

Library Building

- The library is important because it affects cultures, it affects innovation and it affects individuals. Because of all this, library architecture has the responsibility to enhance these effects by providing a knowledge center that is inspirational and conducive to good communication and teaching interactions.

Principles of Planning Modern Libraries

- The modern library has to be multifunctional.
 - The modern library has to be comfortable.
- The modern library has to exist in harmony with its natural and urban environment.
- The modern library as an open, democratic and intellectual communication institution.
 - Planning of the building has to be flexible and simple.
 - An internal garden in the middle of a building.
- Locate the storages on the underground floors. (Jakovlevas-Mateckis, 2004)

BASIC STEPS IN PLANNING LIBRARY BUILDING

1. PRELIMINARY STEPS

- ✚ Recognition of the need for a new building
- ✚ Alternative considerations
- ✚ Investigate financial status
- ✚ Visit other libraries
- ✚ Plan for community input

2. DECISION TO BUILD

- ✚ Retain legal counsel
- ✚ Hire consultant to do library building program
- ✚ Undertake survey of community including focus groups
- ✚ Delegate specific responsibilities to individuals or groups
- ✚ Establish timeline

3. COMMUNITY ANALYSIS

- # General characteristics of the population
- # Projected population growth in ten years
- # Review of demographics and analysis
- # Relationship to academic community and school community
- # Relationship to cultural community
- # Future needs and general trends
- # Special community needs

- After the library has completed previous three steps then , a **Library Building Program** is developed.
- The building program defines the specific needs of the library in both quantitative and qualitative terms.
- The building program should bring together the thinking of the library board, the library director, the library staff, and the community on the purpose, scope, and function of the library building program.

4. WRITTEN BUILDING PROGRAM

- ✚ Library objectives
- ✚ Existing and projected services
- ✚ Future needs of the library
- ✚ Standards required
- ✚ Interrelationships of spaces within the building, with reference to public use and staff use, indicating priorities for contiguous location of spaces

BUILDING PROGRAM CONTINUED....

- # Name of each space
- # Description of service function of each space and activities which take place
- # Number of occupants to be accommodated (patrons and staff)
- # Resources to be accommodated (books, tables, computers, etc)
- # Square footage requirements for each space
- # Current inadequacies
- # Lists of movable furniture, equipment, and built in furniture and equipment
- # Community architectural preferences
- # Technology issues
- # Environmental considerations and special requirements if needed
- # Explanation of need for major renovation or expansion

5. HIRING OF THE ARCHITECT

- ✚ Develop a philosophy of architecture
- ✚ Become familiar with the architect's work
- ✚ Check references and competence
- ✚ Design process of input to architect
- ✚ Sign contract

6.DEVELOPMENT OF PLAN FOR FINANCING

+ Estimate project cost

+ Site

+ Site survey

+ Architect's fees

+ Consultant fees

+ Construction costs

+ Mechanical costs

+ Furniture and equipment

+ Legal fees

+ Sources of funding

+ Operating budget

+ Gifts

+ Mortgage

+ Funding campaign

7. ACQUISITION OF SITE

- ✚ Accessibility of site
- ✚ Relationship to existing city plan
- ✚ Visual prominence
- ✚ Traffic patterns
- ✚ Soil conditions
- ✚ Parking
- ✚ Centralized location
- ✚ Fair price

8.SCHEMATIC DESIGN

“**Schematic design** is the initial **design** phase in any project”.

- # Floor plan
- # Elevation
- # Comparison with building program
- # Approval by governing body



A hand-drawn architectural floor plan on a light pink background. The drawing is a schematic design of a multi-room interior. It features several rooms, some with hatched areas representing furniture or fixtures. Key elements include: a central area labeled 'dining'; a kitchen area labeled 'kitchen' and 'fayer'; a bathroom labeled 'Bath'; a bedroom labeled 'bed #1'; another bedroom labeled 'bed #2'; and a third bedroom labeled 'bed #3' with the note 'sewing'. There are also labels for 'close' (closets), 'clo' (clothing), and 'outdoor access?'. The drawing uses various line weights and hatching to indicate different materials and furniture. A red rectangular box with the text 'Schematic Design' is overlaid in the center of the plan.

Schematic Design

9. PRELIMINARY DRAWINGS

“Preliminary drawings are the initial plans prepared by the designer or architect's and engineer's firm during the early planning or promotional stage of the building development.”

- # Outline specifications for materials
- # Comparison with building program
- # Consult staff for suggestions
- # Cost estimates
- # Approval by governing body

10. WORKING DRAWINGS AND SPECIFICATIONS

“Working drawings are drawings used as a reference or guide at the time of constructing the building. It includes important information such as measurements, dimensions etc. that the engineers/contractors/architect might need to know”.

- ✚ Detailed drawing
- ✚ Detailed specifications

11.FURNITURE AND EQUIPMENT LIST

 Complete list

 Specifications



THE MAX CHAIR FEATURES A SPECIALLY DESIGNED ANTI-TILT FRAME TO ACTIVELY PREVENT CHILDREN FROM LEANING BACK ON THEIR SEATS . THE CHAIR ALSO INCORPORATES ERGONOMIC LUMBAR SUPPORT TO HELP MAINTAIN THE BODY'S NATURAL POSTURE. INJECTION MOULDED POLYPROPYLENE SEAT WITH A TEXTURED SURFACE FOR MAXIMUM DURABILITY

FEATURES & BENEFITS

- ✓ ANTI-TILT FRAME
- ✓ STACKABLE
- ✓ 5 YEAR WARRANTY
- ✓ UK MANUFACTURED
- ✓ TESTED BS EN 1729 PTS 1 & 2

FRAME OPTIONS

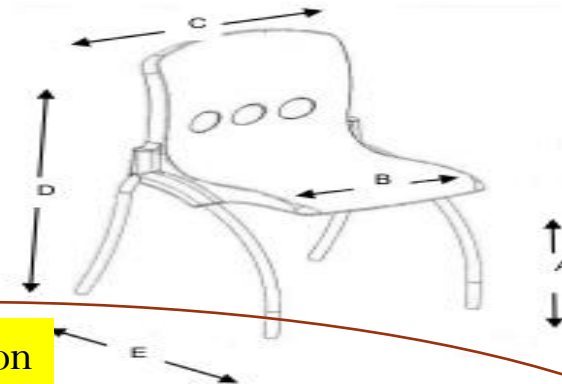
WELDED 22MM DIAMETER TUBE POWDER COATED FINISH STANDARD COLOUR SILVER
OTHER COLOURS AVAILABLE TO SPECIAL ORDER

SHELL OPTIONS

STANDARD SHELL COLOURS:
OCEAN BLUE, FOREST GREEN, RUBY RED, CHARCOAL, YELLOW, DARK BROWN, ARTIC WHITE.

RECYCLED COLOURS:
DARK BLUE, DARK GREEN, LIGHT BROWN, BLACK

BESPOKE COLOURS :
AVAILABLE FOR QUANTITIES 250 +



Specification

MODEL	SEAT HEIGHT A	SEAT WIDTH B	OVERALL WIDTH C	OVERALL HEIGHT D	OVERALL DEPTH E
SM 3	350	340	460	685	430
SM 4	380	340	460	705	450
SM 5	430	380	500	800	540
SM 6	460	380	500	830	555

DESIGN TIPS

- The main thing to remember while designing the library building is that it's not for librarian or the architect or the interior designer, it's for the customers.
- Building should be functional.
- Flexibility should be the mantra.
- Entrance and ground floor should be larger than other floors
- One design rule of thumb does not apply to all.
- Think about comfort of customers. They should feel welcomed and keep them coming back.
- Think about ergonomic.
- Trial Test for furniture and equipments.

DESIGN TIPS CONTINUED...

- Be adventurous and welcome new ideas of color combination, furniture etc.
- Consider the practicality as well as the visual impact of fixtures.
- Pay attention to all signs, whether directional or for collection and service areas.



Signage System



DESIGN TIPS CONTINUED...

- Think about the first impression of the user. Neutral? Negative? Positive? Welcoming? Visual elements they see create a landscape to navigate. Overhead signs, ceiling or wall mounted banners and lettering should be used to guide users into spaces or zones within the library. Strong contrasting color combinations should be used to enhance the readability of signs.

DESIGN TIPS CONTINUED...

Suggested font color and background combinations are:

Backgrounds

Black

Red

White

Yellow

Green

Blue

Text

White, Yellow

White, Yellow

Black, Red, Blue and Grey

Black, Red, Blue and Grey

White, Yellow and Beige

White, Yellow

DESIGN TIPS CONTINUED...

- Stop, Look the site and Listen the opinions
- Remember chief element of any library design is its serenity
- Consider how the disabled and old age people will be able to access the resources in the library
- Avoid space stealers like balconies, air wells, light wells, etc.
- Minimise interior walls
- Library spaces must be planned with appropriate technological amenities in mind. These may include:

DESIGN TIPS CONTINUED...

- ✿ Wireless Internet and printing access.
- ✿ Readily accessible public computers with basic software and Internet connection.
- ✿ Distance learning classrooms that provide videoconferencing capabilities and electronic flip charts to share information both graphically and electronically.
- ✿ Practice presentation rooms equipped with projection systems and conference tables.
- ✿ Advanced computing centers with the latest video, graphics, and science software.
- ✿ Lockers with built-in outlets for charging personal devices such as cell phones and laptops.

(<https://www.bdcnetwork.com/12-major-trends-library-design>)

Planning of Library Space

STACKS AREA

- Stacks are the storage spaces for the various types of documents kept in a library. It should be placed at the centre of the library.
- The extent opposite of the central core stack reading room has to be established.



STACKS AREA CONTINUED...

STANDARDS FOR STACK AREA

- 15 volumes per square foot space is a standard formula. This includes gang ways.
- ISI has suggested **Length** - $1.80n + 3.15$ meters where 'n' is number of rows of book racks ;**Width**-3 m close to a longitudinal wall; or 5 m close to a longitudinal wall; or 8 m or 10 m close to a longitudinal walls. (It depends upon number of racks plus number of sides (one or two sides gangway) for gangway and width of the gangway); **Height**-Floor to ceiling 2.35 m. It is also approved by UGC,

STACKS AREA CONTINUED...

- While calculating the space requirement, not only the dimension of the furniture, but the gangway space has to be considered. Gang ways in the stack room is also an essential part of the stack room. The width of the gang way between two rows of racks should be 4.5 feet. If the stack room is unusually big the central gangway may be 5 feet wide.
- The nearest rack should be 3 feet away from the wall so that unexpected rain water and direct sun rays do not damage books.

STACKS AREA CONTINUED...

- Each unit book rack (2m) long may be assumed to house 150 volumes.
- In bigger libraries, for less used materials, compact shelving is recommended to save space. The racks for compact storage move on rails, and no space is left between the rows.

STACKS AREA CONTINUED...

- Dr. Ranganathan(1958) suggested some basic principle in reference to stack room:
- Each floor of the library building should be in one single floor. Sloping surfaces and curbs are avoided due to movements of books trolley within the library.
- Movement from one floor to another should be through electric lifts provided in the stack room.
- It is essential that every new library building should be designed as for open access. For this stack room should have these special features:-Book-racks should not exceed 7 feet in height. This leads to another inference. The ceiling of a tier in a stack room should not be more than 9 feet high. Otherwise much space will be wasted.

STACKS AREA CONTINUED...

To protect the books from sunlight and rain water, these points should be kept in mind:-

- The longer axis of the stack room should run east to west. There will then be no need for windows on the eastern or the western walls.
- To prevent the southern and the northern sun from falling on the backs of the books, the stack room should have a gangway of about a meter or three feet of width all along the southern and the northern walls.

READING ROOM

- The planning of reading areas should receive the most careful consideration of the librarian. Reader should have a direct access to the reading room. We should consider the following fact while deciding the location and size of the reading room:
- It should be situated on the ground floor and nearer to the stack room, so that reader's time is not wasted.
- It should also be located near the main catalogue and the central circulation desk, so that books may be easily obtained from the stack and conveniently read.

READING ROOM CONTINUED...

- They include rooms for assigned reading in “reserved books”; for general reading supplemented by the use of reference books; for casual reading or borrowing; for reading periodicals and news papers; for consulting maps; for using micro-reproductions; for individual research; for seminars, etc.



Reading Room

READING ROOM CONTINUED...

UGC (India) has recommended following size of a reading room for University and College libraries in India:-

Length – $1.5 \times (n)$ meter (excluding the control region). Here “n” is the number of rows of reading tables. Usually the size of the reading table is 2×0.70 m. The centre to centre distance between two consecutive rows of reading room tables is 1.5 m with seating arrangement on one side of the table only.

Width – 5m (On the basis of two tables each 2m long plus central gangway one meter wide); or 7.5m (On the basis of three tables each 2m long plus central gangway 1.5 meter wide); or 10m (On the basis of four tables each 2m long plus central gangway 2 meter wide)

READING ROOM CONTINUED...

Height-The standard height for these areas is 7 and half. There are many librarians who are not in favour of such low ceilings in reading areas.

An alternative to low ceiling is to have the height of ceiling of reading areas approximately double the height of the stack areas. In this type of arrangement ceilings of reading areas are kept 16”-6”. It is a fairly good height for a reading room, at the same time is not wasteful.

READING ROOM CONTINUED...

- Metcalf (1965) has suggested 25 sq. ft. for undergraduate student, 30 sq. ft. for the use of master's candidate, 35 to 40 sq. ft. for one writing a doctoral or dissertation, and from that up to as much as 75 sq. ft. or even more for a private study for a faculty member should be figured on. More space should be allowed per reader in special areas, such as computer rooms areas for using CD's newspaper, Magzines and rare books.
- Burchard et.al.(1949) has given the idea of providing 25 sq. ft. space per reader.

READING ROOM CONTINUED...

Seating capacity of the reading area

- There is no consensus of opinion regarding this point. Estimates differ from 25% to 75%.
- UGC (India)(1965) has suggested that for University central library total capacity of the reading room should be 1/5th of the students. Dr. Ranganathan(1958) also suggested that it should be 1/10th of the total number of teachers.





PERIODICAL ROOM

- It should be kept in mind that now subscription of printed periodicals are decreasing due to the e-journal databases, consortia, repositories etc. So big periodical rooms are almost not required in such libraries where printed journals are not subscribed. They may require an office to deal with correspondence and to keep the record of subscription of databases.

PERIODICAL ROOM CONTINUED...

- Earlier days the size of the periodical room was depended on the number of bound volumes and loose issues of periodicals to be accommodated and the number of readers who will consult at one time.
- When a separate periodical room is provided, it was preferably be located adjacent to and in connection with the reference room.
- The height of the ceiling of a periodical room was the same as that of the general reading room.

REFERENCE SECTION

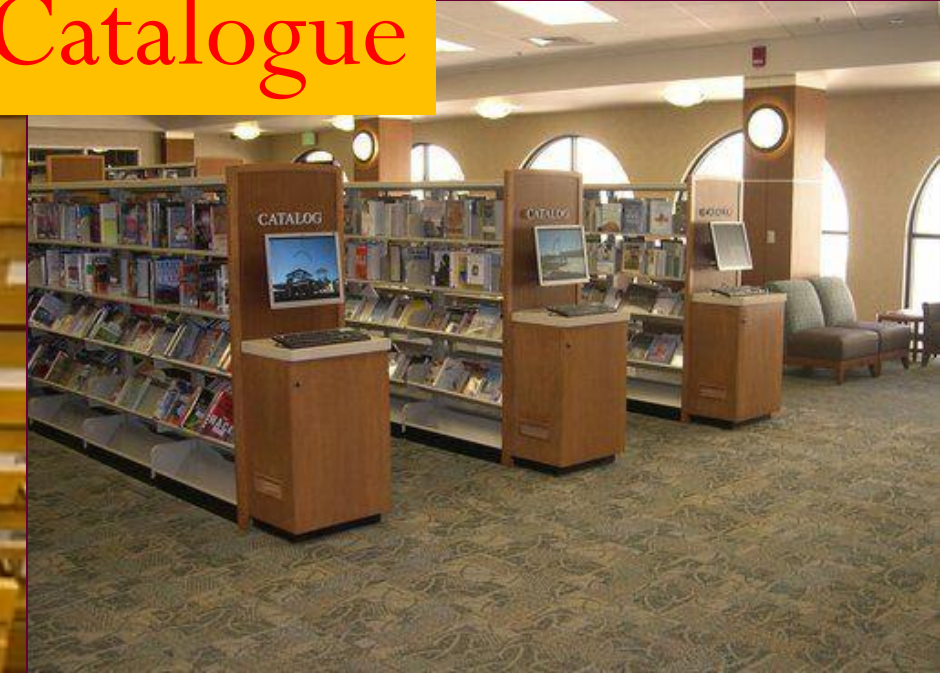
- Reference rooms are preferably placed on the entrance level where space is at premium, close to the main entrance lobby and not far from the professional staff of the processing department.
- This area must be located near public catalogue circulation counter and main reading areas.
- It is suggested 100 seats are adequate for a reference room in an academic library except in case where it is expected to be used for other purpose as well.

PUBLIC CATALOGUE

- Catalogue is the key to the resources of the library. It should be placed in such a way that readers can use it easily.
- The location of the public card catalogue should not be far from the main entrance, and it should also be near the circulation desk, the acquisition and catalogue departments, and the bibliographical and reference services. (Wilson and Tauber, 1958) Space totally depends upon the number of volumes and number of entries or catalogue cards.
- This can also be applied for OPAC also. The size will depend upon number of terminals and number of users.



Public Catalogue



CIRCULATION AREA

- The circulation counter is the focal point of the library.
- The location of circulation counter should be near the entrance and stack. Adequate space should be left near this counter for free movement of readers.
- At the counter some space must separate it from the reading area, otherwise readers will be disturbed and this space may be utilised for exhibition display and public catalogue, etc.
- So the location, size and shape of the issue counter should be decided before the building plans are finalized.



Size of the circulation counter will depend upon:

- (1) Number of persons who will have to work on it at one time; which in turn will depend on the number of readers to be served at one time.
- (2) The issue system used will also affect the size of the counter. (Sharma, 1972)
- (3) The nature and type of organization of the library, and the number of other services-points and the study habits of users. (Metcalf, 1965)

RESEARCH CUBICALS

- A separate space is provided to research work far away from the main entrance and issue counter According to UGC (India)(1965)space recommended for a research cubical is 20 sq. ft. or 7 sq. ft.



Research Cubical



Offices for Executives

- Offices for the librarian, the assistant librarians and the heads of the departments constitutes another important types of staff accommodation which must be provided. Room of the librarian should be in proximity to the staff rooms and accessibility to the library clientele. According to Metcalf(1965) the librarian's office may take as little as 125 to 150 sq. ft. in a small library or as much as 400 sq. ft. or even more in a large library.”
- Further he stated that the Assistant librarian's offices ordinarily will not be as large as the librarian's and might vary from 125 to 250 sq. ft. Offices of the assistant librarians and the departmental heads should be located near the work for which these offices are responsible.
- Dr. Ranganathan(1958) recommended 6x5 meters room for librarian, deputy librarian, assistant librarian, etc.

SEMINAR ROOM

- College and University libraries must have a room which should be reserved particularly for seminars, meetings, discussions, tutorials, etc organized by libraries. Though the size of this room depends on the local demands and conditions, ISI(1960) has recommended 20 sq. mt. per person for seminar rooms. For group discussion room, it has recommended a space of 15 sq. mt. per person.



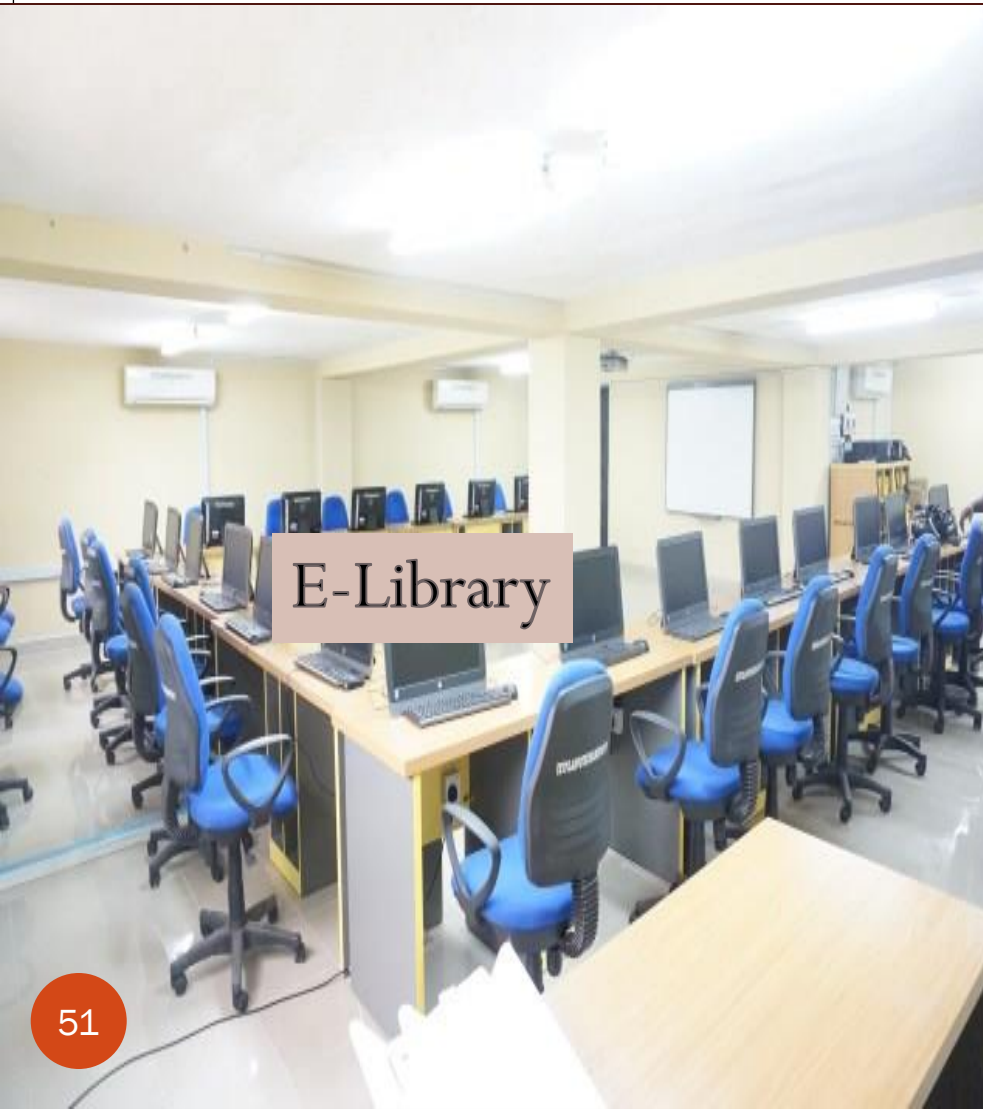
PROPERTY COUNTER

- A property counter is essential in every library for readers so they may leave their belongings here before going inside the library.

OTHER AREAS

- In University libraries certain other rooms are also provided, such as microfilming room, library committee room, document reproduction room, Night Watchman's duty room, exhibition room, etc.

NEW AREAS IN MODERN LIBRARY



E-Library

- Library users have access to a wide variety of electronic resources (online repositories, online databases, e-journal sites etc.) in the E-Library.

A SOCIAL SPACE

- This concept is gaining popularity in foreign countries. DOKK1 – the famous library in Aarhus (Denmark) is a vibrant space for all generations, offering spaces such as: learning spaces, media spaces, youth spaces, family spaces, community spaces and many more. This way, people have access to resources, classes, trainings, community events, company events, group meetings, book clubs, gaming facilities, programs for teens, kids and more.
- Therefore, modern library should create a space where patrons can openly engage with information—process it, reflect on it, have conversations about it, and develop new ideas, conversations, and opportunities as a result of it.

Social Space in Library



A MAKER SPACE FOR INNOVATION

- MakerSpace is considered a place where informal, collaborative learning and discovery take place through hands on creation, via use of any combination of art and technology. MakerSpaces facilitate both analog (low-tech) and digital (high tech) creation.
- Recently many libraries have begun to develop spaces for design and activities that both teach and empower patrons. The learning in these spaces varies wildly—from home bicycle repair, to using 3D printers, to building model airplanes. Fittingly, they are called makerspaces.

Makers Space in Library



Indian Standards for Library Building and Furniture

The Library buildings, fittings and furniture sectional committee of the Indian Standards Institution (Now Bureau of Indian Standards) has brought out the following standards which are of considerable value in the planning of library buildings in the Library Development Plan.

- The IS 1553-1960 Code of Practice Relating to Primary Elements in the Design of Library Buildings prescribes the average size of different types of libraries, the different kinds of rooms required; the basis and method of estimating the dimension of each kind of room, etc. The following are also prescribed by IS 1553-1960:
 - Controls and conveniences
 - Basic dimensions for building
 - Basic dimensions for furniture

- Indian Standard 1829 (Part I) 1961
 - Part-1 of this standard prescribes standards for library furniture and fittings-Timber.

The following are the two other Indian Standards:

- Indian Standard 1172-1957
 - This standard prescribes the Code of Basic Requirements for Water supply, drainage and sanitation.
- Indian Standard 1233-1958
 - This standard provides the recommendations for Modular coordination of dimensions in the building industry

- Besides the BIS, the regulatory bodies of professional education such as AICTE, MCI etc. in India also prescribe various norms and standards for library as the role of library in ensuring quality professional education is pivotal. (Rathinasabapathy, 2014)

Library Website for standards related to library building and furniture:

<https://law.resource.org/pub/in/bis/S03/is.1553.1989.pdf>

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