

## Electronic Information Resources in J R D Tata Memorial Library IISC: A Glance

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### Abstract:

The Indian Institute of Science recently celebrated its first Centenary; this institute has been able to make many significant contributions primarily because of its unique character. It is neither a national laboratory which concentrates solely on research and applied work nor a conventional University which concerns itself mainly with teaching, research in frontier areas and education in currently important areas of technology. On account of its being a relatively small institution, it is able to innovate and introduce new systems of imparting knowledge such as courses under a unit system and trying out methods of evaluation aimed at identifying the best and the brightest talents.

**Keywords:** IISc, J R D Tata Memorial Library, e-resource,

### 1. Introduction:

The Indian Institute of Science, Bangalore has been at the forefront of research and education. It has always strived to live up to the expectations of its Founder, J.N. Tata, who believed that fundamental research was essential for India to take its rightful place in the world. Today the Institute has a very high international reputation in the academic world, in view of the fact that it has expertise both in conventional and emerging areas of science and engineering, and provides facilities for graduate, post-graduate, research and short term training programs. The institute encourages bright, young school and undergraduate students to undertake a career in research in science and engineering. In order to ensure that the Institute attracts the best Indian

students, it now has special programs like Young Science Fellowship program, Young Engineering Fellowship program and Kishore Vaigyanik Ptotsahan Yojana.

## 2. Historical Development of Indian Institute of Science:

JAMSETJI NUSSERWANJI TATA (1839-1904), was a true visionary, who even before the dawn of the 20<sup>th</sup> Century, understood that the progress of this country depended crucially on research in Science and Engineering. He was convinced of the need for a national level institution devoted to original investigations in all branches of learning and their applications for the benefit of humanity in general and India in particular.

After consulting several authorities in our country, he constituted a Provisional Committee to prepare a plan for the setting up of an institute of higher professional education. On 31<sup>st</sup> December, 1898, a draft prepared by this Committee was presented to Lord Curzon, the Viceroy-designate. The Secretary of State for India requested the Royal Society of England for an expert opinion. The Royal Society, in turn, sought the opinion of prof. William Ramsay, Nobel Laureate and discoverer of the noble gases. Prof. Ramsay toured the country and recommended Bangalore as the ideal location for the proposed institute. Though a different opinion was expressed by experts consulted by Lord Curzon, Bangalore was finally selected. On the initiative especially of Mysore Dewan, sir K Seshadriyer, His Highness Shri Krishnaraja Wodeyar-IV, the Maharaja of Mysore donated 372 acres of land in Bangalore with the promise of providing other necessary facilities. Thus the original scheme of Jamesetji Tata became a tripartite venture between the Tata's, the Government of Indian and the government of Mysore.

The Committee recommended that 'the Institute be devoted to experimental science and aim at training students in experimental methods; carrying out original research and discharging the functions of an accepted authority and referee on all scientific problems arising within its own domain'.

The constitution of the Institute was approved by the Viceroy Lord Minto with himself as Patron. The necessary Vesting order was signed on 27<sup>th</sup> May 1909. The principle authority

governing the Institute would be its Council. The Council would be assisted in the formulation of the academic policies of the Institute by the Court. The Director would be the executive authority, to be assisted by the Senate and the Science and Engineering Faculties.

Early in 1911, the Maharaja of Mysore laid the foundation stone of the Institute. On 24<sup>th</sup> July the same year, the first batch of students was admitted to the Departments of General and Applied Chemistry under Norman Rudolf, and Electro-Technology under Alfred Hay. Within two months, the Departments of Organic Chemistry began functioning.

The architecture of the main building which today houses administrative offices and the Faculty Hall, is in classical style. It is in gray granite, and is crowned by a handsome tower which has become one of the landmarks of Bangalore. In front of it stands the work of Gilbert Bayes, a noble monument erected in memory of J N Tata. At its feet is an inscription which will remind future generations of the generosity of Jamsetji Tata and the dedication with which he worked for the welfare and India.

With the establishment of the University Grants Commission in 1956, the Institute came under its purview as a deemed University. Currently the total land holdings of the Institute are 443 acres. The Government of India granted Rs.30 cores towards renovation of the old buildings and improvement of the basic infrastructure. During the past ten decades, many of the alumni and faculty members of the Institute have gone on to leadership positions in science and technology in the country, to create and nurture laboratories, scientific institutions and industrial undertakings. Sir C V Raman, H J Bhabha, Vikram A Sarabhai, JC Ghosh, MS Thacker, Brahm Prakash, S Bhagavantam, S Dhawan, C N R Rao and scores of others who played a key role in the scientific and technological progress of our country have been closely associated with the Institute. The Institute boasts of a large number of Bhatnagar awardees, Fellows of the National Academies of Science and Engineering, and recipients of other distinguished national and international honours.

The council of the Institute confers Honorary Fellowship on eminent scholars and scientists and on those who have made noteworthy and lasting contributions to the cause of

Science and Industry in India. Among the 25 recipients of this distinction are PandithJawaharalal Nehru, Sir M Visveshvaraya, Sir C V Raman, J R D Tata, Viram A Sarabhai, Indira Gandhi, S Dhawan and C N R Rao.

### 3. Objectives of the Institute:

- To provide for advanced instruction and to conduct original investigations in all branches of knowledge and, in particular, in such branches of knowledge as are likely to promote the material and industrial welfare of India.
- To establish and maintain chairs and lectureships in Science, Arts and Technology.
- To provide suitable libraries, laboratories and equipment.
- To cooperate as far as possible with such recognized institutions as exist or are founded in future for cognate objects in Indian, and
- To do all such things as are incidental necessary or conducive to the attainment of all or any of the objects of the Institute.

### 4. Academics - Departments / Centers

- [Division of Biological Sciences](#)
- [Division of Chemical Sciences](#)
- [Division of Mathematical & Physical Sciences](#)
- [Division of Electrical Sciences](#)
- [Division of Mechanical Sciences](#)

#### 4.6. Centers

- [J.R.D.Tata Memorial Library](#)

### 5. About J.R.D Tata Memorial Library

Indian Institute of Science (IISc), Library Bangalore, was established in 1911 and it is one of the first three departments started in the Institute. It is regarded as one of the best scientific and technical libraries in India. Apart from the main library it has departmental libraries also. The library moved in to the present premises in January 1965, built out of grants

provided by University Grants Commission (UGC), in commemoration of the Golden Jubilee Celebrations of the Institute in 1959. In 1995 the library was renamed as "J.R.D Tata Memorial Library". The National Board for Higher Mathematics (NBHM) has recognized this library as Regional Center for Mathematics for the south region and continued to award a special grant towards subscription of Journals in Mathematics. It is no exaggeration to state that the IISc library is the largest and finest of its kind in this part of the world.

The primary mission of the library is to support the educational and research programmes of the institute by providing physical and intellectual access to information, consistent with the present and the anticipated educational and research functions of the institute. In accordance with the objectives of the institute, the library aims to develop a comprehensive collection of documents useful for the faculty and the research community of the institute. The secondary mission is, to serve as a resource center for the scholars and scientific community of the country. The collection of the library which includes books, journals, reports, standards and patents is regarded one of the richest collections in the country, in the field of science and technology. This rich and valuable collection built over ten decades has some of the rare reference materials and several important journals. This vast reservoir of knowledge, on a conservative estimate, is worth over Rs. 400 crores. The annual budget of the library is over Rs. 12.00 crores of which subscription towards periodicals alone is about 11.00 crores. The library currently receives over 1734 periodical titles of which 1210 are subscribed while the remaining titles are received as gratis and on exchange basis. About 800 titles are accessible online due to library subscription. In addition, over 10,000 Journals are accessible due to INDEST Subscription. The total holdings of the library exceeds 4,11,676 documents. Under the Corporate Membership Facility (CMF), reference alone facility has been extended to Corporate Organizations, Industries and Academic Institutions involved in R&D activities. Currently about 200 organizations, industries and Academic Institutions are availing this facility.

The library has been using the LIBSYS an Integrated Library Management software package with all the modules for the library housekeeping operations. The library Online Catalogue database has more than 1.50 lakh records of books (Bibliographic Information) and information about 1,72,000 back volumes of periodicals. Using LIBSYS OPAC, users can search the Library Online Catalogue by Author, Title, Subject, and keywords. Also, the users can know

the latest additions of periodicals and books and the status of a document (whether on shelf or on issue). Reservation of a book can be done Online.

The J.R.D.Tata Memorial Library Annexe and Digital Library located opposite NCSI was inaugurated on 12th March 1998 by Mr.Ratan Tata. Some of the library collections like technical reports, standards, patents and theses are located in this building.

## **6. E-Resource Collection:**

### **6.1 Abstracting, Indexing and Bibliographic Sources**

The most important electronic reference tools used in libraries worldwide is the bibliographic sources. Both major bibliographic resources and numerous Abstracting and Indexing services with the ability to search vast collections of Table of Contents (TOC), Conference Proceedings and data from Books and Serials are offered. The benefit of these large sources is that they cover many subjects and thus facilitate a multidisciplinary approach. Thus, J R D Tata Memorial Library entered the development phase of e-resources collection during 1994-95. Library embarked into subscribing e-version of following Abstracting and Indexing periodicals along with the back files and stopped print subscription of the same from 1994.

- INSPEC (Physics, Electrical & Electronic Engineering, Computers &Control, IT) (1969+)
- CA (Chemical Abstracts) (Chemistry) (1987+)
- MathSci and MathSciNet (Mathematics (1940+)
- BIOSIS (Life Sciences) (1992+)
- INIS (Nuclear Research and Technology) (1970+)
- COMPENDEX (Engineering) (1989+)
- MEDLINE (Medicine) (1966+)
- Current Contents (1994+)
- SCI (Science Citation Index) (1993+)

The acquisition of the above mentioned premium Bibliographic databases covering all most all the subjects of interest to faculty, students and staff of IISc opened the Intranet access to meet their information requirements instantly.

## 6.2. Electronic Journals

In the year 1998, a few publishers namely Elsevier, Academic, Springer etc had offered access to their Online Journals free of cost against subscription to print version as an additional gesture. The library made use of this facility by registering such free online journals officially. Thus, the library entered the second phase towards the e-resource collection development without much of budget constraint. The goal of E-Journals is to provide desktop access to freely available electronic version of journals subscribed by IISc Library and free e-journals of relevance to IISc. To this end a web-accessible directory was developed containing a database of all journals subscribed by IISc. The directory also contains several free peer-reviewed electronic journals. Thus the database stores a variety of information such as e-resources holding details, internet addresses and etc., about each journal including links to the journal's website. Using these links, users can visit the journal site and access the full text of articles.

## 6.3. INDEST (Indian Digital Library in Engineering Science and Technology) Consortia

In the year 2003, JRDTML entered into e-resource collection development in a very big way. Based on the recommendations of the expert group on Consortia-based subscription to Electronic Resources appointed by the Ministry of Human Resources Development under the Chairmanship of Prof. N. Balakrishnan, IISc, Bangalore, it was decided to set-up a consortium for subscription to the following electronic resources for IITs, IISc, RECs/NITs and a few other institutions. The consortia is fully funded by MHRD and operated through its headquarters at the IIT, Bombay. The expert group also recommended gradual decrease in print resources to which the beneficiary institutions are currently subscribing. However, the publishers namely Elsevier, Academic Press and Springer Verlag have linked their print subscriptions and the libraries and as such institutions are not allowed to delete these print subscriptions. Hence, JRDTML is continuing their print subscription to journals from these publishers for the time being.

### \* Full Text Databases

- IEL (IEE/IEEE publications includes Journals, Standards and Conference Proceedings)
- Science Direct (Elsevier)
- Springer Verlag's Link

- ASCE Journals
- ASME Journals
- ABI/Inform
- Applied Science and Technology Plus
- ACM Digital Library

**\* Bibliographic Databases**

- COMPENDEX
- INSPEC
- Web of Science
- Sci Finder Scholar
- MathSci Net

Through INDEST Consortium, all IITs and IISc have been having access to a large number of e-journals. This initiative from MHRD has certainly enhanced the range of e-journals accessible to the research communities in these institutions and is bound to yield immense benefits. Consortia such as INDEST certainly do have objectives of not only to providing wider access to information, but in the long term, also to save the library funds, on the print subscription. The Institute had been subscribing to various database resources that are now currently being subscribed for by INDEST for all its members. Hence, all of the databases are being subscribed by the J R D Tata Memorial Library is no longer subscribed.

Thus, the Institute faculty, students and researchers are greatly benefiting by the bulk of e-resources access, which are mainly due to the INDEST consortium subscription which facilitates online access to over 4000 e-journals and a host of databases. Apart from these, over 600 journals are accessible online to Institute researchers due to print subscription or print plus online subscription to some journals like Nature, Science, Proceedings of the National Academy of Sciences, which are heavily used and most popular Science magazines. However, the current level of access to e-resources still appears to be very inadequate mainly due to publishers' policies. Even in the case of INDEST subscriptions, most of the science e-resources are accessible only from 1995 onwards. This may pose a serious setback when one is looking for back-references. Furthermore, in almost all cases where their library subscriptions have online access, the access is not possible beyond the current subscription year. To overcome this problem



library purchased the use full e-back files, for the IISc faculty, students and researchers. Now all e-resources and e-back files can access within the campus I.P. only

**\* E-Back Files Collection**

- JSTOR
- PROLA
- ACS
- ELESVIER SCIENCE
- SPRINGER
- WILEY INTERSCIENCE
- AIP
- IOP

**7. Library Services**

- [Reference Service](#)
- [Current Awareness Service](#)
- [Inter Library Loan](#)
- [Photocopying Facility](#)
- [Scanning Facility](#)
- [Document Delivery Service](#)
- [Interaction Service](#)
- WEB OPAC

**7.1 Reference Services**

Reference staff is available in the reading room to suggest sources of information and to assist in locating the required material. Only a skeleton staff is available after normal working hours. Hence, at such times the senior staff on duty at the information desk may be approached for any help in location of the required documents.

**7.2 Current Awareness Services**

- Weekly display of periodicals (Every Tuesday)
- Weekly display of Books (Every Monday)

- Weekly List of Articles: Display of Photocopies of articles published by the I.I.Sc. Faculty /students in various periodicals, being received in the library. (Library notice board)

### 7.3 Inter Library Loan

Books/Journals (not available with us) may be obtained from other libraries on request. Inter Library Loan (ILL) cards of major libraries in Bangalore are available to faculty and students. These cards can be obtained from the circulation counter against IISc library borrower cards.

The list of libraries coming under this service.

- Tata Institute of Fundamental Research (TIFR, IISc Campus)
- National Aerospace Laboratories (NAL, Bangalore)
- Indian Space Research Organisation (ISRO, Bangalore)
- Raman Research Institute (RRI, Bangalore)
- Central Power Research Institute (CPRI, Bangalore)
- University of Agricultural Sciences (UAS, Bangalore)
- Bangalore University (BU, Bangalore)
- Indian Institute of Management (IIM, Bangalore)
- National Institute of Mentalhealth and NeuroSciences (NIMHANS, Bangalore)
- Indian statistical Institute (ISI, Bangalore)
- Hindustan Aeronautics Limited (HAL, Bangalore)

### 7.4 Photocopying Services

Photocopying of materials available in the library is provided on payment basis. Coupons are available from the library office during working hours. This service is for I.I.Sc. Faculty, students and staff members only. The photocopying machines are located in each floor of the library. Users are requested not to take out the materials from one floor to another floor for photocopying.

Additional photocopying facilities are available to outsiders/permit holders and institute users from a commercial Photocopy center located in the ground floor and first floor.

### **7.5 Scanning Facility**

A scanner is made available in the first floor lounge area to facilitate to take color images from journal issues for presentation purposes and other academic activities.

### **7.6 Document Delivery Subsystem**

The library offers DDS (material if it is with us) to the students and researchers from other research centers and universities on special request. Researchers can send complete reference of the document they need through the respective Librarian/Principal to the Librarian. This service offered on cost basis without violating copyright law.

### **7.7 Interaction Service**

This is an e-mail service. It enhances the interaction between the user and the library. Through which the requirements of both the sides are met and solved. This service includes

1. To verify whether you have really borrowed the material or someone else has misused your card.
2. To remind you to return the long due library material.
3. Verification regarding the documents borrowed.

### **7.8 Web OPAC**

Web-OPAC is the latest tool of OPAC. Web OPAC is an OPAC, which is available on the web and with the help of internet connection any person whether user or staff can access it from anywhere in the world and in any time.

## **8. Conclusion:**

I.I.Sc, is a one of the oldest R&D Institution of the Country, people look at the Library of IISc as a national resource facility in the field of Science & Technology. A library such as JRD Tata Memorial library is nearly a century old and has the largest collection of back volume archives of many important S&T journals. In fact, it boasts of unbroken volumes right from the

first issue in several prestigious journals such as Nature and Proceedings of the Royal Society. But they will not be able to share their e-resources with the above said category of external users. Because of the license restrictions, now a day's Library is making serious effort to evolve a mechanism to help external users to access our e-resources.

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