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***Indian Standard***

**RECOMMENDATIONS RELATING TO  
PRIMARY ELEMENTS IN THE DESIGN OF  
SCHOOL LIBRARY BUILDINGS**

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**BUREAU OF INDIAN STANDARDS  
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# Indian Standard

## RECOMMENDATIONS RELATING TO PRIMARY ELEMENTS IN THE DESIGN OF SCHOOL LIBRARY BUILDINGS

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# *Indian Standard*

## RECOMMENDATIONS RELATING TO PRIMARY ELEMENTS IN THE DESIGN OF SCHOOL LIBRARY BUILDINGS

### 0. FOREWORD

**0.1** This Indian Standard was adopted by the Indian Standards Institution on 22 December 1976, after the draft finalized by the Library Buildings, Fittings and Furniture Sectional Committee had been approved by the Civil Engineering Division Council.

**0.2** Extensive schemes are underway to improve the existing library facilities and also for setting up of new library buildings in different parts of India. It has been well recognized that any further improvements and construction of new library buildings should take into account the knowledge and experience gained in India and abroad in the design, layout and functioning of library buildings. To give guidance to the architects, institutions and others concerned in planning of all types of library buildings IS : 1553-1976\* was published. During the course of formulation of IS:1553-1976\*, the Committee noted that very little attention was being paid to the provision of proper library facilities in school buildings and particular recommendations in this regard, would be of considerable assistance to the education departments and other authorities concerned. This was considered all the more urgent in view of the large number of elementary and secondary schools coming up in urban and rural areas. This standard prepared accordingly gives recommendations for design and layout of school library buildings.

**0.3** The recommendations made in this standard may not, however, meet all the situations that may arise in individual cases, and it may become necessary to deviate from the provisions of this standard or suitably adapt them to meet such situations.

**0.4** This standard is one of a series of Indian Standards covering requirements of libraries.

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\*Recommendations relating to primary elements in the design of library buildings (first revision).

**0.5** For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960\*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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## 1. SCOPE

**1.1** This standard covers the recommendations relating to primary elements in the design of school library buildings.

## 2. TERMINOLOGY

**2.0** For the purpose of this standard, the following definitions shall apply.

**2.1 Aisles** — The 'streets' between two rows of book stacks.

**2.1.1 Main Aisle** — 'Main Street' of book stacks ( *see* Fig. 1 ).

**2.1.2 Cross Aisle** — Secondary aisle branching off main aisle ( *see* Fig. 1 ).

**2.1.3 End Aisle** — Aisle along the wall of the book stacks ( *see* Fig. 1 ).

**2.1.4 Range Aisle** — Aisle between two ranges ( *see* Fig. 1 ).

**2.2 Compartments** — Two sections back to back.

**2.3 Deck** — The floor at any stack level usually one of the intermediate floors of the multi-tier stack ( *see* Fig. 2 ).

**2.4 Range** — A group of sections ( single faced range ) or compartments ( double faced range ) with shelf supports common to adjacent sections.

**2.5 Section** — *See* 2.7.

**2.6 Tier** — One level in book stack.

**2.7 Unit Rack or Book Rack** — A rack consisting of three uprights forming four open bays, two on each face; one of which shall be termed as 'section'.

## 3. BASIC PRINCIPLES OF DESIGN

**3.1** The libraries for schools shall be designed on the principles of open access libraries in accordance with IS : 1553-1976†.

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\*Rules for rounding off numerical values ( *revised* ).

†Recommendations relating to primary elements in the design of library buildings ( *first revision* ).



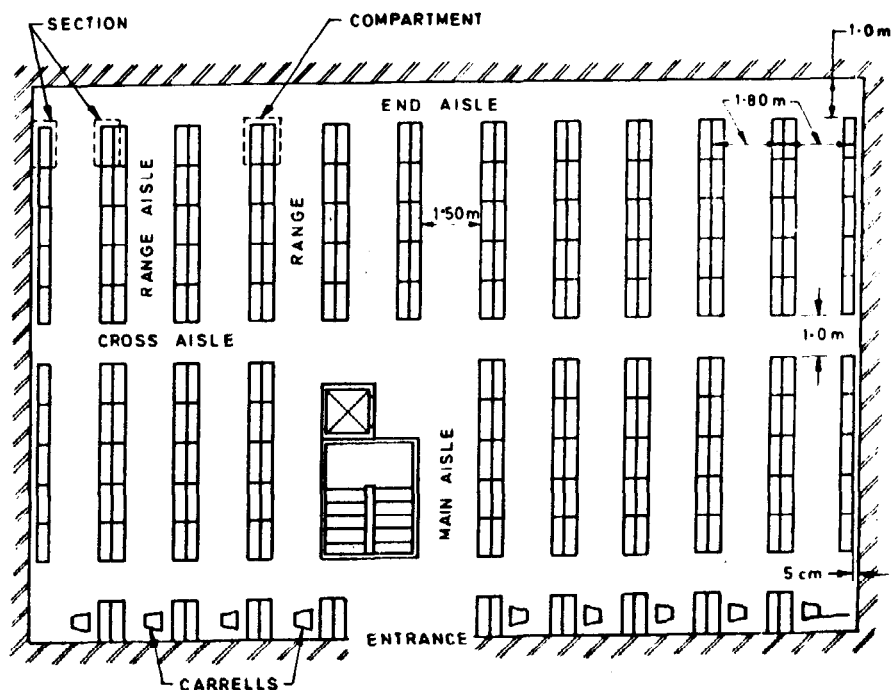


FIG. 1 SKETCH SHOWING ARRANGEMENTS OF VARIOUS COMPONENTS  
INSIDE STACK REFERENCE ROOM

#### 4. TYPES OF SCHOOL LIBRARIES

4.1 The school libraries shall be classified as follows:

- a) Elementary school libraries, and
- b) Secondary school libraries.

#### 5. SIZES

5.1 The sizes and other details for the two classes of school libraries shall be as given in 7.1.

#### 6. LOCATION

6.1 A schematic layout of a school library is given in Fig. 3.

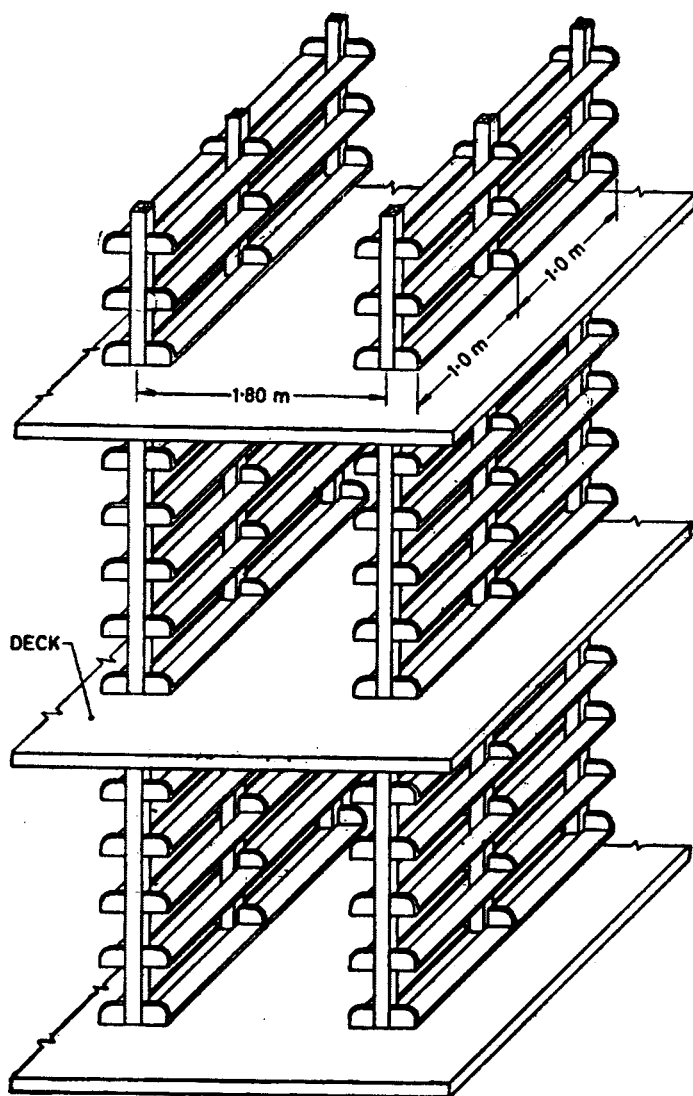


FIG. 2 MULTI-TIER BOOK STACK

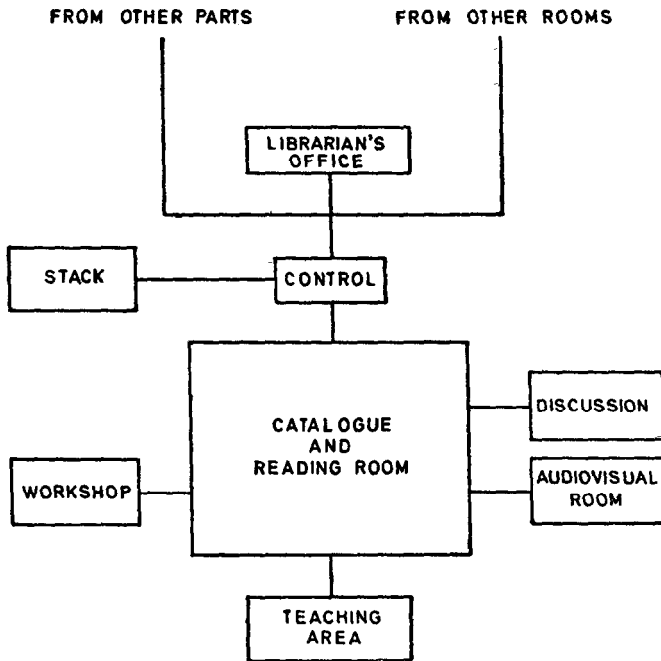


FIG. 3 SKETCH SHOWING RELATION BETWEEN VARIOUS PARTS OF SCHOOL LIBRARY

**6.2** Location of library with respect to other rooms in the school building shall be such that it is conveniently approachable from the main entrance, and should be centrally located with respect to teaching area.

**6.3** The library block should provide calm and quiet atmosphere for the readers.

**6.4** The longer axis of library should run east to west with some adjustments depending upon the latitude of the place. The entrance should be provided from a verandah or lobby.

## 7. ROOMS

**7.1** Essential rooms required for the school libraries shall depend on the size and strength of schools. Minimum requirements for planning are given below:

<i>Type of Library</i>	<i>No. of Volumes</i>	<i>No. of Current Periodicals for Display</i>	<i>No. of Readers Seats</i>	<i>Staff not at Service Point</i>
a) Elementary school	500-3 000	10-20	40-80	1-3
b) Secondary school	5 000-30 000	20-30	40-120	2-4

NOTE — Main library room may serve both as stack and reference room with arrangements for lending books near to the exit.

**7.2** One entry and one exit shall be provided to ensure safety of books.

**7.3** A small room for the repair of damaged books shall be provided in the library.

## 8. SPACE REQUIREMENTS

**8.1** Recommended area of various rooms as shown in Fig. 3 shall be as follows:

Audio visual storage room	45 m <sup>2</sup>
Workshop	45 m <sup>2</sup>
Discussion room	2 m <sup>2</sup> per person
Library classroom	75 m <sup>2</sup> at the rate of 1.25 m <sup>2</sup> for 10 students

**8.2 Reading Room** — The area for reading room shall be as follows (see also Fig. 3):

- a) Area per person (seated):
- 1) Elementary 1 m<sup>2</sup>, Min
  - 2) Secondary 1.5 m<sup>2</sup>, Min

**8.3** If stack and reading room are combined into one, the area required for shelving to be provided shall be as follows:

- a) Book storage:
- 1) Elementary 30-35 } volumes per metre run of shelving
  - 2) Secondary 25-30 }
- b) Number of volumes required to be stored 5 to 10 volumes per student

## 9. LIGHTING

**9.0** Lighting on suitable level shall be provided as given in **9.1** to **9.8**.

**9.1 Natural Lighting** — Natural lighting when provided should be free from glare and glazed area should be equal to the minimum of 15 percent to 20 percent of the floor area of the reading room concerned.

**9.2** Window height and the width of the room should have a minimum ratio of 0.35.

**9.3** If windows are used on one side of the room, the wall opposite to the glazed wall should not be at a distance more than 8 m.

**9.4** The intensity drop across the width of the reading room shall not exceed 2:1.

**9.5** Bilateral lighting should be provided in case the width of the room exceeds 8 m.

**9.6 CHHAJJAS** or hoods, when provided, shall be kept to a minimum required to exclude rain or direct sunlight and to minimize glare.

**9.7** Glare caused due to sun-lit surfaces in front of windows may be avoided by introducing plant growths of suitable variety and size.

**9.8** To avoid undesirable contrast between the sun-lit surfaces and the interior walls and windows sashes, the same should be painted in suitable light colours.

## 10. ACOUSTICS

**10.0** Wherever rooms have to be used for teaching purposes, to distribute the sound uniformly throughout the room, the points given in **10.1** to **10.4** shall be given consideration.

**10.1** The background noise shall be low enough so as not to interfere with the desired sound of speech.

**10.2** The desired sound shall be loud enough to be heard without effort.

**10.3** The reverberation time shall be short enough to avoid echo and long enough to provide blending.

**10.4** The distribution of sound shall be uniform throughout the room.

## 11. THERMAL COMFORT

**11.1 General** — The windows and ventilators shall be so fixed that it is possible to control the movement of air through them.

### 11.2 Hot and Dry

**11.2.1** The rooms or block shall be so oriented that area of walls and windows exposed to sun is reduced to minimum.

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**11.2.2** The outer surfaces of the building shall be treated with reflective colours.

**11.2.3** Pavings close to the library blocks shall be either avoided or reduced to minimum.

### **11.3 Hot and Humid**

**11.3.1** The rooms of library block shall be so oriented as to take maximum advantage of prevailing breeze.

**11.3.2** The areas exposed to sun shall be shaded to provide protection from afternoon's sun.

**11.3.3** The windows and ventilators on the windward side shall have a smaller area than the windows and ventilators provided on the leeward side.

**11.3.4** Hedges or compound walls shall be placed in such a manner so as to help the flow of air in the direction of windows on the windward side.

**11.3.5** The levels of windows or ventilators on the windward side and leeward side should be staggered in order to induce movement of air at suitable working levels.

### **11.4 Cool Dry or Cool and Humid**

**11.4.1** The rooms of library blocks shall be so oriented as to provide maximum sun-lit area.

**11.4.2** Materials which conserve heat and facilitate heating should be used in the construction.

## **12. FURNITURE SIZES**

**12.1** The recommended heights of furniture to be used by students of secondary and higher secondary classes are as follows:

Height of bench or chair	= 42.5 cm
Height of table	= 65 cm
Maximum height of periodical gallery	= 150 cm

**12.2** The recommended heights of furniture for students of primary classes are as follows:

Height of bench or chair	= 34 cm
Height of table	= 50 cm

**12.3** Other details of dimensions are left to the designers consideration in view of flexibility in design.

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