ft. per user depending upon whether readers have access to computer or not,
   • Space for storage is calculated at 10 ft. per 100 books and 15 ft. per 100 periodicals,
   • Space is provided for readers between 10% to 20% of the total enrolment,
   • Space allocation between collection and users is kept at the ratio of 40:60.

4) The main points that should be taken into consideration in allocation of space are:
   • Noise: Study area should be away from circulation counter,
   • Traffic Flow: Working areas should be located in far corner,
   • Security: Special collection electronic equipment and such other areas needing vigilance should be located from where supervision is easy,
   • Convenience: Areas needing frequent visit should be centrally placed,
   • Critical distance: Floor plan should incorporate standard clearances for furniture and shelving arrangements,
   • Equipments: Equipments areas should have provision for light, air and connectivity provision,
   • Interaction: Convenience of interaction between staff and users determine placing of enquiry desk,
   • Economic use of space: Seating and shelving arrangement should be formal,
   • Lighting: Different functioning areas will need different lighting arrangement.

5) The following points are to be considered in the pre-planning stage of library building:
   a) Close study of working of the library over a period of time,
   b) Study of literature on the subject,
   c) Consultation with staff, faculty and experts in the field,
   d) Visiting libraries to study space use,
   e) Study of user’s behavior over a period.

6) The stages through which building reaches to its physical shape are:
   Preplanning stage, Planning stage, Design stage, Construction stage, Occupancy stage, Post-occupancy evaluation.

7) The factors that are required to be considered in selection of site for library building are: Cost of site, Users accessibility, site size and shape, Relationship with other buildings, physical suitability of the site.
8) The measures of health and safety considerations are incorporated in the design of library building are: Air quality, stairs, lighting system, adequate aisle to allow wheel chairs, well grounding of heavy equipments, provision against SBS development and care in use of insecticides, provision for mentally and physically handicaps.

9) The following preventive security arrangements are needed while planning/designing library building: Maximum visibility in public areas, adequate lighting inside and outside the building, avoidance of unwanted rear doors, open able windows to have security screen, check point at electronic equipments and electronic resources areas, regular patrolling in the building, security against unauthorised access to computer stored information areas.

10) The following furniture is required for ICT use: Furniture for computer hardware, for audio and video storage and use, Microfilm and Microfiches reading and storage, furniture for video Conferencing, Circulation Reference and OPAC desks with provision for use of electronic instruments and connectivity for Internet.

### 7.10 KEYWORDS

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
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<tbody>
<tr>
<td>Auxiliary Space</td>
<td>Space required for nonfunctional areas such as toilet, wardrobe room.</td>
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<tr>
<td>Dispersal System</td>
<td>Building plan where building complex is scattered over distant areas.</td>
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<tr>
<td>Equipment Intensive</td>
<td>Having a variety of equipments.</td>
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<tr>
<td>Fixed Building Design</td>
<td>Design where space use cannot be changed.</td>
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<tr>
<td>HVAC</td>
<td>Heating Ventilation and Air Conditioning.</td>
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<tr>
<td>ICT</td>
<td>Information and Communication Technology.</td>
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<tr>
<td>Modular Design</td>
<td>Design based on self contained unit which allows use of unit’s space.</td>
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<tr>
<td>Paperless Society</td>
<td>Society where paper ceases to be carrier of information.</td>
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<tr>
<td>SBS</td>
<td>Sick Building Syndrome i.e. sickness due to long stay before computer in environmental controlled building.</td>
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<tr>
<td>Social Space</td>
<td>Place where users of different disciplines get an opportunity to meet one another.</td>
</tr>
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### 7.11 REFERENCES AND FURTHER READING


---. “Patterns of User-visit, Movement and Length of Stay in a Special Library:

