

इंटरनेट

मानक

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 1829-2 (1993): Library furniture and fittings, Part 2:
Steel- [CED 35: Furniture]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

BLANK PAGE



IS 1829 (Part 2) : 1993

भारतीय मानक

पुस्तकालय फर्नीचर और फिटइन्गे

भाग 2 इस्पात — विशिष्ट

(पहला पुनरीक्षण)

Indian Standard

LIBRARY FURNITURE AND FITTINGS

PART 2 STEEL — SPECIFICATION

(*First Revision*)

UDC 684.4.044 : 022.91

© BIS 1993

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

October 1993

Price Group 4

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Furniture Sectional Committee had been approved by the Civil Engineering Division Council.

Part 1 of the standard deals with timber furniture for library use and this part with steel furniture.

For reasons of uniformity, the essential dimensions of steel furniture have been kept in line with that of the timber furniture specified in Part 1. Design details have been left to the designer's discretion.

In the formulation of this standard due weightage has been given to international co-ordination among the standards and practices prevailing in different countries in addition to relating to the practices in the field in this country.

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

This standard was first published in 1977. In this revision the following changes have been effected:

1. Referred Indian Standards have been updated;
2. Inclusion of performance requirement of finish for steel;
3. Introduction of marking clause.

The committee responsible for the preparation of this standard is given in Annex B.

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 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

LIBRARY FURNITURE AND FITTINGS

PART 2 STEEL — SPECIFICATION

(First Revision)

1 SCOPE

This standard (Part 2) prescribes the requirements for the following items of steel furniture and fittings meant for use in a library:

- a) Book racks,
- b) Book trolley,
- c) Book ends,
- d) Catalogue cards tray,
- e) Card index cabinets,
- f) Catalogue cards work tray,
- g) Charging trays,
- h) Reading-room table,
- j) Study table,
- k) Chairs,
- m) Book cases, and
- n) Glass-front cabinets.

2 REFERENCES

The Indian Standards given in Annex A are necessary adjuncts to this standard.

3 MATERIALS

3.1 Mild Steel Sheets

Mild steel sheets shall conform to Grade 0 of IS 1079 : 1988 or Grade 0 of IS 513 : 1986.

3.2 Angles

Mild steel for hot rolled angle sections shall conform to IS 1977 : 1975. Hot rolled mild steel angle shall conform to IS 808 : 1989. Angle and channel sections may also be cold formed from strip steel, conforming to IS 513 : 1986.

3.3 Timber

Timber shall conform to IS 13622 : 1993.

3.4 Electrodes

Electrodes for gas, arc and spot welding shall conform to IS 1278 : 1972, IS 814 : 1991 and IS 4972 : 1968 respectively.

4 BOOK RACKS

4.1 Types of Book Racks

There can be three types of book racks as follows:

- a) Open skeleton type with side and back strips;
- b) Closed type with sides and back closed with sheets; and
- c) Side closed type, where only the sides are closed with sheets.

4.2 Dimensions

The essential dimensions of double faced and single faced unit racks shall be as given in Table 1. The angle posts shall have holes at every 50 mm distance along the length for the flexibility in adjustment of the intermediate shelves. Generally 350 mm centre-to-centre distance should be adopted for shelves.

Table 1 Dimensions of Book Racks

All dimensions in millimetres.

Sl No.	Type	Height	Length	Depth	Height of Lowest Shelf above Floor Level
(1)	(2)	(3)	(4)	(5)	(6)
i)	Double faced unit rack	2 175	1 840	460	100
ii)	Single faced unit rack	2 175	1 840	230	100
NOTE -- For oversized documents depths of 600 mm and 300 mm for the double faced and single faced book racks respectively are recommended.					

4.3 Loading

Shelves shall be designed to carry a load of 60 kg per shelf, per bay.

5 BOOK TROLLEY

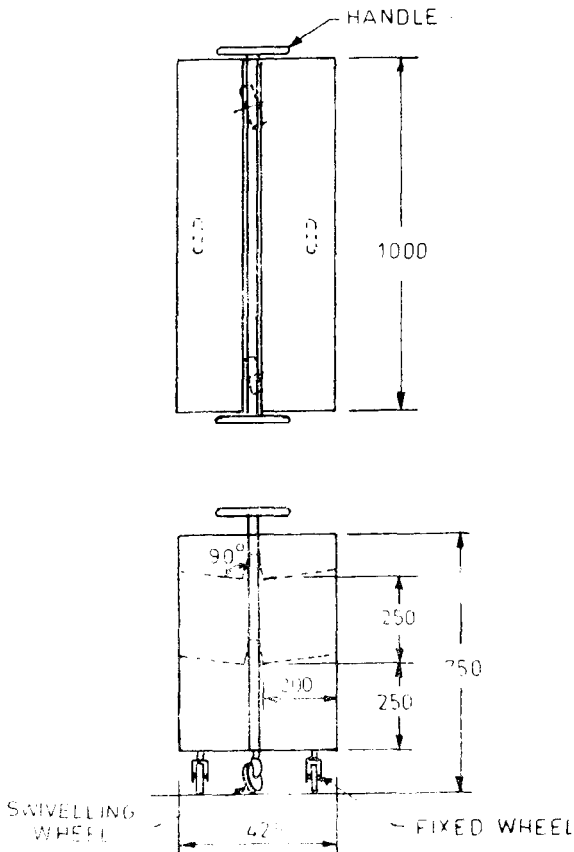
5.1 The trolley shall have two pairs of slopping shelves each 200 mm wide and one flat-bottom shelf about 425 mm wide for books of large sizes.

5.2 The height of the trolley shall be 750 mm, the same as that of the table. The clear distance between the shelves shall be 250 mm.

5.3 The shelves rigidly connected at the ends so that they are strong enough to bear the following loading:

- a) Sloping shelf : 40 kg per shelf
- b) Bottom shelf : 80 kg per bay

5.4 The trolley shall be fitted with four rubber tyred ball bearing wheels, one of the swivelling type at each end and two of the fixed type in the centre as shown in Fig. 1.



All dimensions in millimetres.

FIG. 1 ILLUSTRATIVE SKETCH OF A TROLLEY

5.5 Suitable protection may be provided at the bottom corners and the ends of the vertical angle parts, to minimize damage due to knocking against other furniture, fittings, walls or pillars.

NOTE — The book trolley shall be so designed as not to make any noise while in use.

6 BOOK ENDS

Book ends made of steel shall conform to IS 7076: 1983.

7 CATALOGUE CARDS TRAY

7.1 The size of catalogue cards tray shall be based on the international catalogue card size 75 × 125 mm (see IS 7150 : 1974).

7.2 The internal dimensions of the tray shall be 105 × 135 × 500 mm. The side and back plates of the tray shall be minimum 50 mm high.

7.3 A guide rod of mild steel, suitably painted to prevent rusting, shall be fitted right through the centre of the tray to lock up the cards by some suitable means.

7.4 A suitable stop shall be provided to prevent the tray from being pulled entirely out of the cabinet.

7.5 A movable card rest with a hole for the guide rod to pass through shall be provided in each tray.

8 CARD INDEX CABINETS

8.1 The cabinets shall have two or four drawers as shown in Fig. 2.

8.2 The dimensions of the card index cabinets shall be as given in Table 2.

Table 2 Dimensions of Card Index Cabinets

(All dimensions in millimetres)

Sl No.	Type	Height	Width	Depth
(1)	(2)	(3)	(4)	(5)
i)	Two drawer cabinet	135	320	510
ii)	Four drawer cabinet	255	320	510

8.3 The cabinet should be placed on a 570 mm high stand or table.

9 CATALOGUE CARDS WORK TRAY

9.1 The internal dimensions of catalogue cards work tray shall be as follows:

- a) Length 300 mm
- b) Width 135 mm
- c) Depth 50 mm

9.2 The tray shall be made from steel sheet or not less than 0.8 mm thick.

9.3 A movable card rest shall be provided in as 7.5.

10 CHARGING TRAYS

10.1 Charging trays are meant for containing readers tickets. The trays may have one, two, three or four compartments.

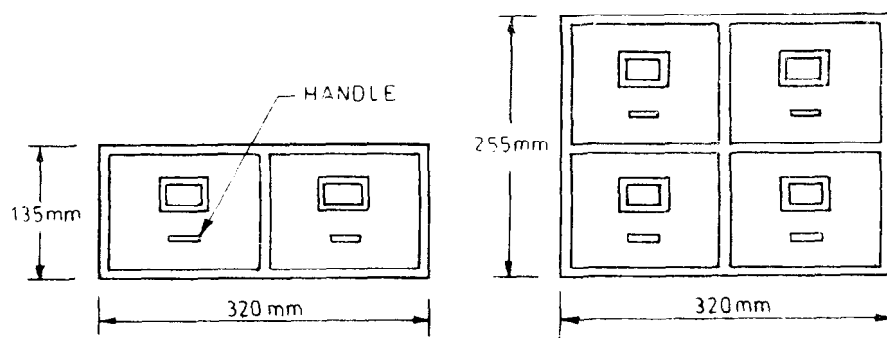


FIG. 2 TYPICAL ILLUSTRATION OF CARD INDEX CABINETS

10.2 The overall dimensions of charging tray depend upon the number of compartments and the size of the tickets issued. The internal dimensions of each compartment shall be as given below:

a) *For Newark Charging System*

- 1) Length 370 mm
- 2) Width 85 mm
- 3) Height 125 mm

b) *For Browne Charging System*

- 1) Length 370 mm
- 2) Width 55 mm
- 3) Height 75 mm

10.3 The tray shall be made from steel sheet of not less than 0.8 mm thick.

11 READING ROOM TABLE

The size of the reading room table shall be 900 × 600 mm for single and 2 400 × 600 mm for three readers. Height of the table top shall be 750 mm and that of the foot rest rod shall be 150 mm.

12 STUDY TABLE

Study table shall have the same dimensions as reading room table for a single reader. It shall have, in addition, a pedestal on one side with one or two drawers.

13 CHAIRS

13.1 The essential dimensions of steel chairs shall be as specified in IS 3663 : 1991.

13.2 The materials, construction and finish of steel chairs shall conform to IS 3499 (Part 1) : 1985.

13.3 The chairs shall be fitted with noise-prevention pads on the legs.

13.4 The back-rest of the steel chair shall be curved in plan or so shaped to give comfort to the body. It shall neither be too curved to restrict the movement of back nor be too flat.

13.5 The chair seats shall not be hard or upholstered but shall preferably be of woven materials to ensure ventilation and slight yielding when in use.

13.6 The height of the seat of the counter chair shall depend upon the height of the counter.

14 BOOK CASES

Steel book cases for use in library shall conform to IS 7761 : 1983.

15 GLASS-FRONT CABINETS

Steel glass-front cabinets for use in library shall conform to IS 7760 : 1985.

16 FINISHING

16.0 All the steel items specified shall be finished as specified in 16.1 to 16.3.

16.1 All dents, burrs and sharp edges shall be removed from various components and they shall be pickled, scrubbed and rinsed to remove grease, rust, scale or any other foreign matter.

16.2 Immediately after pickling, all mild steel parts shall be given phosphating treatment in accordance with IS 3618 : 1966, followed by a coat of suitable primer, such as red oxide (see Note). Two coats of enamel paints shall then be applied as follows:

- a) Under coat conforming to IS 149 : 1950; and
- b) Finish coat with enamel conforming to IS 151 : 1985, IS 2932 : 1974 or IS 2933 : 1975.

NOTE — Putty shall be applied to all the surfaces requiring filling and shall conform to IS 110 : 1983. Aluminium primer shall conform to IS 5660 : 1970.

16.2.1 The finish shall be smooth and uniform with a hard and tough film of enamel strongly adhering to the surface. The finish shall be free from all visible defects and the film shall not chip when tapped lightly with a dull pointed instrument.

16.3 All other components shall be finished in colour as agreed to between the purchaser and the manufacturer.

16.4 Powder coating as specified in IS 13871 : 1993 may be done on the mild steel components if required by the the purchaser.

17 PERFORMANCE REQUIREMENT OF FINISH FOR STEEL

17.1 Hardness Test

Test to be carried out as per 5 of IS 101 (Part 5/ Sec 1) : 1988.

17.2 Flexibility and Adhesion Test

Test to be carried out as per 2 of IS 101 (Part 5/ Sec 2) : 1988.

17.3 Impact Resistance Test

Test to be carried out as per IS 101 (Part 5/ Sec 3) : 1988.

17.4 Resistance to humidity under continuous condensation test to be carried out as per 2 of IS 101 (Part 6/Sec 1) : 1988.

18 MARKING

18.1 All items manufactured as per this standard shall be marked with a suitable mark identifying the manufacturer.

18.2 They may also be marked with Standard Mark.

ANNEX A

(Clause 2.1)

LIST OF REFERRED INDIAN STANDARDS

<i>IS No.</i>	<i>Title</i>	<i>IS No.</i>	<i>Title</i>
101 (Part 5/Sec 1) : 1988	Methods of sampling and test for paints, varnishes and related products : Part 5 Mechanical test on paint Section 1 Hardness tests (<i>third revision</i>)	149 : 1950	Ready mixed paint, spraying, undercoating, stoving, for enamels and general purposes colour as required
101 (Part 5/Sec 2) : 1988	Methods of sampling and test for paints, varnishes and related products : Part 5 Mechanical test on paint Section 2 Flexibility and adhesion tests (<i>third revision</i>)	151 : 1985	Ready mixed paint, spraying, finishing, stoving, enamel, for general purposes, colour as required (<i>first revision</i>)
101 (Part 5/Sec 3) : 1988	Method of sampling and test for paints, varnishes and related products : Part 5 Mechanical test on paint Section 3 Impact resistance (falling ball test) (<i>third revision</i>)	513 : 1986	Cold-rolled low carbon steel sheets and strips (<i>third revision</i>)
101 (Part 6/Sec 1) : 1988	Methods sampling and test for paints, varnishes and related products : Part 6 Durability tests Section 1 Resistance to humidity under conftions of condensation	808 : 1989	Dimensions for hot rolled steel beam; column channel and angle sections (<i>third revision</i>)
110 : 1983	Ready mixed paint, brushing, grey filler, for enamels for use over primers (<i>first revision</i>)	814 : 1991	Covered electrodes for metal arc welding of carbon and carbon manganese steel
		1079 : 1988	Hot rolled carbon steel sheet and strip (<i>fourth revision</i>)
		1278 : 1972	Filler rods and wires for gas welding (<i>second revision</i>)
		1977 : 1975	Structural steel (ordinary quality) (<i>second revision</i>)

<i>IS No.</i>	<i>Title</i>	<i>IS No.</i>	<i>Title</i>
2932 : 1974	Enamel, synthetic, exterior (a) undercoating (b) finishing (<i>first revision</i>)	4972 : 1968	Resistance spot welding electrodes
2933 : 1975	Enamel exterior (a) under- coating (b) finishing (<i>first</i> <i>revision</i>)	5660 : 1970	Ready mixed paint, brushing, aluminium-red oxide primer
3499 (Part 1) : 1985	Specification for metal chairs for office purposes : Part 1 Non-revolving and non-tilting (<i>second revision</i>)	7076 : 1983	Specification for metal book ends (<i>first revision</i>)
3618 : 1966	Phosphating treatment of iron and steel for protection against corrosion	7150 : 1974	Specification for library catalogue and abstract card
3663 : 1991	Dimensions of tables and chairs for general office purposes (<i>second revision</i>)	7760 : 1985	Specification for steel glass- front cabinets
		7761 : 1983	Specification for steel book cases (<i>first revision</i>)
		13622 : 1993	Classification of Indian timber for furniture and cabinets
		13871 : 1993	Specification for powder coating

ANNEX B (Foreword)

COMMITTEE COMPOSITION

Furniture Sectional Committee, CED 35

<i>Chairman</i>	<i>Representing</i>
SHRI J. A. PANCHAL	National Institute of Designs, Ahmedabad
<i>Members</i>	
SHRI J. G. SEWAK (<i>Alternate to</i> Shri J. A. Panchal)	
SHRI J. C. BEHKI	Small Scale Steel Furniture Manufacturers Association, New Delhi
SHRI S. C. CHADHA	Directorate General of Supplies and Disposals, New Delhi
SHRI RAJENDRA PRASAD (<i>Alternate to</i> Shri Jayantilal M. Dalal)	All India Plastics Manufacturers Association, Bombay
SHRI GAUTAM MAHAJAN (<i>Alternate to</i> Shri Ajit Desai)	Furn Plastics Ltd, Nagpur
SHRI V. K. BHATT (<i>Alternate to</i> Director)	Central Building Research Institute, Roorkee
SHRI V. K. AGGARWAL (<i>Alternate to</i> Shri Anil Doshi)	Neolux India Pvt Ltd, Bombay
SHRI S. A. SHINDE (<i>Alternate to</i> Shri I. P. Figueredo)	Godrej and Boyce Mfg Co Ltd, Bombay
SHRI H. H. JAMSHEDJI (<i>Alternate to</i> Shri S. P. Goenka)	Andaman Chamber of Commerce and Industry, Port Blair
SHRI HARISH KHAITAN (<i>Alternate to</i> Shri Sanjeev Jain)	Supreme Industries Ltd, New Delhi
SHRI R. M. KARKHANIS (<i>Alternate to</i> Shri H. C. Kulshreshtha)	Director of Education (Delhi Administration), Delhi
SHRI S. S. BHATIA (<i>Alternate to</i> Shri K. S. Lauly)	Indian Plywood Mfg Co Pvt Ltd, Bombay
SHRI HEMAN C. VISSANJI (<i>Alternate to</i> Shri M. M. Mistry)	National Buildings Organization, New Delhi
SHRIMATI M. CHEEMA	Engineer-in-Chief's Branch, Army Headquarters, New Delhi
SHRI K. K. MISRA (<i>Alternate to</i> Shri V. D. Narang)	Office of the Development Commissioner (SSI), New Delhi
SHRI L. R. PAHWA	Indian Tourism Development Corporation, New Delhi
SHRI S. K. RAY (<i>Alternate to</i> Shri V. N. Patel)	Chandan Metal Products Pvt Ltd, Vadodara
SHRI P. A. PATEL (<i>Alternate to</i> Shri P. Rajgopalan)	Indian Institute of Technology, Bombay
PROF V. P. RAORI	School of Planning and Architecture, New Delhi
SHRI O. P. RATRA	Building Materials and Technology Promotion Council, New Delhi
SHRI M. K. RISHI	Central Public Works Department, New Delhi
SHRIMATI TRIPLI KHURANA (<i>Alternate to</i> Shri S. N. Sanyal)	Forest Research Institute, Dehra Dun
SHRI S. P. BADORI (<i>Alternate to</i> Shri R. L. Sharma)	Indian Oil Corporation Ltd, New Delhi
SHRI UTPAL SEN (<i>Alternate to</i> Shri Y. R. Taneja)	Director General, BIS (<i>Ex-officio Member</i>)
Director-in-Charge (Civil Engg)	

Member-Secretary

SHRI R. S. JUNEJA
Deputy Director (Civil Engg), BIS

Metal Furniture Subcommittee, CED 35 : 1

<i>Convener</i>	
SHRI M. R. AGNIHOTRI	School of Planning and Architecture, New Delhi
<i>Members</i>	
SHRI V. K. AGARWAL	Hindustan Aluminium Corporation Ltd, Bombay
SHRI AJAY KUMAR AGARWAL (<i>Alternate to</i> Assistant Director (PLASTIC))	National Buildings Organization, New Delhi
SHRI BHAGWAN DASS	Central Buildings Research Institute (CSIR), Roorkee
SHRI S. C. CHADHA	Directorate General of Supplies and Disposals, New Delhi
SHRI I. C. KHANNA (<i>Alternate to</i> Shri I. P. Figueredo)	Godrej and Boyce Mfg Co Pvt Ltd, Bombay

(Continued on page 7)

Members

SHRIMATI MEDHA GODGIL

SHRI P. S. KHANOLKAR

SHRI J. RANGARAJAN (*Alternate*)

SHRI S. K. KINRA

DEPUTY DIRECTOR (MECH) (*Alternate*)

MANAGING DIRECTOR

SHRI SHIV KUMAR KAPARI (*Alternate*)

SHRI J. A. PANCHAL

SHRI J. S. SEWAK (*Alternate*)

SHRI V. N. PATEL

SHRI P. A. PATEL (*Alternate*)

SHRI B. K. RAKHRA

SHRI TILAK RAJ (*Alternate*)

Representing

Industries, Energy and Labour Department, Government of
Maharashtra
Goodlass Nerolac Paints Ltd, Bombay

Office of the Development Commissioner (Small Scale Industries),
New Delhi

Small Scale Steel Furniture Manufacturers Association (Regd),
New Delhi
National Institute of Design, Ahmedabad

Chandan Metal Products Pvt Ltd, Vadodara

Engineer-in-Chief's Branch, Army Headquarters, New Delhi

Standard Mark

The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standards Act, 1986* to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

Copyright

BIS has the copyright of all its publications. No part of these publications may be reproduced in any form without the prior permission in writing of BIS. This does not preclude the free use, in the course of implementing the standard, of necessary details, such as symbols and sizes, type or grade designations. Enquiries relating to copyright be addressed to the Director (Publications), BIS.

Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Handbook' and 'Standards Monthly Additions'. Comments on this Indian Standard may be sent to BIS giving the following reference:

Doc No. CED 35 (5228)

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002
Telephones : 331 01 31, 331 13 75

Telegrams : Manaksanstha
(Common to all offices)

Regional Offices :

Telephone

Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg
NEW DELHI 110002

{ 331 01 31
{ 331 13 75

Eastern : 1/14 C. I. T. Scheme VII M, V. I. P. Road, Maniktola
CALCUTTA 700054

{ 37 84 99, 37 85 61
{ 37 86 26, 37 86 62

Northern : SCO 445-446, Sector 35-C, CHANDIGARH 160036

{ 53 38 43, 53 16 40
{ 53 23 84

Southern : C. I. T. Campus, IV Cross Road, MADRAS 600113

{ 235 02 16, 235 04 42
{ 235 15 19, 235 23 15

Western : Manakalaya, E9 MIDC, Marol, Andheri (East)
BOMBAY 400093

{ 632 92 95, 632 78 58
{ 632 78 91, 632 78 92

Branches : AHMADABAD. BANGALORE. BHOPAL. BHUBANESHWAR.
COIMBATORE. FARIDABAD. GHAZIABAD. GUWAHATI. HYDERABAD.
JAIPUR. KANPUR. LUCKNOW. PATNA. THIRUVANANTHAPURAM.